

AK-4 PRO SPECIAL EDITION (SE) WORLD SCALE TUNING SETUP GUIDE

Congratulations on your purchase of the AK-4 PRO SE WORLD SCALE TUNING, a Microtonal keyboard converter device. With the AK-4, you can create authentic Microtonal music right from your keyboard. We've combined all the features you love from the AK-1 and AK-2 Pro with NEW innovations to make the AK-4 SE better and more enjoyable to use. Innovations include class-compliant USB MIDI interface and Breath Controller/Expression Pedal (purchased separately). It works best with the BCK-1 (Kelfar Technologies Breath Controller) available here: <http://kelfar.net/bck-1-breath-controller/>

This easy-to-use world scale tuning keyboard converter is compatible with most major keyboard brands and offers an incredible array of customization options right at your fingertips. Explore the full potential of your music and enhance your performance with both Microtonal music and Breath Expression.

The AK-4 PRO SE World Scale Tuning features:

- New, simple, intuitive design that makes it easy to create scale memory.
- Universal MIDI interface to connect with Mac and Windows devices via USB port.
- Breath Controller/Expression Pedal input with up to 9 factory presets Curves (Linear, 5*Exponential, Logarithmic, S -Type, N-Type)
- A lightweight, compact design, making it portable and easy to carry to gigs, concerts, or jam sessions with friends.

And with the new AK-4 PRO SE World Scale Tuning, you have the ability to:

- Connect to TWO synthesizers at once.
- Adjust the pitch of each note in the octave (C/Do to B/Si) to -64 to +63 cents.
- Transpose Two synthesizers at once.
- Relay Control Change (CC) Midi Messages to Two Synthesizers.
- Send Breath Controller/Expressional pedal data to user-predefined 16 midi channels
- Turn off the Breath Controller instantly
- Program the Breath Controller/Expression Pedal functions via the Short-Cuts mode

AK-4 Pro

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The AK-4 PRO SE WORLD SCALE TUNING was created from over 11 years of direct, personal experience and feedback from musicians around the world. We listened to your comments, suggestions, tips and feedback, and incorporated them into the redesign of the AK-2. The results? A powerful, simple, and flexible tool to help you create Microtonal music with ease.

Let your imagination soar with the AK-4 SE. Whatever music you dream of creating, the AK-4 SE makes it possible. Create better sounds with ease.

FREE lifetime updates are also provided by Kelfar Technologies on this product. Please be sure to register your purchase on our website at www.kelfar.net. Registration enables us to contact you directly to inform you of updates and upgrades.

Supported Instruments/Models

Korg Pa80, Pa50, Pa60, Pa55Tr, Pa1&2x (Pro), Pa800, Pa3x series, Pa4x series, Pa500, P500 ORT, Pa600, Pa600QT, Triton Classic, Karma, Studio, Extreme, Le, Tr, Micro X, X50, Kronos series (with firmware 2.3 and up), *M3 series, *Oasys, *Trinity, Korg Z1, and Korg Prophecy. *Trinity series works in all modes, except the MOSS mode.

Roland Fantom S, X, G, AX-Synth Shoulder Synthesizer (with firmware 2.6 and up), and models with GS logo

Yamaha Motif ES/ MO (preset scale only - Arabic 2) and instruments with XG logo, Tyros/Psr series, Motif XS (Voice,Song,Pattern), and Motif XF (Voice,Song,Pattern)

Ketron VEGA, SD5, SD1, and AUDYA series

Kontakt with a provided script - Kontakt Script (Native Instruments)

Kurzweil K2600 and K2000 series

MOOG Sub Phatty and Sub 37

World Scales Support (-64 cents to +64 cents)

Equal Tempered Tuning System

Micro Tuning System via User-Programmable Scales

Turkish (Byselik, Rast, Ussak, Nikirz, Saba, Huazm, Siga, and more)

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Byzantine (Modes 1,2,3,4,5,6,7,and 8)

Arabic (Bayati, Rast, Siga, Huseini, Hijaz, amd more)

Persian, Kurdish, and Syrian

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AK-4 PRO SE World Scale Tuning

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Basic Unit Functions


1. **5V USB bus power** (side-USB Mini b)
2. **Midi Out 1** (side-MIDI1) - Primary Instrument midi connection. (*Standard mode*)
3. **Midi Out 2** (side-MIDI2) - Secondary Instrument midi connection. (*Standard mode*)
4. **Midi In** (side-MIDI2) - Enabled for the Universal Mode. (*Universal mode*)
5. **BC/Expression** (side-BC)
6. **Foot Pedal** (side-F/P) **Korg Pa80, 50. 60, 55Tr**
7. **Tune/Setup** (front) - Selectable User Scales (**User 00 to User 09**)
8. **Tune/Setup** (front) - Programmable User Scales (**User 01 to User 09**)

9. **Tune/Setup** (front) - **Sort-Cut Mode to setup BC, Curve, and Channel**
10. **Buttons (C-B)** (front) – LED indicators above each denote: Enabled (**LED On**) or Disabled (**LED Off**)
11. **Cancel** (front) - Resets the pitch of each note to 00 Cents
12. **Cancel/Power** (front) - Power the AK-4 Pro SE Off/On (Standby mode)
13. **DIRECT** (front)
14. **Real-Time BC On/Off** by holding the **DIRECT** for one second (front)
15. **Reset** (front) – Use to return functions to original settings (red)
16. **Transpose** (front) - Transposes in Chromatic steps (**-12 to +12**) via **Plus (+) and Minus (-)** buttons (black)
17. **Adjust** (front) - **Plus (+) and Minus (-)** buttons (black)
18. **Display screen** (front) - (3 digits)


A. Initial Setting and Viewing Instrument Selections on power-up

Primary Instrument:

1. Brand shown on Table of Key Values below using keys indicated.

LED Display shows 

2. Model shown beneath Brand on table using keys indicated.


LED Display shows 

3. Expression and Breath Controller statuses

LED Display shows LED Display shows  or  or 


4. Channel Filter

Buttons C to B (1 to 12ch), (Tune/Setup) (13ch), TR (-) (14ch) RESET (15ch) TR (+) (16ch)


5. Curvature number ()

Secondary Instrument:




1. Brand shown on table using keys indicated.

LED Display shows 

2. Model shown beneath Brand on table using keys indicated.

LED Display shows 

3. Expression and Breath Controller Statuses

LED Display shows  or  or 



4. Channel Filter





Buttons C to B (1 to 12ch), (Tune/Setup) (13ch), TR (-) (14ch) RESET (15ch) TR (+) (16ch)

5. Curvature Number () (x= to )

A. User Scale

LED Display shows  [ -- 


B. USB ON - OFF ( or 

Note: In Universal Mode 1 to 4. The Display shows  or  or  or 


B. Changing Programming/Selecting the Primary & Secondary Instruments

Press both the CANCEL/POWER and TUNE/SETUP buttons

➤ Primary Instrument

LED Display shows 


Press CANCEL to skip programming the Primary.

LED Display shows 

Proceed to programming the Secondary Instrument down below.

The Primary Instrument (MIDI1) will output the initial instrument MIDI DATA retained in memory prior to enter programming mode. Steps 1 to 9 will be skipped.

1. Press appropriate key to select the Brand of the instrument as shown on Table of Key Values below.

LED Display shows 

2. Press appropriate key to select the specific Model of the instrument.

3. Expression and Breath Controller statuses.

The LED Display shows EP or OFF or BC

Use the Transpose buttons to Turn ON/OFF:

EP Expression Pedal is ON - TR (-)

OFF Expression Pedal and Breath Controller are OFF for (MIDI1) - RESET

BC Breath Controller is ON for Primary (MIDI1) - TR (+)

4. Press CANCEL to Select the MIDI CHANNELS by using the following buttons: (C to B) 1CH to 12CH, Tune/Setup 13CH, TR (-) 14CH, RESET 15CH, TR (+) 16CH.

The LED Display shows PCH

5. Press Cancel to setup the Control Change

The LED Display shows CC

6. Press CANCEL to setup the Control Change.

The LED Display shows Cxx ($\text{xx}=\text{00}$ to 99) i.e C 11

Select the Control Change Number by using the Transpose/Adjust buttons.

7. Press CANCEL to setup the Curvature by using the Transpose/Adjust buttons.

The LED Display shows $\text{C} \backslash \text{x}$ ($\text{x}=\text{0}$ to 8)


8. Select the Curve by using the Transpose/Adjust buttons.

9. Press CANCEL to Exit programming the Primary Instrument (MIDI1).

Note: If either the Expression and Breath controller are ON then you will be able to select the MIDI CHANNELS, CONTROL CHANGE, and CURVATURE. If the Expression or Breath controller are OFF then the step will be skipped by pressing the CANCEL button to program the Secondary Instrument (MIDI2).


➤ Secondary Instrument

1. After programming the Primary Instrument:


LED Display shows 

2. Press appropriate key to select the Brand of the instrument.

Press CANCEL to skip programming the Secondary Instrument.

The LED Display shows 

The AK-4 Pro SE will reboot without programming the Secondary Instrument and the (MIDI2) port will not output any data. In another word, the MIDI PORT for (MIDI2) has been flittered OFF.

LED Display shows 

3. Press appropriate key to select the specific Model of the instrument.

4. Expression and Breath Controller statuses.

The LED Display shows EP or OFF or BC

Use the Transpose buttons to Turn ON/OFF:

EP Expression Pedal is ON - TR (-)

OFF Expression Pedal and Breath Controller are OFF for (MIDI2) - RESET

BC Breath Controller is ON for Secondary (MIDI2) - TR (+)

5. Press CANCEL to Select the MIDI CHANNELS by using the following buttons: (C to B) 1CH to 12CH, Tune/Setup 13CH, TR (-) 14CH, RESET 15CH, TR (+) 16CH.

The LED Display shows SCH

6. Press Cancel to setup the Control Change.

The LED Display shows CC#

7. Press CANCEL to setup the Control Change.

The LED Display shows CCxx (xx= 00 to 99) i.e CC 11

Select the Control Change Number by using the Transpose/Adjust buttons.

8. Press CANCEL to setup the Curvature by using the Transpose/Adjust buttons.

The LED Display shows $\square \sqcup x$ (x= \square to \boxminus)

9. Select the Curve by using the Transpose/Adjust buttons.

10. Press CANCEL to Exit programming the Secondary Instrument (MIDI2).

The LED Display shows $F \boxminus$ (Fully PROGRAMMED)

After displaying FP the AK-4 Pro reboots indicating successful programming by displaying the initial setting and Viewing Instrument Selections.

Note: If either the Expression and Breath controller are ON then you will be able to select the MIDI CHANNELS, CONTROL CHANGE, and CURVATURE. If the Expression or Breath controller are OFF then the step will be skipped by pressing the CANCEL button.

Note: After pressing CANCEL the LED will turn RED. After successfully inputting the new settings, the LED will return to GREEN.

C. Short-Cuts Mode

This mode will allow you to disable and enable functions related to Expression Pedal, Breath Controller, and USB interface without the need to reprogramming the AK-4 Pro.

Press and hold the Tune/Setup for 3 seconds

The LED Display shows --- (three dashes)

1. Press the Transpose (+) to setup MIDI CHANNELS

The LED Display shows PCH (Primary Instrument - MIDI1)

A. Select the MIDI CHANNELS by using the following buttons: (C to B) 1CH to 12CH, Tune/Setup 13CH, TR (-) 14CH, RESET 15CH, TR (+) 16CH.

After selecting the appropriate MIDI CHANNELS for the Primary Instrument, press CANCEL to select the MIDI CHANNELS for the Secondary Instrument.

The LED Display shows SCH (Secondary Instrument - MIDI2)

B. Select the MIDI CHANNELS by using the following buttons: (C to B) 1CH to 12CH, Tune/Setup 13CH, TR (-) 14CH, RESET 15CH, TR (+) 16CH.

Press CANCEL to Exit the MIDI CHANNELS MODE.

<p>Note: After pressing CANCEL the LED will turn RED. After successfully inputting the new settings, the LED will return to GREEN.</p>

2. Press the Transpose RESET to setup the Expression and Breath Controller

A. Expression and Breath Controller statuses (Primary Instrument - MIDI1)

The LED Display shows EP or OFF or BC

Use the Transpose buttons to Turn ON/OFF:

EP Expression Pedal is ON - TR (-)

OFF Expression Pedal and Breath Controller are OFF for (MIDI1) - RESET

BC Breath Controller is ON for Primary (MIDI1) - TR (+)

Press CANCEL to setup the Secondary Instrument.

A. Expression and Breath Controller statuses (Secondary Instrument - MIDI2)

The LED Display shows EP or OFF or BC

Use the Transpose buttons to Turn ON/OFF:

EP Expression Pedal is ON - TR (-)

OFF Expression Pedal and Breath Controller are OFF for (MIDI2) - RESET

BC Breath Controller is ON for Primary (MIDI2) - TR (+)

Press CANCEL to Exit EXPRESSION AND BREATH CONTROLLER MODE.

3. Press the Transpose (-) to setup Curvature and Control Change.

The LED Display shows $F\bar{C}$ momentarily then $\bar{C}Ux$ ($x=\bar{0}$ to $\bar{9}$)

Select the Curve by using the Transpose/Adjust buttons.

Press CANCEL to setup the Secondary Instrument Curvature.

The LED Display shows $S\bar{C}$ momentarily then $\bar{C}Ux$ ($x=\bar{0}$ to $\bar{9}$)

Press Cancel to setup the Primary Instrument Control Change

The LED Display shows $\bar{C}\bar{C}\bar{F}$

Press CANCEL to setup the Control Change.

The LED Display shows $\bar{C}xx$ ($xx=\bar{0}\bar{0}$ to $\bar{9}\bar{9}$) i.e $\bar{C} \bar{1} \bar{1}$

Select the Control Change Number by using the Transpose/Adjust buttons.

Press Cancel to setup the Secondary Instrument Control Change

The LED Display shows $\bar{C}\bar{C}\bar{F}$

Press CANCEL to setup the Control Change.

The LED Display shows $\square xx$ ($xx = \square\square$ to $\square\square$) i.e $\square \quad \square \quad \square$

Select the Control Change Number by using the Transpose/Adjust buttons.

Press CANCEL to Exit the CURVATURE and CONTROL CHANGE MODE,

4. USB INTERFACE ENABLE / DISABLE PORTS 1 & 2

By Default the AK-4 Pro USB INTERFACE PORT 1 IS ENABLED

Press DIRECT to ENABLE / DISABLE.

The LED Display shows $\square\square \quad \square$

Enable/Disable the USB PORTS by using the Transpose/Adjust buttons.

A. (+) Enable/Disable Port 1: \square is OFF, \square is ON

B. (RESET) Enable/Disable Port 2: \square is OFF, \square is ON

Options available:

A. $\square\square \quad \square$ PORT 1 is ON. B. $\square \quad \square \quad \square$ PORTS 1&2 are ON. C. $\square \quad \square$ PORT 2 is ON.

D. $\square\square\square$ PORTS 1&2 are OFF.

If USB PORTS 1&2 are OFF [$\square\square\square$], pressing the DIRECT or CANCEL

The LED Display shows `USB OFF` momentarily and exit the USB MODE.

Breath Controller ON/OFF

Press and Hold the Direct for one second to Turn OFF/ON the BC for both the Primary and Secondary.

The LED Display shows `--SC>P BC ON / S BC ON` momentarily

Or

The LED Display shows `--SC>P BC OFF / S BC OFF` momentarily

<p>Note: In order for this operation to work the BC must be turned ON for the Primary or Secondary (MIDI1 or MIDI2.)</p>

Table of Key Values (supported brands and models)

	C	C#	D	D#	E	F	F#	G	G#	A
BRAND	Korg	Korg	Yamaha	Kurzweil	Roland GS	Ayoub	Ketron	Native Instruments	MOOG	Universal mode
C	Pa1x/Pa800/ 500/Pa2x/ Pa3x	Pa600/QT Pa900 Transpose	Motif-ES (Voice, pattern and song mode only)	Kurz	16CH GM2 Transpose	1CH	16CH	Kontakt2 16Ch	Sub Phatty and Sub 37	Mode 1, 2 CH, Fine Tune
C#	Pa80/50/55TR/60	Pa600/QT Pa900 Transpose REPEAT	XG/1CH(Repeat mode)		16CH Roland Transpose	16CH				Mode 2, 2 CH P.Bend
D	Triton_Le/Tr		XG: 16CH XG TRANSCOPE		AX-Synth					Mode3, 1 CH, Mono, P. Bend
D#	Triton_ Extreme/ Studio		XG: 16CH GM TRANSCOPE							Mode 4, 12 CH, P. Bend
E	Triton Karma		Tyros/Psr series							
F	Triton Classic		Motif XF voice song pattern							
F#	micro X / X50		Motif XS voice song pattern							
G	Korg M3									
G#	Trinity									
A	Korg Z1									
A#	Korg Kronos									
B	Korg Prophecy									

AK-4 Pro Breath Controller Curvature

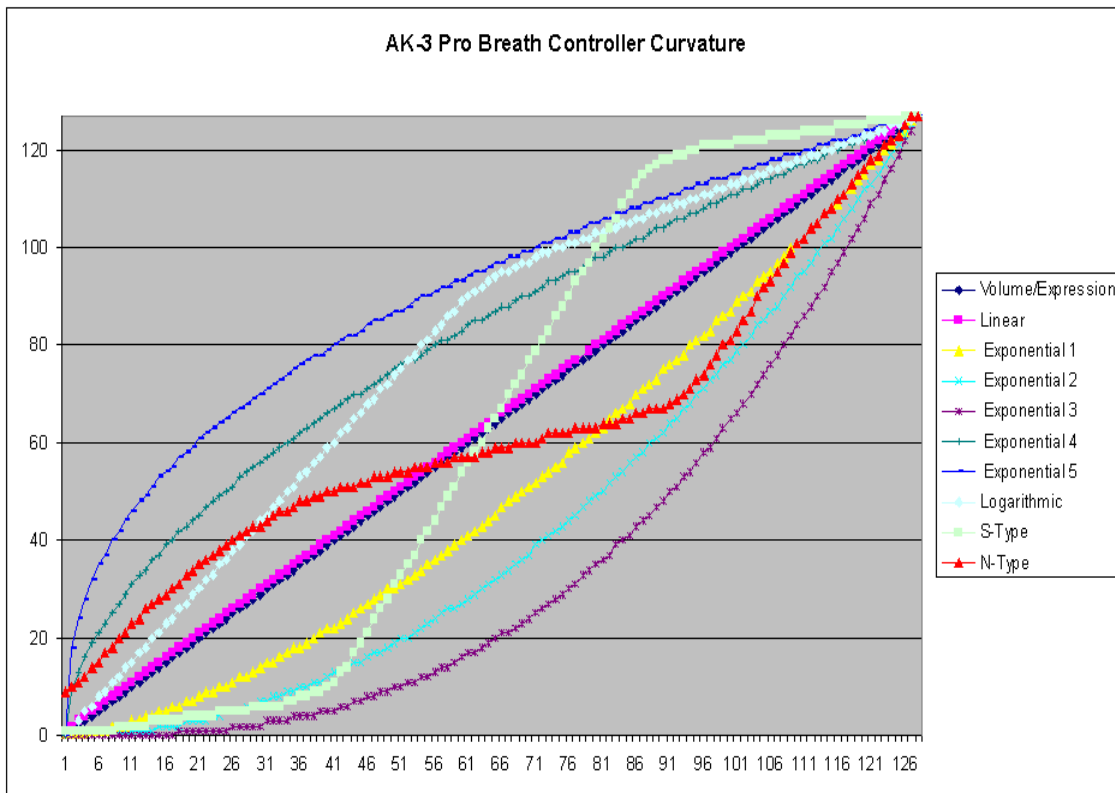
The AK-4 Pro supports nine curvatures to give you the best dynamic and expressive sounds for your keyboard synthesizer and plug-in VSTi or standalone VSTi performances. Create the best sounds you've ever imagined with the Pro Breath Controller Curvature.

Every curvature has its own dynamic and feel. It depends on your selection of the Curvature; some curvatures have a Slower ATTACK or DECAY, while the others have a faster ATTACK or DECAY. You might need to reprogram your sounds to make them compatible with the breath controller.

It is always best to adjust the ADSR (Attack, Decay, Sustain, Release) and VELOCITY intensity or sensitivity to achieve the best result between your synthesizer and Breath Controller.

Why do you need to adjust the ADSR? Your actual Breath Controller is going to control both the **Volume** and the **ATTACK** portion of your sound. We recommend adjusting the **ATTACK** to 0 and by turning OFF the Velocity intensity or sensitivity. (*Refer to your keyboard/ synth Owner's Manual in how to adjust the ADSR or VELOCITY control*). For your own reference, save the edited sound by adding BC at the end of the sound name i.e Accordion BC

The graph below represents the relationship between the input and output breath pressure.




Translation Table:

CU0	==	Linear
CU1	==	Exponential 1
CU2	==	Exponential 2
CU3	==	Exponential 3
CU4	==	Exponential 4
CU5	==	Exponential 5
CU6	==	Logarithmic
CU7	==	S-Type
CU8	==	N-Type


D. Programming Universal Modes 1 and 2 (Polyphonic/Two Tracks)


1. Press both the **CANCEL/POWER** and **TUNE/SETUP** buttons

2. Press the key "G"


LED Display shows 


3. Select Mode 1 "C" or Mode 2 "C#"

LED Display shows  for **Mode 1** and **Mode 2**


4. Select the Midi-In Channel (1-16)  by using the **TRANPOSE/ADJUST (+)** and **(-)** buttons

5. Press **Tune/Setup**

LED Display shows 

6. Select the Midi-Out Channel (1-16) using the **TRANPOSE/ADJUST (+)** and **(-)** buttons 

7. Press **Tune/Setup**

LED Display shows 

8. *AK-4 Pro SE will reboot*

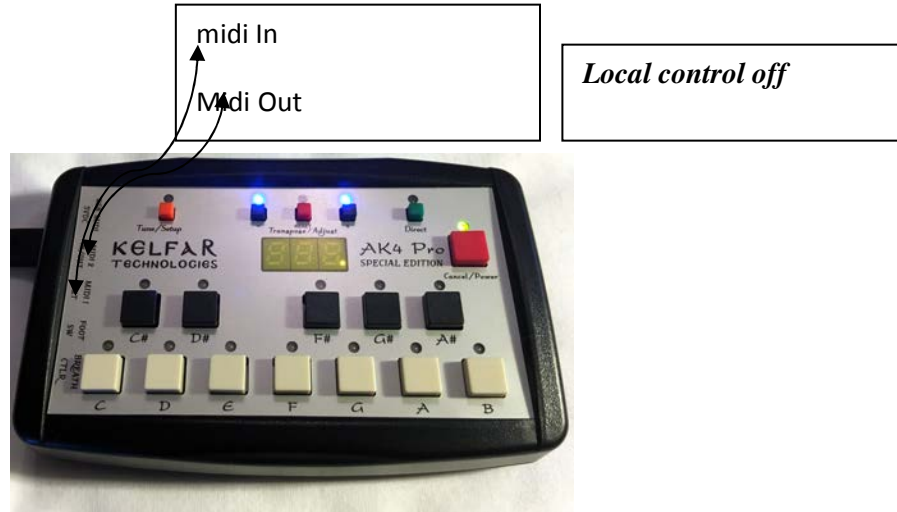
LED Display shows  OR 

Notes:

1. *For Universal Mode to work, connect the AK-4 Pro SE MIDI IN/OUT to your multitimbral sequencer/Synthesizer/Keyboard Midi-In and Midi-Out. (see figure 1 and 2)*
2. *Your keyboard must support **Fine Tuning Midi data** (for Mode 1) or **Pitch Bend Midi Data** (for Mode 2).*
3. *Set Keyboard to **Local control off**.(see Figure 1)*
4. *Set Pitch Bend Range to 2.*
5. *Only the first detuned note of the User Scale will be applied to the 12 notes. For example, if User Scale 1, and note C is set to -25 cents then all the selected notes(C-B) will be set to -25 cents.*

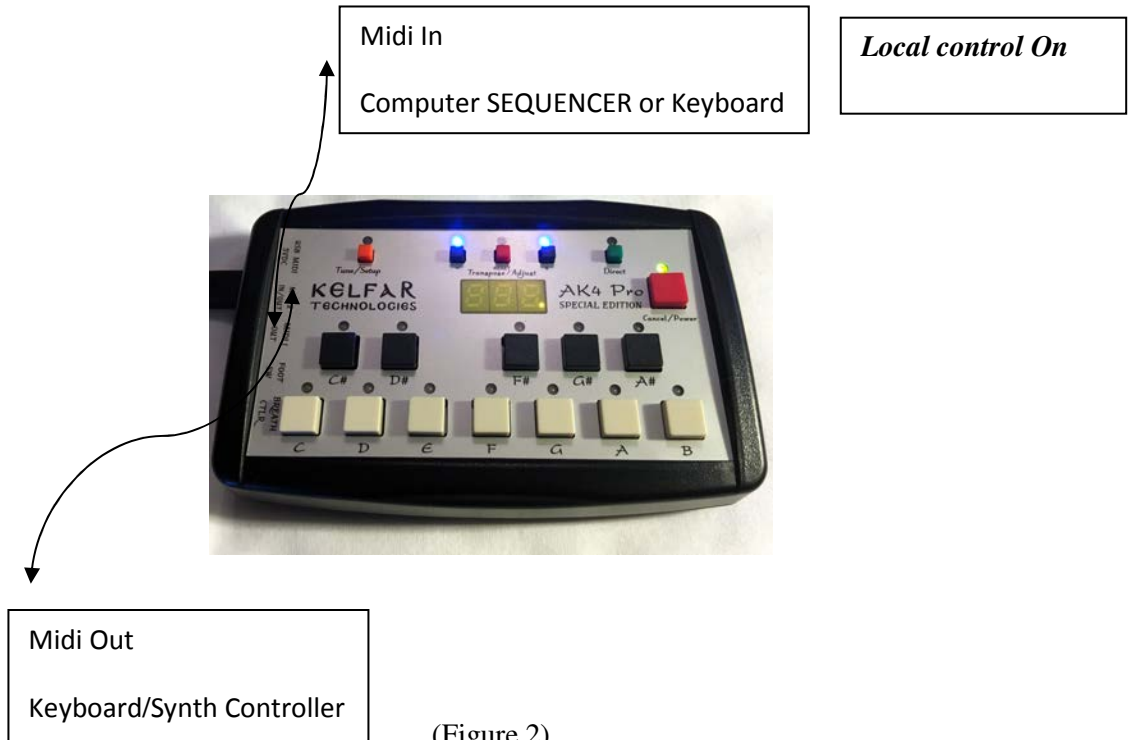
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(Figure 1)


Connecting AK-4 Pro SE to a Computer Sequencer using external Keyboard or Controller:



(Figure 2)


E. Programming the Universal Mode 3 (Monophonic/Single Track)

1. Press both CANCEL/POWER and TUNE/SETUP buttons
2. Press the key "G".


LED Display shows 

3. Select Mode 3 using the "D" key.


LED Display shows  for **Mode 3**

4. Select the incoming Midi-In Ch. (1-16)  by using the using the TRANSPOSE/ADJUST (+) and (-) buttons.

5. Press TUNE/SETUP

LED Display shows 

6. AK-4 Pro SE will reboot.

LED Display shows 


Notes:

1. For Universal Mode 3 to work, connect the AK-4 Pro SE MIDI IN/OUT to your multitimbral sequencer/Synthesizer/Keyboard Midi-In and Midi-Out. (see Figures 1 and 2 above)
2. Your keyboard must support **Pitch Bend** Midi data
3. Set Keyboard to **Local control off**. (Figure 1)
4. Set **Pitch Bend** range to 2.
5. You may further adjust the pitch of each note in the octave (C to B) to -64/+63 cents by programming your own User Scales 01-09. User 00 is set to -50 cents "fixed."


F. Programming the Universal Mode 4 (Polyphonic 12 notes max)

1. Press both **CANCEL/POWER** and **TUNE/SETUP** buttons


2. Press the key "G"

LED Display shows 

3. Select key "D#" for Mode 4

LED Display shows 

4. *AK-4 Pro SE will reboot*

LED Display shows 

Notes:

1. *For this Universal Mode 4 to work, connect the AK3Pro MIDI IN/OUT to your multitimbral sequencer/Synthesizer/Keyboard Midi-In and Midi-Out. (see Figures 1 and 2 above)*
2. *Set Keyboard to **Channel 1***
3. *Your keyboard must support **Pitch Bend** Midi data*
4. *Set Keyboard to **Local control Off**. (See Figure 1 above)*
5. *Set **Pitch Bend** range to 2.*
6. *You may further adjust the pitch of each note in the octave (C to B) to -64/+63 cents by programming your own User Scales 01-09. User 00 is set to -50 cents "fixed."*

G. Programming User Scales (Bank 01 to 09):

1. Press TUNE/SETUP

LED display shows  × = 0 -- 9

2. Select a User Scale "1=C#, 2 =D, 3=D#, 4=E, 5=F, 6=F#, 7=G, 8=G#, 9=A". User 0 is default of -50 cents and cannot be programmed or edited.

3. Select a note to detune (C-B).

LED display will show the value of the selected note.

4. Use the TRANSPOSE/ADJUST (+) and (-) buttons to adjust the value of the selected note within the range of -64 cents to + 64 cents.
5. Repeat steps 5 and 6 to program more notes.
6. Press TUNE/SETUP to exit and save the User Scale into the AK 2 Pro internal memory.

Notes:

1. Press CANCEL/POWER to cancel the operation and exit the programming mode without saving the new user program.
2. Pressing TUNE/SETUP without a note key being pressed will exit the tuning mode.
3. Pressing the RESET button without a note key being pressed will reset the selected user scale to zero.
4. During programming operation the CANCEL/POWER LED is lit red.
5. During programming operation the TUNE/SETUP yellow LED will begin flashing.

Operating the AK-4 Pro

1. Standard Mode

In Standard Mode, the AK-4 Pro sends a particular System Exclusive midi message to a selected instrument/brand. In order for this operation to work, your midi keyboard/synthesizer **Midi In** port should be Enabled and ready to receive System Exclusive midi data. (*Refer to your keyboard/ synth Owner's Manual*).

Note: Your Owner's Manual might use a shortcut name for the System Exclusive, e.g. sysex.

The 12 (C-B) buttons are used to detune a keyboard/synthesizer within the octave. Each time you select a note the LED for that selected note will be lit ON indicating that the SYSEX message has been sent to your synth and the selected note is detuned.



Notes (C-B)

Example:

To convert synthesizer to play the Bayati makam.

1. Press TUNE/SETUP
2. Press C for Default tuning of -50 cents.
3. Press "E" and "B"

4. Both "E & B" RED LEDs are lit ON indicating that the SYSEX message has been sent from AK-4 Pro SE to the synthesizer
5. Your synthesizer is ready to play the Bayati makam.

Note: Pressing CANCEL/POWER will reset your synthesizer detuning to 0 Cents. All selected notes LEDs will be turned Off.

2. Universal Mode

In Universal Mode, the AK-4 Pro sends Pitch Bend midi data to detune your instrument. You may have to adjust the Pitch Bend range to two. (*Refer to your keyboard/ synthesizer Owner's Manual*).

Mode 1 (Fine Tune): Incoming notes will be routed and sent to a selected channel PC or SC.

Depending on your selection, if no notes are selected then the incoming notes will be sent to the Primary Channel. However, each selected note will be sent to Secondary Channel as programmed by the user. (*See page 4*)

All incoming midi events received by the Primary Channel will be resent to both Primary Channel and Secondary Channel.

Note: Midi events supported by the AK-4 Pro include: On/off, Control Change, Program Change, Aftertouch Polyphonic, Channel Aftertouch, Pitch Wheel Control, System Exclusive.

Mode 2 (Pitch Bend): Incoming notes will be routed and sent to a selected channel PC or SC.

Depending on your selection, if no notes are selected then the incoming notes will be sent to the Primary Channel. However, each selected note will be sent to Secondary Channel as programmed by the user. (*See page 4*)

All incoming midi events received by the Primary Channel will be resent to both Primary Channel and Secondary Channel.

Note: Midi Messages (Events) supported by the AK-4 Pro: Note on/off, Control Change, Program Change, Aftertouch Polyphonic, Channel Aftertouch, Pitch Wheel Control, and System Exclusive.

Mode 3 (Pitch Bend): In this mode the AK-4 Pro SE operation will be in monophonic.

Mode 4 (Pitch Bend): Each selected note will be routed and sent to its own channel as defined by the AK-4 Pro. In order for this mode to work, your midi keyboard must be operating using Channel One (ch.1). (*Refer to your keyboard/ synth Owner's Manual*)



Notes (C-B)

Notes:

1. *If no notes are selected then the incoming notes will be resent to Channel One.*
2. *Selected notes will be sent to the following channels:2,3,4,5,6,7,8,9,11,12,13,14,15.*

All incoming midi events received by the Primary Channel will be resent to 13 channels.

Note: Midi Messages (Events) supported: on/off, Control Change, Program Change, Aftertouch Polyphonic, Channel Aftertouch, Pitch Wheel Control, System Exclusive.

3. User Scales

AK-4 Pro User Scales 01 to 09 are programmable. User Scale 00 is the default detuning of -50 cents. User Scale 00 is predefined by the AK-4 Pro and cannot be reprogrammed.

Selecting User Scales in real time.

Example:

To Select User Scale 03

1. Press TUNE/SETUP
2. The Display shows the existing User Scale
3. Press D#
4. Press TUNE/SETUP to exit.

Note: When selecting User Scale 00 the AK-4 Pro will recall User 00 and exit the operation.
--

4. Transposition

To transpose a keyboard/synthesizer in Chromatic Steps: -12 to +12, use the TRANSPOSE/ADJUST (+) and (-) buttons.

Red button: Resets the value to 00

Black (+) = Increment in positive values

Black (-) = Decrement in negative values

The values are displayed on the three digits display.

Note: The transpose feature is defined by your synthesizer and specific to each manufacture. The following midi events are supported: GM2, XG, Ketron, Fine Tune only (Mode 1 to 4).

5. Standby mode

1. Hold the **CANCEL/POWER** for more than 5 seconds, and the AK-4 Pro will power off.
2. Power-up the AK-4 Pro from standby mode by pressing the **CANCEL/POWER** again.
3. AK-4 will reboot.

Setup Instructions per Keyboard

*Korg PA80/60/50/55TR ©

Note: You need a ¼" to ¼" cable

1. Turn the Pa power On and do not connect the AK-4 Midi_Out to the Pa MIDI_In at this moment!
2. Connect the ¼" jack from the REAR of the AK-4 to PA80/60/50/55Tr (Assign. PDL/SW)
3. In the PA Global mode Pa/Sw, select P/s :Q. Tone.
- 4.. In the PA Global mode, select Midi In Channel.
5. Use the Track Button to switch from Ch 01 to 16.
- 6.. Select Ch01: Global
7. Save all the SETTINGS by pressing WRITE.
- 8.Lock the SCALE in the Preferences by going to

Pref: Lock (Gbl). WRITE IT!

***Important: It is recommended that you do not touch the keys on the PA while selecting the scale(s) from the AK-4 Pro. That might add or delete extra ¼ notes to the PA.**

*Korg Pa1x / Pro ©

***Important: Korg Pa1x / Pro must be first upgraded to OS 2.01 and later before the AK-4 Pro box can work with it.**

- 1- Go to **GLOBAL** Press **MIDI**, and choose the **FILTERS** tab on the bottom of the screen.
- 2- On the original factory setting, you will see both channel 1 for **MIDI IN** and **MIDI OUT** set to "**Sys. Excl.**" as default. Go ahead and change them both to **OFF!**
- 3- Save this setting by opening the drop down menu on this page (located in the upper right corner of the screen) and save both **WRITE - GLOBAL SET UP** and **WRITE - MIDI SET UP**.

That's it! The AK-4 should be able to control all sounds within all sections of the keyboard, including the otherwise impossible SOUND MODE!

AK-4 Pro

www.kelfar.net

***Korg Triton series ©**

1. Go to Global mode then navigate to MIDI
2. Check the midi filter box for Sysexlusive
3. Write Global into the memory.
4. Change the User Scale for each Program/Combo./Moss to User 00, Scale C and WRITE Program/Combo/Moss.

***Kurzweil ©**

1. Set Sysex ID to 127

***Yamaha XG ©**

1. Consult your Yamaha manual to change the midi setup of the Yamaha keyboard/synth.
2. By default in some Yamaha Keyboards, such as the PSR series, the Midi channels are sent to the Song/Sequencer.
3. On the PSR/Tyros, you will need to make sure that the Midi_In messages are coming to the sounds that you are playing directly on the keyboard (i.e Main=Ch1, =Ch2, etc...)
4. Make sure the systemexclusive is enabled.

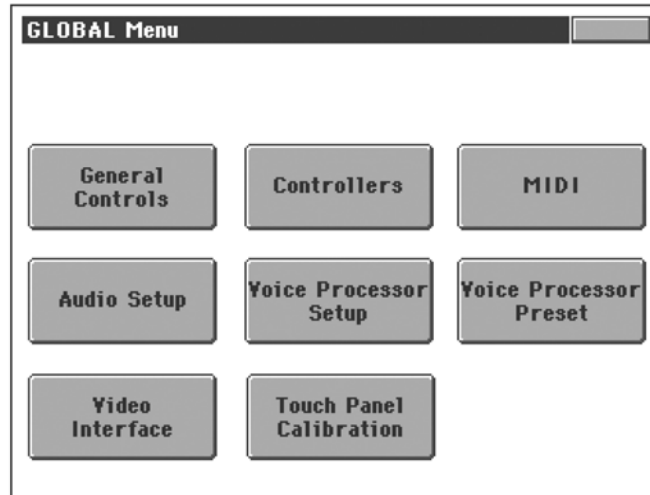
***Roland Fantom X ©**

1. Menu > System > Midi > Receive > Remote keyboard Switch > ON
2. Menu > System > Midi > Receive > Receive Exclusive > ON
3. System Write

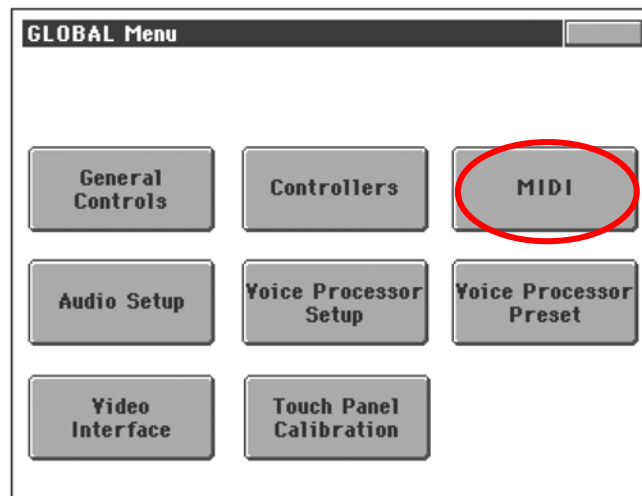
****(Refer to your keyboard/ synth Owner's Manual)***

Korg Pa800/ Pa2x Pro/ Pa3x series

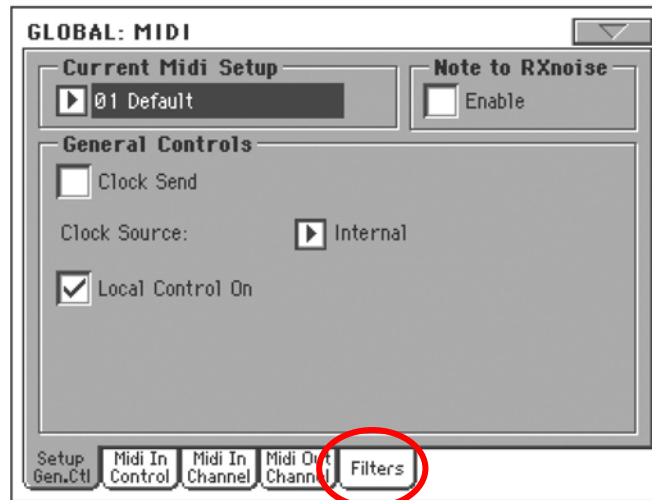
1. Press the MENU button to open the Global Edit Menu



2. Select **Midi**

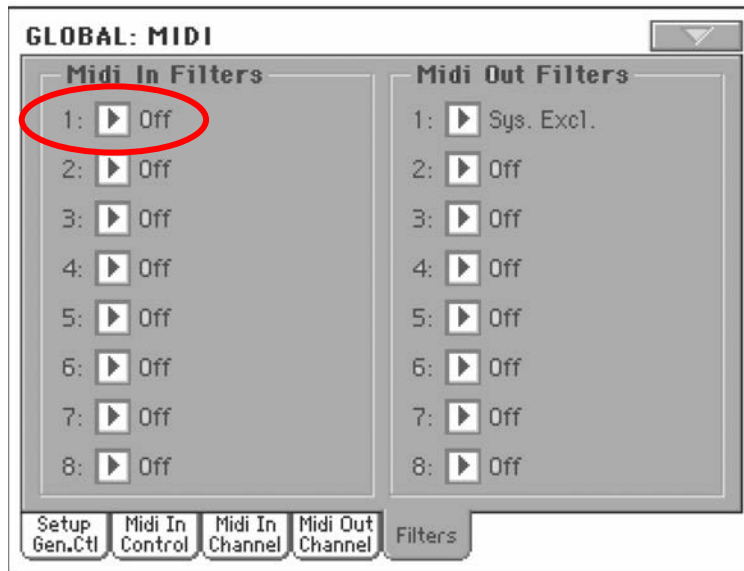


3. Select the **FILTERS** tab

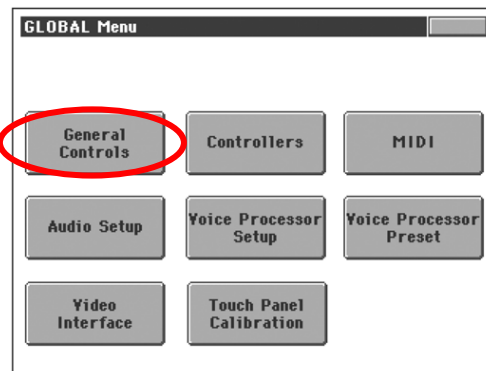


4. By default the Midi In Filter is set to **Sys. Excl.** Change it to **Off**

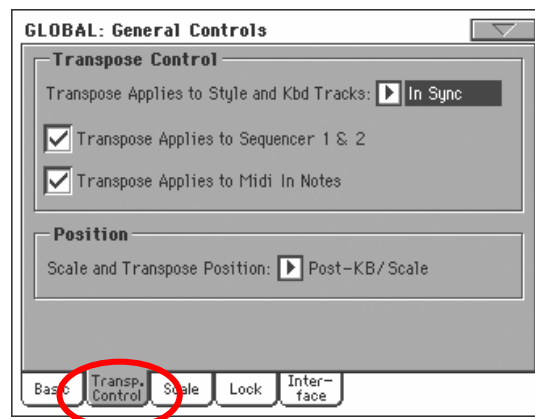




5. Press the MENU button to open the Global edit menu. Select **General Controls**

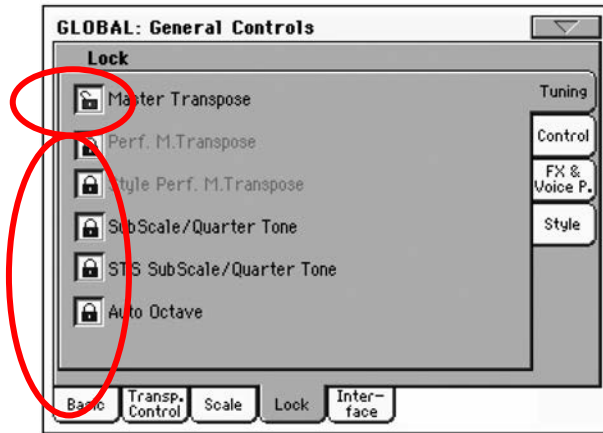


6. Select the **Transp.Control** tab



7. Select the **Lock** tab. Select **Tuning**, **Unlock Master Transpose**.

Lock Perf. M. Transpose, Style Perf. M. Transpose, Subscale/Quarter Tone, STS Subscale/Quarter Tone, and Auto Octave.



8. Write your settings. Touch the page menu icon to open the menu. Touch a command to select it. Touch anywhere in the display to close the menu without selecting a command.



Programming the AK-4 Pro

Press both the CANCEL/POWER and TUNE/SETUP buttons

➤ Primary Instrument

The Display shows

1. Press "C"

The Display shows

2. Press "C".

AK-4 Pro

www.kelfar.net

3. If you do not want to Program the Secondary instrument then press CANCEL/POWER.

Yamaha Tyros and Psr series

1. Press **FUNCTION**



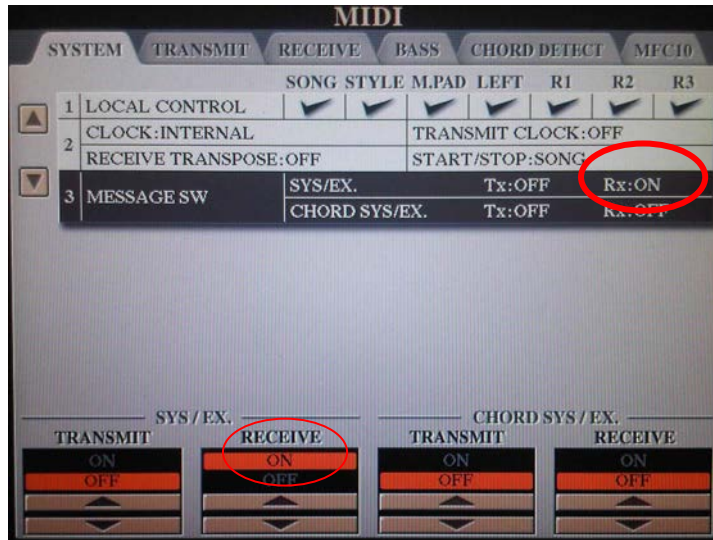
2. Select **MIDI**



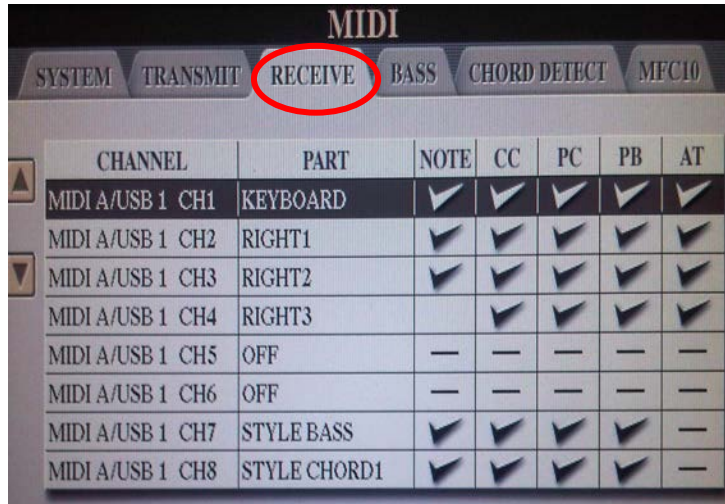
3. Select **MIDI OFF** then Press **EDIT**



4. Enable RECEIVE Sysex (SYS/EX.) **Rx:ON**

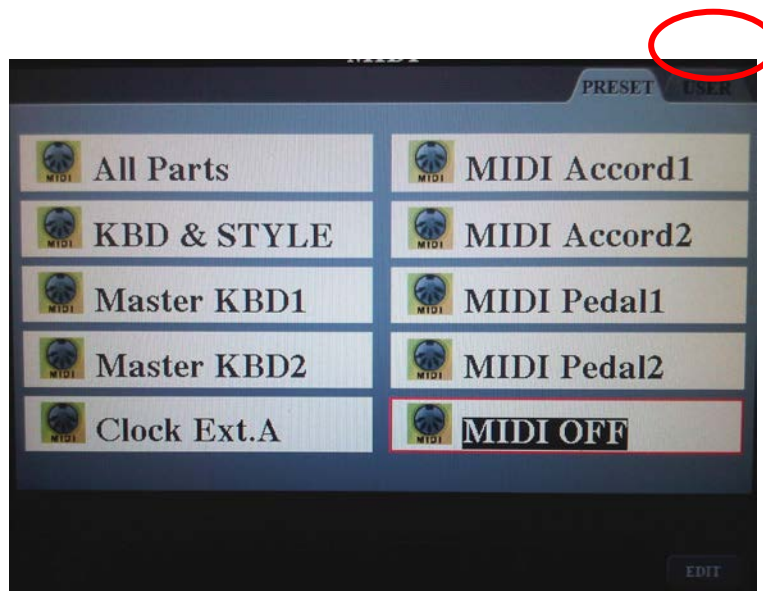


5. Select the **RECEIVE** tab and assign **PART** to the appropriate MIDIA/USB1 CHANNEL



MIDI							
SYSTEM		TRANSMIT	RECEIVE	BASS	CHORD DETECT	MFC10	
CHANNEL	PART	NOTE	CC	PC	PB	AT	
MIDI A/USB 1 CH9	STYLE CHORD2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	—	
MIDI A/USB 1 CH10	STYLE PAD	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	—	
MIDI A/USB 1 CH11	STYLE PHRASE1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	—	
MIDI A/USB 1 CH12	STYLE PHRASE2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	—	
MIDI A/USB 1 CH13	EXTRA PART1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
MIDI A/USB 1 CH14	EXTRA PART2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
MIDI A/USB 1 CH15	EXTRA PART3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
MIDI A/USB 1 CH16	EXTRA PART4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

6. Press the **EXIT** button and Select the **USER** tab

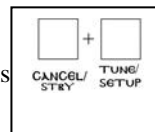


7. Give your MIDI setup a name i.e **AK 2_pro** and select **SAVE**. Press the **[EXIT]** button.




Programming the AK-4 Pro


Press both the CANCEL/POWER and TUNE/SETUP buttons



➤ Primary Instrument

The Display shows 

1. Press "D"

The Display shows 

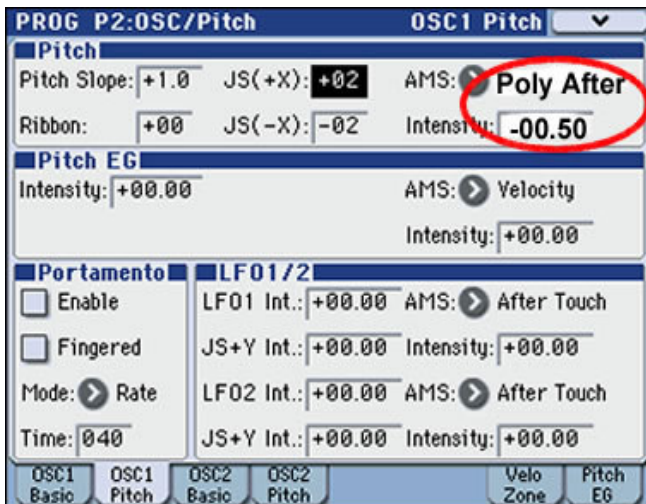
2. Press "E"

3. If you do not want to Program the Secondary instrument then press CANCEL/POWER.

Korg M3 series

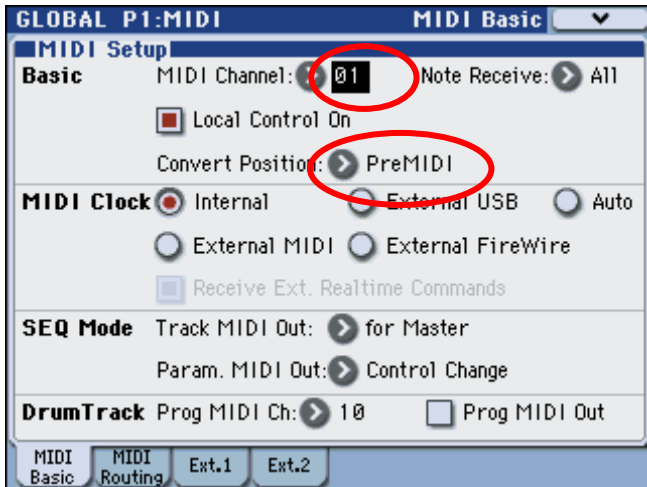
Making your own sound set to work with AK-4 Pro

1. Select a Program that you want to work with the AK-4 Pro
2. Press **PAGE SELECT**
3. SELECT **P2/OSC PITCH**
4. SELECT **OSC1/ Pitch** or **OSC2/Pitch**
5. MAKE AMS to **Poly After** and the Intensity to **-00.50** (cents) as show below



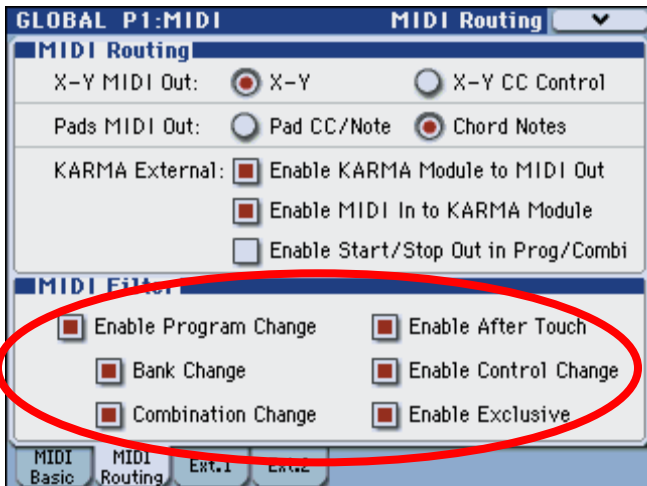
Note: if the program is using two OSC then make sure you set them both to PolyAfter the Intensity for both is = -00.50

6. SAVE YOUR PROGRAM or WRITE IT (select the down arrow/upper right corner).
7. Select GLOBAL to set the TRANSPOSE to PREMIDI. Midi Channel = 01.
8. Select MIDI



9. Select Midi Routing

10. Make sure Midi Filter is selected for all of them (as shown in the image below)



11. Write Global Settings. Select the arrow down >Write Global Setting.


The **Write Global Setting** dialog box will appear.




Programming the AK-4 Pro

Press both the CANCEL/POWER and TUNE/SETUP buttons


➤ Primary Instrument

The Display shows 

1. Press "C"

The Display shows 

2. Press "G".

The Display shows the midi channel number i.e 

Notes: Make sure that the AK-4 Pro's midi channel is the same as the Korg M3's midi channel.

Use the Transpose buttons of the AK-4 Pro to select the appropriate midi channel.

3. Press Tune/Setup (yellow button)

4. If you do not want to Program the Secondary instrument then press CANCEL/POWER.

Important Information

Specifications:

Input:

- (1) Midi Input
- (1) Breath Controller / Expression Pedal (Selectable when programming the AK-4 Pro)
- (1) Switch Pedal input for (Korg Pa80, 50, 50SD)

Output:

- (2) Midi Output via USB Interface (software selectable)
- (2) Midi Output via Standard Midi MIDI1&M2 (1/8" to 5-pin din)

Power source:

- 5V USB bus power (USB Mini B)

Dimensions

- 5.5 x 3.6 x 1.1 in. / 139.7 x 91.4 x 27.9 mm

Weight:

- 0.43lbs / 195g.

Accessories (included)

- (1) USB mini cable (1.2m/4ft)
- (2) 1/8" to 5-pin din (1m/3.2ft and 1.5m/5ft)

Note: Breath Controller and Expression Pedal are NOT included. The AK-4 works best with the BCK-1 (Kelfar Technologies Breath Controller) available here: <http://kelfar.net/bck-1-breath-controller/>

AK-4 Pro
www.kelfar.net

Registration:

Register your AK-4 Pro today: register@kelfar.net

Date of Purchase:

Warranty:

1 year limited warranty by Kelfar Technologies from the date of purchase.

Support:

Email: support@kelfar.net

*Specifications subject to change without notice.

Document last updated: *Sunday, April 17, 2016*