SX-240 Firmware New Features   R Grieb   Updated Feb 12, 2020

MIDI channel can be set as in the Kawai firmware, by pressing
number switches 1-8 while powering up the synth.   If Bank switch A
is also pressed, it adds 8 to whatever number is pressed.   The new
firmware saves this setting in NVRAM, and will display it on power up.
To return to OMNI mode, press any number switch and also Bank B switch,
while powering up the synth.

When Tape Enable is activated, two new number LED's will flash.
Pressing 4 will transmit all programs out on MIDI. Each one is a complete
sysex block, which contains the program number.   When that block is sent
back to the SX-240, the program number determines where it is stored.
Pressing 3 will transmit all 8 sequence memory areas out on MIDI.   It
also sends a smaller area of memory which holds other sequence-related data.
When either the programs or the sequences are loaded into the SX-240 over MIDI,
the Memory Protect switch must be in the "Release" position. While the sysex
data is being received, the display and LED updating will pause. This is normal.

Two MIDI receive channels are now supported - the one you select (A), and the
next higher channel (B).   If the selected channel is 16, the next higher channel is 1.
In split mode, MIDI notes from the A channel are fed to the upper voices and B feeds
the lower voices. If not in split mode, notes on the B channel are ignored.   When
using CC's to change voice parameters, CC's on channel A control upper voice parameters,
and channel B controls lower voice parameters, regardless of mode.

Note: In Dual mode, MIDI notes only play the upper voice.   This is how the Kawai
code was written and has nothing to do with my firmware.

A sort of "step sequencer mode" has been added.   This setting only affects sequencer
playback.   Sequences are recorded normally.   In step mode, all time intervals are set
to the same value.   Playback rate can still be controlled using the tempo setting.   In
"Ex Tempo" mode, each pulse on CLKI will advance to the next note.   For the step mode
to work correctly, recorded events must alternate between note on and note off.   Play
one key at a time, using just one finger, to insure that each key is released before
the next one is pressed. The maximum number of notes in a sequence in step mode is ~180
or so. To toggle between "Real time" (normal) mode and "step" mode, press Tape Enable,
then use the 1 switch to select the desired mode, then exit Tape Enable mode.   The
sequencer mode setting is retained when power is off.

The later Kawai SX-240 firmware had a special test mode, which makes performing some of the
calibration steps much easier. To access it, hold C, E, and G at the bottom of the keybed
when powering up the unit.   Then use C to step through the different modes. You can set
DAC offset, DAC full scale, and the resonance point of each voice using this firmware.
There is a demo on youtube of this test mode, although the person who made it does not seem
to really understand the purpose of the mode.