

# EasyStart

**MS2000**  
ANALOG MODELING SYNTHESIZER

**KORG**

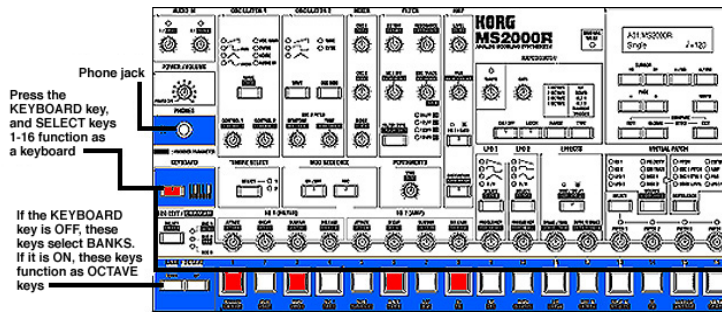
**MS2000/MS2000R Main Features**

- DSP Analog Modeling Tone Generator: 70 Waveforms, 8 types of oscillator algorithms, 4 note polyphony, Single, Split and Dual voice modes
- 128 user-editable programs
- Over 35 Realtime Knobs and front panel keys.
- Virtual Patch function has 8 sources and 8 destinations + 4 knobs for realtime control over synth parameters
- Built-in effects: 3 effects at once + AMP Distortion. Chorus/Flange, Phase, Ensemble. 3 types of syncable Delay, 2-band EQ
- Mod Sequencing: Step or motion sequencer. 16 steps per track (3 tracks per timbre). Editable in realtime using 16 knobs
- Arpeggiator: 6 patterns, 4 octave range, dedicated tempo and gate knobs, programmable Target, Key Sync, Swing and Resolution
- Vocoder: 16-band programmable vocoder with 31 editable parameters and 4 Filter Formant settings
- 2 Audio inputs: Apply filter, LFOs, effects, etc. to your live audio, and Vocoder

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**MS2000R Specifics:** The main differences between the MS2000 and MS2000R top panels are indicated in the diagram below:



## Listening to the Demo Songs

1. Press the **[GLOBAL]** and **[EXIT]** keys together, and **DEMO SONG 1 "Grooven Dugan"** will play. Take time to listen as the **10** short demos chain-play. (You can also manually advance through the demos by pressing the **[+/YES]** key) Checking out the demos will give you a good idea of the power and versatility of the MS2000.
2. When you're finished listening, press the **[EXIT]** key to return to the normal **Program Play** mode.

## Selecting and playing Programs

The MS2000 provides an easy way to get to Program Play mode and select Programs. No matter what "state" the front panel or display is in when you walk up to the keyboard, simply press the **[EXIT]** key, and you'll go to **Program Play** mode. Programs are organized into 8 banks, each containing 16 sounds. To select a Program, press one of the **SELECT** keys **1-16**, or press the **[+/YES]** or **[-/NO]** keys to step through the Programs. To change banks press the **[BANK UP/DOWN]** keys to the left of the **[SELECT]** keys **1-16**. There are **128 RAM Programs** in memory.

- Note:**
- Programs **H09-14** are six varied **VOCODER** Programs.
  - Program **H15** is an **AUDIO INPUT** Program for external audio processing.
  - Program **H16** is an **INIT** (Initialized) Program for creating new Programs from "scratch".

## Selecting Programs by Category

In the MS2000 preload set of Programs, the **[BANK UP/DOWN]** keys can be used to move through eight related Programs for each of the 16 **SELECT** keys:

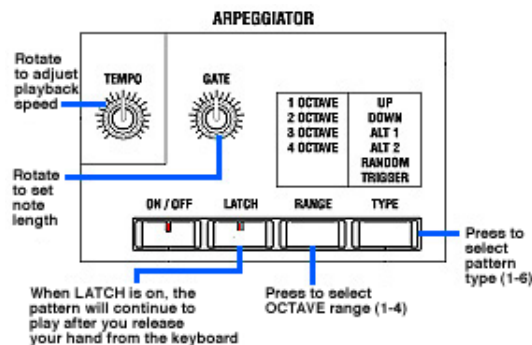
1. Press <b>SELECT</b> key:	2. Press <b>BANK</b> keys for:
1	Poly Synth
2	Motion
3	Pads / Motion
4	Bass
5	Hard Synth Lead
6	Rhythmic
7	Bell / Analog Percussion
8	Keyboard
9	Bass
10	Rhythmic Motion
11	Analog Strings / Vocal /Pad
12	Synth Lead
13	Synth Brass
14	SFX Motion
15	Bass
16	Special Effects

**!** Any front panel changes you make while working with a Program put you in "instant edit mode". If you want to get back to the original setting of a knob or switch without recalling the Program, turn the knob, or press the switch, and watch the **ORIGINAL VALUE LED**

(Located to the left of the LCD screen) as you edit - **it will light** when you reach the control's original position. The ORIGINAL VALUE LED is also helpful when you want to learn just how a Program was created.

## Check out The Arpeggiator

1. Press **[EXIT]** to return to Program Play mode and select **Program A01: Stab Saw**.
2. Turn the Arpeggiator on by pressing the **[ON/OFF]** key in the ARPEGGIATOR section.
3. Play a chord on the keyboard and notice the chord holds. When the **[LATCH]** key is on (lit), the Arpeggiator will continue playing after you release your hand from the keyboard. Each time you press the **[LATCH]** key, the setting will alternate between on and off.
4. Press the **[RANGE]** key. The pitch range is displayed in the lower line of the LCD screen. Each time you press the **[RANGE]** key, the pitch will change between 1-4 octaves.
5. Press the **[TYPE]** key. The arpeggio type is now displayed on the lower line of the LCD screen. Each time you press the **[TYPE]** key, the arpeggio type will change. (There are six types) Press the **[EXIT]** key.
6. Play a chord and rotate the **GATE** knob. Rotating the knob to the right will lengthen the notes, and rotating it toward the left will shorten them.
7. Rotate the **TEMPO** knob while playing a chord. Rotating the knob to the right will speed up the tempo, and rotating to the left will slow it down. The tempo is displayed in the lower right of the LCD screen. *You have officially Arpeggiated!*



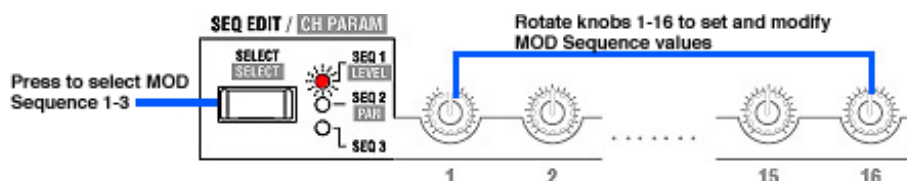
For more detailed information on the Arpeggiator (Including "Key Sync," "Resolution," and "Swing" settings or Synchronizing to MIDI clock) see the Owner's Manual pages 27, 45, 54.

## The Mod Sequencer: Adding motion to a sound

The Mod (Modulation) Sequencer is a step sequencer (up to 16 steps- 3 "tracks" per timbre, 6 per program) that lets you apply time-variant change to various sound parameters in a way similar to analog synthesizers of the past. You can use the 16 knobs on the front panel to set the value of each step or record changes in realtime (Motion Record function). Here we will briefly explore both.

1. Press **[EXIT]** to return to Program Play mode and select **Program A01: Stab Saw**.
2. Press the **SEQ EDIT [SELECT]** key (Located above the BANK buttons) so that the **SEQ 1** LED is lit. On the lower line of the LCD screen you will see Pitch is the parameter assigned to SEQ 1. The LCD screen shows **SEQ1:Pitch**
3. Press the **[EDIT]** key (Located under the LCD screen and PAGE keys) then rotate the first of the sixteen knobs (Located beside the SEQ EDIT LEDs) until the LCD screen shows **Step [01]: +12** on the lower line → Press the **MOD SEQUENCE [ON/OFF]** key so it is on (lit) → Now play and hold a note on the keyboard. Note how the first step of sequence 1 is an octave above the note played. The **SELECT** keys **1-16** light up as they step through the sequence. Oooh, pretty lights! → While holding a note, rotate several of the other sixteen knobs and change the pitch of other steps then rotate the **TEMPO** knob (Located in the **ARPEGGIATOR** section) to adjust the tempo.

- Now let's add a second SEQ by **Motion sequencing** Filter Cutoff → Press the **SEQ EDIT [SELECT]** key so that the **SEQ 2** LED is lit. On the lower line of the LCD screen you will see there is no parameter assigned to SEQ 2. **SEQ2:None**
- Press the **MOD SEQUENCE [REC]** key, play a note or chord while rotating the **FILTER CUTOFF** knob. (Recording will automatically stop after the last step) → Now hold a chord and listen to your first MOD SEQUENCE! If you don't like what you've done, you can overwrite it by pressing **[REC]** and giving it another go, or you can adjust it step by step using the 16 knobs.



*In the UTILITY page 26G, you can Copy ALL MOD Sequences from one Program to another. The UTILITY pages also provide procedures for Initializing Programs, Timbres, and MOD Sequences, and for Copying and Swapping Timbres and MOD Sequences.*



*Many of the factory programs contain Mod Sequence data. These programs are great examples: A02, A14, B06, C14. For more detailed information on Mod Sequencing see pages 16, 25, and 42 of the Owner's Manual.*

## The Vocoder & Modifying external waveforms using the Audio Inputs

The MS2000 has two audio inputs. **AUDIO IN 1** is for connecting a synthesizer or other audio source. The input signal can be used as the oscillator 1 waveform, allowing you to modify the audio source using the **FILTER**, **AMP**, **EG** and **LFO** knobs and apply effects. **AUDIO IN 2** is the microphone input for the **vocoder programs** or it can be used together with the **AUDIO IN 1** jack if you are plugging in a stereo source. Let's try it!

- Make sure the **AUDIO IN 1/INST** and **AUDIO IN 2/VOICE** knobs on the MS2000 are turned all the way down.
- Connect a microphone to the rear panel **AUDIO IN 2** jack and set the **AUDIO IN 2** level switch to the **MIC** position.
- Slowly adjust the **AUDIO IN 2/VOICE** knob up until the LED turns green (red indicates clipping) when you speak into the microphone.
- Now select program **H15:Audioln INIT**. **Press a note on the keyboard** → Speak into the microphone while adjusting the **FILTER CUTOFF** and **RESONANCE** knobs → Select different filter types with the **[FILTER TYPE]** key → Try turning on (lit) the **[MOD/DELAY]** in the **EFFECTS** section and adjusting the **SPEED/TIME** and **DEPTH/FEEDBACK** knobs. **Nice**.
- Now let's try some of the Vocoder programs**. Select program **H09:Vocoder Ens** and speak into the microphone while playing several chords on the keyboard → Try programs **H10: Vocoder Cho**, **H11:Vocoder Wah**, **H12:VocoderPulse**, **H13: VoiceChanger**, **H14:Vocodevil**.



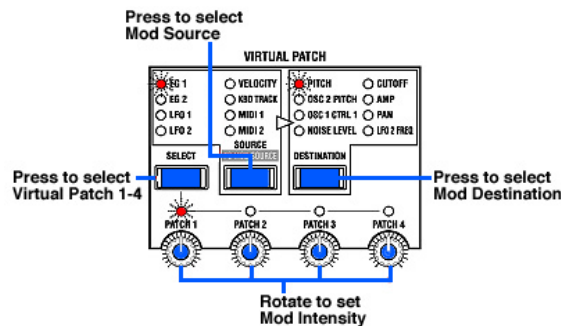
*For more in-depth information on working with the Vocoder, see the Owner's Manual pages 4, 17, 28, 34 and 49.*

## Virtual Patch Mode

Early analog synthesizers used patch cables to create signal paths between various parameters (for example, using an envelope to modulate filter cutoff). Many digital synths today don't allow for this kind of easy patching flexibility. With the MS2000's Virtual Patch function, any of **eight modulation sources** can be routed to **one of eight parameters**, and there are **four Virtual Patch setups** available for every Program! Let's try it.

1. First select program **H16:INIT Program**.
2. In the **VIRTUAL PATCH** section, press the **[SELECT]** key repeatedly until the **PATCH 1** LED is lit.
3. Now press the **[SOURCE]** key repeatedly until the **VELOCITY** LED is lit → Press the **[DESTINATION]** key repeatedly until the **CUTOFF** LED is lit → Rotate the **PATCH 1** knob all the way to the right.
4. Now play the keyboard with varied degrees of velocity and you'll hear how we've set **VELOCITY (SOURCE)** to control **CUTOFF (DESTINATION)** at full intensity.
5. In the same way as the previous steps, continue to create VIRTUAL PATCHES for **PATCH 2** and **PATCH 3**, so that the **SOURCE**, **DESTINATION** and **INTENSITY** settings are as follows:

Patch	Source	Destination	Intensity (knob)
PATCH 2	KYB TRACK	PAN	All the way to the left
PATCH 3	VELOCITY	AMP	All the way to the right



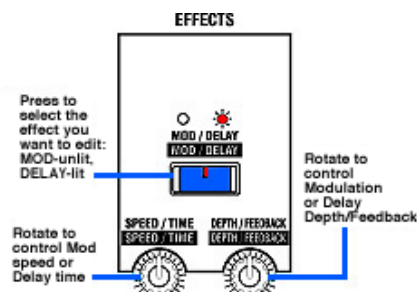
**The results of your new Virtual Patch setup:** The sound gets brighter and louder, the harder you play, and the sound pans from left to right as you play across the keyboard range.



For more detailed information on Virtual Patch Mode, see the Owner's Manual pages 4, 7, 24 and 42.

## Overview of the Effects

Each Program in the MS2000 can include a Modulation effect, Delay, and Equalizer. For Modulation effects, you can select from 3 types: Chorus/Flanger, Ensemble, or Phaser. The 3 Delays available are Stereo Delay, Cross Delay, and L/R Delay. The Delay times can be controlled by the TEMPO knob when the MS2000 is running on its internal clock, and can also be controlled by external MIDI clock.



A **2-band EQ** is available for each Program, and can be accessed by pressing the **EDIT** key, followed by pressing **[SELECT]** key **14** (EQ) ➔ Use the **[CURSOR < >]** keys to move to LO and HIGH frequency and gain parameters, and the **[-/NO]** and **[+/YES]** keys to make desired changes.

**!** *For more in-depth information on editing the Effects, see the Owner's Manual page 26.*

## Tips and Tricks

### Panel silk screening:

Just artsy, you say? Note that the **OSCILLATOR1 CONTROL1** and **CONTROL2** functionality are waveform-dependent. A box on the far right of the front panel screening, 2/3 of the way down, handily shows the parameters these two knobs control for a selected waveform. And there's a lot more good information to be absorbed from the MS2000 front panel screening.

### A quick and easy way to name your Programs:

What's new is the ability to spell the name with the 16 dials. First, press the **[EDIT]** key, and then press **[SELECT]** key **1** and **[PAGE+]** once, to **02A Name**. Then hold down the **[EDIT]** key and rotate your choice of the 16 knobs. The display will indicate the new Program name as you go – all that's left to do is press the **[WRITE]** key and store the newly-named Program into memory!

### Using the **DISTORTION** key as an additional "Effect":

At first glance, it appears that there is no way to set the **DISTORTION Level**, However, the output level of Distortion can be controlled by the knob settings of **OSC 1**, **OSC 2**, and **NOISE**, in the **MIXER** section.

### Increasing MS2000 Polyphony

You can connect the MS2000 MIDI OUT to another MS2000 or MS2000R MIDI IN, to increase the polyphony from four voices to eight. To do this, go to **[GLOBAL]** mode, page **4E**, for both instruments, and set one synth's **NoteRcv** value to **EVN** and the other synth's **NoteRcv** value to **ODD**.

**!** *Download new sets of synth sounds for the MS2000 / 2000R from [www.korg.com](http://www.korg.com)!*

## Important Owner's Manual References

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