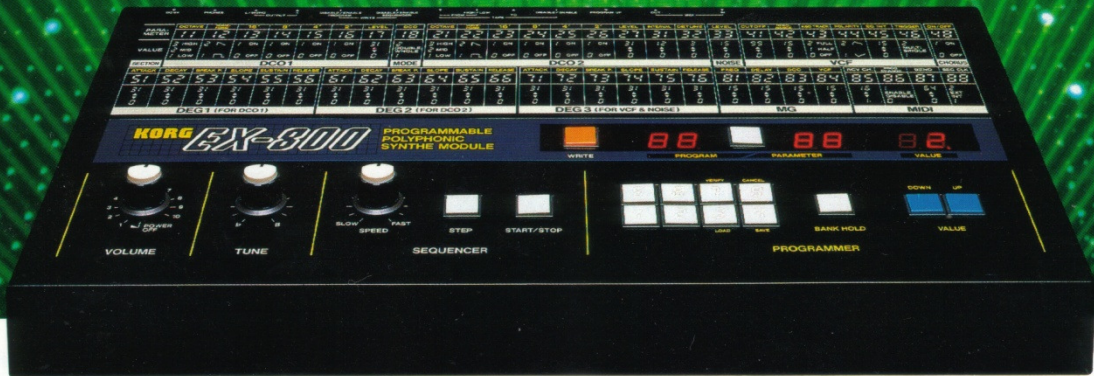


EX-800

PROGRAMMABLE
POLYPHONIC
SYNTHESIZER
MODULE



Step Into Tomorrow's Music
KORG[®]

Playable via any MIDI keyboard such as the Korg POLY-800 built-in 256-step sequencer, and tape interface. Dual DCOs

EX-800

PROGRAMMABLE POLYPHONIC SYNTH MODULE

The KORG EX-800 is an 8 voice programmable synthesizer module that works as a sound source for any MIDI equipped synthesizer (such as the KORG POLY-800 or the new RK-100 Remote keyboard). This rack mountable expander module has 64-program memory, built-in 256-step polyphonic sequencer, 14 second tape interface, "WHOLE" and "DOUBLE" (layering) Playing modes, and triple six-stage Digital Envelope Generators (DEGs). Interfaced with another MIDI equipped synthesizer or personal computer, the KORG EX-800 will respond to key data, pitch bends, modulation, sequencer clock input, program number change, volume, and "COMPU-DUMP" function (ie, loading/unloading program and sequencer data to a computer). Besides MIDI IN and MIDI OUT, the EX-800 also has a MIDI THRU jack, essential for multi-unit system connections.



1 Power/Volume

2 Tuning

3 Sequencer

Automatically plays up to 256 notes.

4 Programmer

Used to select any one of 64 programs stored in the EX-800 (11 through 88).

A) Program/Parameter switch

Enables keypad to select Program or Parameter number.

B) Write switch

Used to write program data.

C) Value UP/DOWN Switches

Used to raise or lower parameter values.

D) Bank Hold

Allows single digit entry for Program or Parameter selection.

E) Display

Shows Program number, Parameter number, and Parameter Value.

F) Number select button

5 Parameter Index

Shows Parameter names, numbers, and ranges.

G) DCO 1,2

DCO 2 pitch can be set to any interval a DCO 1 in semitone steps over an octave.

H) Mode

Used to select 8-note polyphonic key assign (1 DCO per note) with individual note articulation, or 4-note polyphonic key assign (2 DCOs per voice) to produce a fuller sound.

I) Noise

White Noise Source.

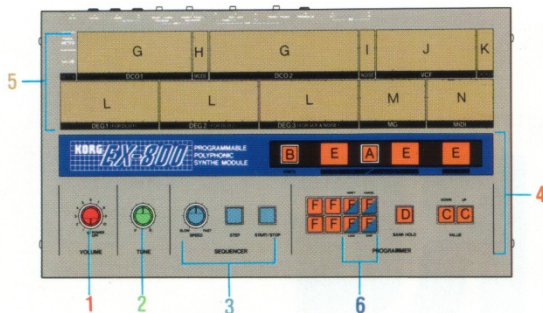
J) VCF

This precision -24db/oct filter includes: Keyboard Tracking, Single or Multiple Triggering, and "+" & "-" envelope contouring via DEG3.

K) CHORUS

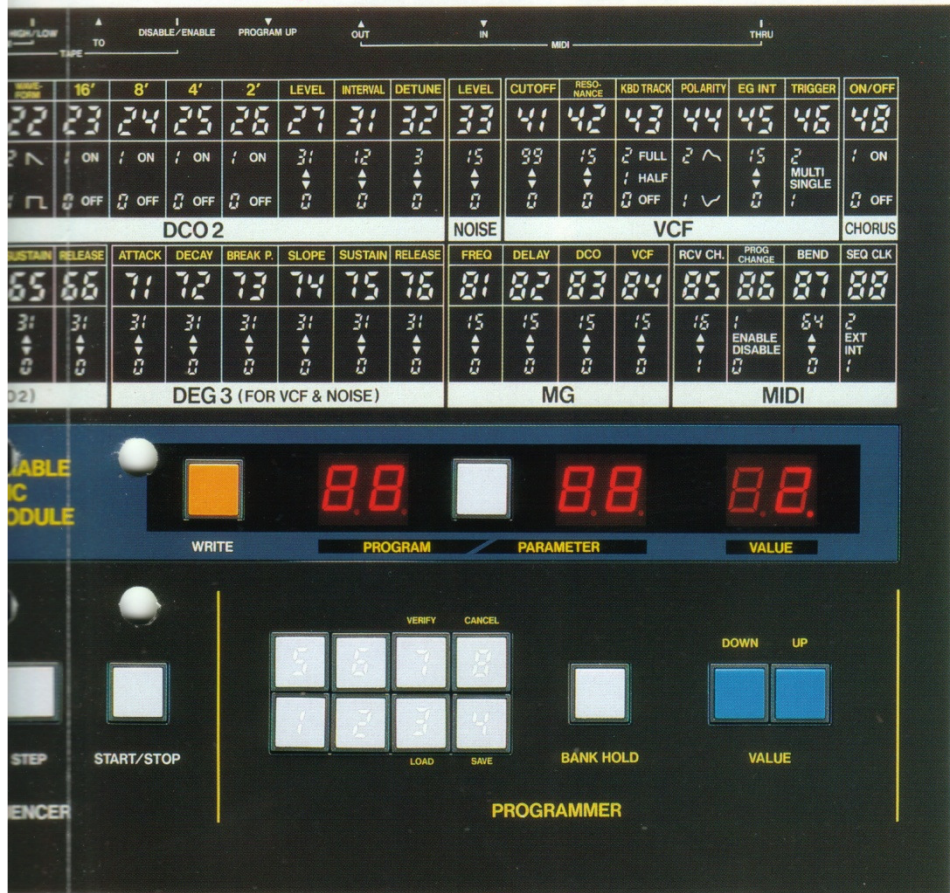
L) DEG 1,2,3

These Digital Envelope Generators have six parameters (ATTACK, DECAY, BREAK POINT, SLOPE, SUSTAIN, RELEASE) for more accurate simulation of complex envelopes. Since each oscillator has its own envelope generator, "layered" sounds can also be created.



M) M
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N) M
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POLY
BE
Used
SE
Deter
timing
CONN
Midi comp
Rhyth
Machi
Synth
Perso
comp

POLY-800 or RK-100. Has eight voices, 64-program memory, DCOs and triple A.D.B.S.S.R. DEGs create rich tones.

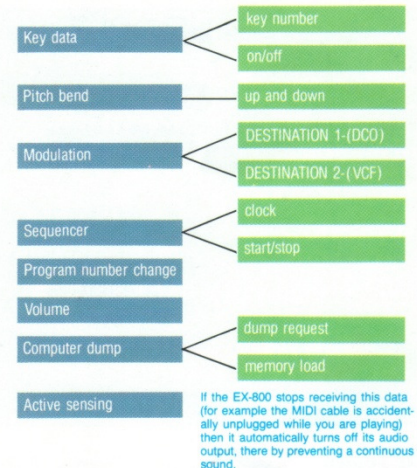


MIDI

Musical Instrument Digital Interface

MIDI-IN

The EX-800 is designed to be controlled by a MIDI equipped keyboard, sequencer, or other control device. Simply connect the EX-800's "MIDI IN" to the "MIDI OUT" jack of the MIDI equipped device. The EX-800 will respond to the following data:



MIDI-OUT

Output to dump contents of memory to computer (memory save and error messages).



COMPU-DUMP

Permits transfer of data to or from a computer in as fast as 1 second.

MIDI-THRU

The MIDI-THRU jack directly copies and outputs all data received by the unit's MIDI-IN jack without modification. By using the MIDI-THRU jack, you can expand your system with up to four additional synthesizers, expander modules, rhythmers, etc. and ensure that all units connected receive the same MIDI information at the same time.

M) MG

Low frequency oscillator for DCO and VCF modulation.

N) MIDI

For connecting the EX-800 to any MIDI equipped synthesizer, sequencer, rhythm machine, or personal computer.

RCV CH

Assigns EX-800 to receive data on a specified MIDI channel (1-16).

PRG CHANGE

Allows you to change program number from an external MIDI equipped unit (Example: POLY-800, RK-100).

BEND

Used to adjust the depth of pitch bends.

SEQ CLOCK

Determines whether EX-800 sequencer timing will be controlled by the internal clock

or synchronized with an external clock through MIDI.

6 Tape Interface

Allows you to store all program and sequencer data onto tape in as little as 14 seconds.

SAVE

Used when recording program and sequencer data on tape.

LOAD

Used when loading program and sequencer data from tape to EX-800.

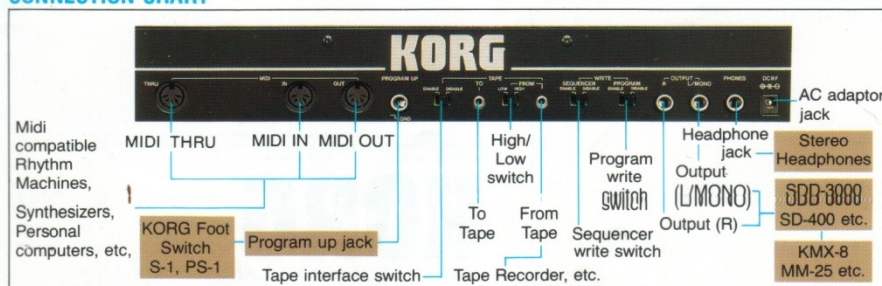
VERIFY

Enables you to check program and sequencer data for proper transfer onto tape or into EX-800.

CANCEL

Resets tape interface functions in case of error.

CONNECTION CHART



EX-800 SPECIFICATIONS

- VOICE: 8 Voice (WHOLE mode), 4 Voice (DOUBLE mode)
- DCO1: Octave (LOW, MID, HIGH), Waveform (N, L, 16', 8', 4', 2' (ON/OFF), Level (0-31)
- DCO2: Octave (LOW, MID, HIGH), Waveform (N, L, 16', 8', 4', 2' (ON/OFF), Level adjustment, Interval (0-12 semitones), Detune (-20 cent MAX)
- DCO Mode: (WHOLE, DOUBLE)
- NOISE: Level (0-15), (White noise)
- VCF: Cutoff Frequency (0-99), Resonance (0-15), Keyboard Track (OFF, HALF, FULL), EG Intensity (0-15), EG Polarity (V, H), Trigger mode (for DEG 3 only), (SINGLE, MULTI)
- CHORUS: ON/OFF
- DEG1 (FOR DCO1): Attack time, Decay

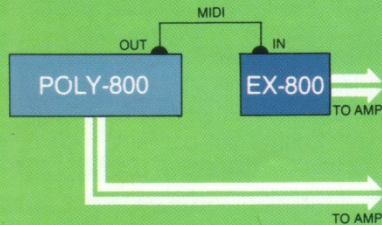
- time, Break Point level, Slope time, Sustain level, Release time (ALL 0-31)
- DEG2 (FOR DCO2): Attack time, Decay time, Break Point level, Slope time, Sustain level, Release time (ALL 0-31)
- DEG3 (FOR VCF & NOISE): Attack time, Decay time, Break Point level, Slope time, Sustain level, Release time (ALL 0-31)
- MG: Frequency, Delay time, DCO intensity, VCF intensity (ALL 0-15)
- MIDI: Receive Channel (1-16), Program Change (ENABLE/DISABLE), Sequencer Clock (INT, EXT) Bend (INTENSITY)
- TUNE: ±50 cents
- KEY DATA RECEIVABLE RANGE: C1-C6/61 Keys (36-96 at MIDI)
- POWER: OFF, Master VOLUME
- SEQUENCER: START/STOP, STEP, SPEED (Slow-Fast) PROGRAMS: 64 (11 to 88)
- PROGRAMMER: Number select buttons (1-8), PROGRAM/PARAMETER, BANK HOLD, UP,

- DOWN, WRITE switches
- DISPLAY: Program Number, Parameter Number, Parameter Value, Bank hold indicator, Edit indicator
- TAPE INTERFACE: Save, Load, Verify, Cancel
- INPUT JACKS: FROM TAPE (HIGH/LOW), PROGRAM UP (GND)
- OUTPUT JACKS: Output (R, L/MONO), HEADPHONES, TO TAPE
- TAPE SWITCH: ENABLE/DISABLE
- WRITE SWITCH: Program (ENABLE/DISABLE), Sequencer (ENABLE/DISABLE)
- MIDI JACK: IN, OUT
- DC 9V: AC adaptor jack (300 mA minimum; use only recommended KORG adaptor)
- DIMENSIONS: 404(W) × 222.5 (D) × 64.5(H) mm
- WEIGHT: 2.6kg
- ACCESSORIES: AC adaptor Casette tape of Factory Preload Programs, Rack mount adaptor (×2), Screws (×4) 5 pin DIN cord
- OPTIONS: Soft Case, KH-1/Headphones, MIDI Connection Cord, PS-1/Pedal Switch

TYPICAL CONNECTIONS

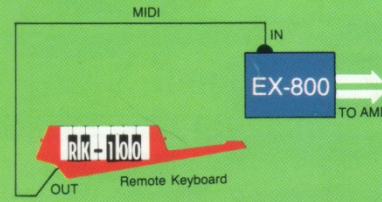
1 Using the POLY-800 or other MIDI synth to control the EX-800.

Connect MIDI synth's MIDI OUT to EX-800's MIDI IN jack using a MIDI cable. Connect the audio signal outputs of both units to amp or mixer inputs. When the EX-800 is connected together with POLY-800 above diagram, notes played on POLY-800 are duplicated by EX-800. Program number changes, sequencer data, joystick data and "mode messages" can also be sent from POLY-800 to EX-800.



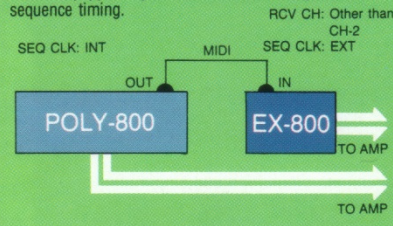
2 Using a remote keyboard to control the EX-800.

Use a MIDI cable to connect remote keyboard MIDI OUT jack to EX-800 MIDI IN jack. As in the previous example, there is no need to select RCV CH on the EX-800. The EX-800 will respond to keyboard data, pitch bend data, VCF modulation data, program change and other data from the remote keyboard.



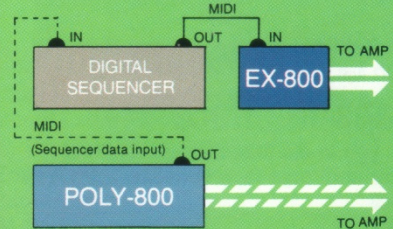
3 Synchronized performance between POLY-800 sequencer and EX-800 sequencer.

Write sequences with the same number of steps into both the POLY-800 and EX-800. Set POLY-800 SEQ CLK (parameter 88) to value: (internal). Set the EX-800 RCV CH to 1 or 3-16 (any value except 2) and set SEQ CLK to value 2 (external). Press START/STOP key on the POLY-800 to begin synchronized playback on both units. (Typically you could have the POLY-800 playing chords while the EX-800 played a bass line.) Or you could have a MIDI equipped rhythm machine controlling EX-800 sequence timing.



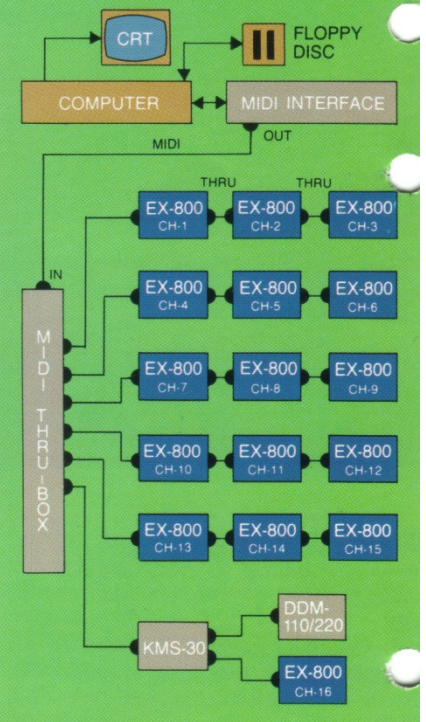
4 Using a MIDI equipped digital sequencer to control the EX-800.

A MIDI equipped synthesizer such as the POLY-800 is used to input key data to the digital sequencer. The POLY-800 can then be disconnected from the digital sequencer (broken line). Decide beforehand whether you are going to use the EX-800 in the 4-voice or 8-voice (DOUBLE or WHOLE) mode and input data accordingly. If the digital sequencer is a multi-track model then be sure to set EX-800 RCV CH value to the appropriate channel number (1-16) after turning on EX-800 power.



5 Using a personal computer to play the EX-800.

Programs are available that let a personal computer control the EX-800. If you use the MIDI THRU jacks, then up to four EX-800s can be connected in series. With a MIDI THRU box, up to sixteen EX-800s can be played, each with separate parts. The KMS-30 MIDI synchronizer can be used to add the DDM-110/220 or other rhythm machines to the system.



OPTIONS



*Specifications and features are subject to change without notice for further improvement

N O T I C E
Korg products are manufactured under strict specifications and voltages required by each country. These products are warranted by the Korg distributor only in each country. Any Korg product not sold with a warranty card or carrying a serial number disqualifies the product sold from the manufacturer's/distributor's warranty and liability. This requirement is for your own protection and safety.

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