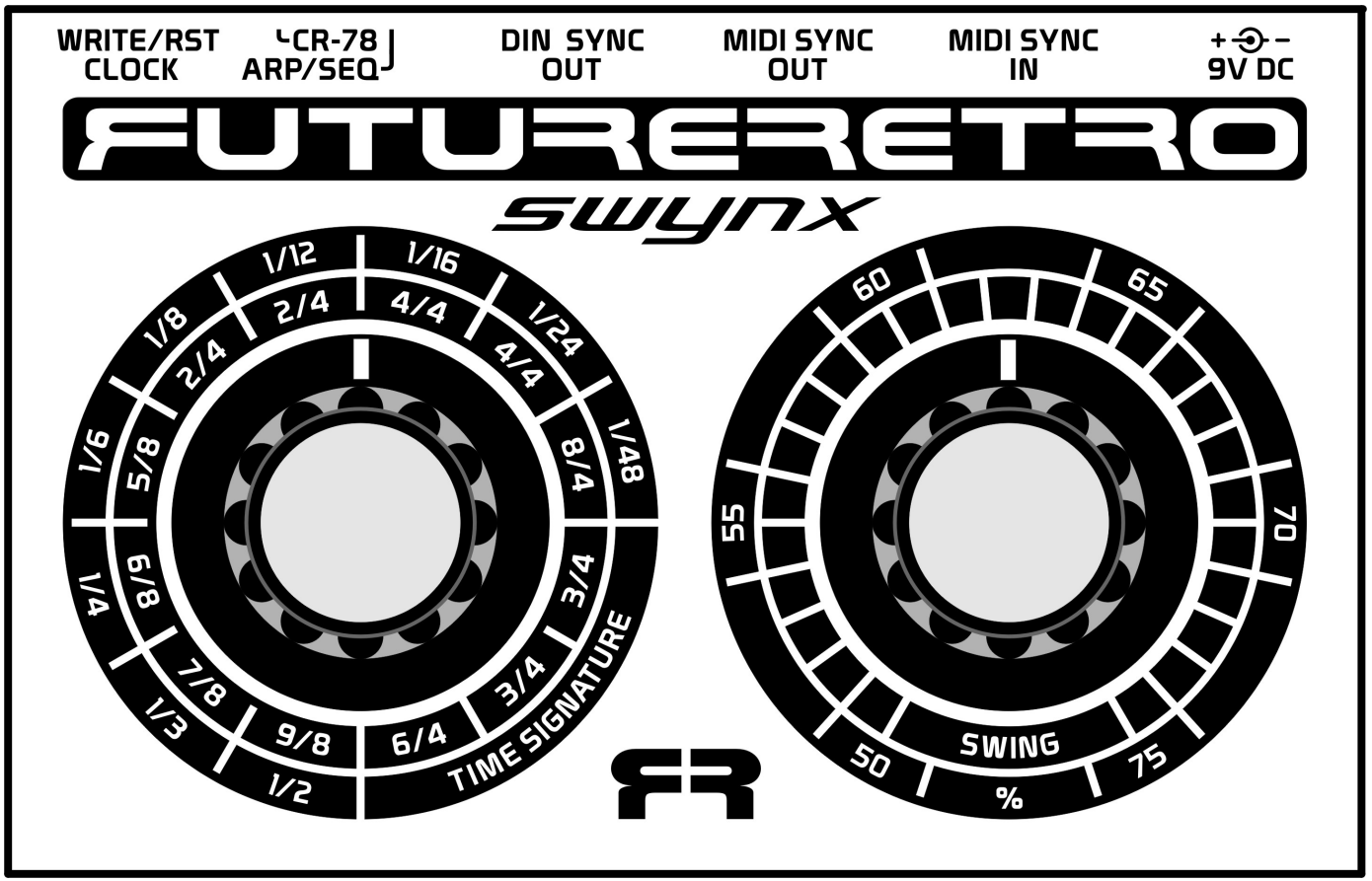
FUTURERETRO



It swings what it syncs… It’s Swynx!

WELCOME

Thank you for choosing the Swynx.

The Swynx is a sync box that converts MIDI clock messages to MIDI clock, DIN Sync, CR-78 clock, and Analog clocks. In addition, the Swynx provides the ability to swing the timing of all these clock outputs and select different time signatures (both with real-time adjustments), and also acts as a CR-78 pattern programmer. Wow!

After you try it in your setup, you'll realize just what you've been missing.

For instance, many DIN Sync devices do not provide a built-in swing function. What a shame, since most of these are wonderful sounding drum machines.

And many MIDI sequencers and drum machines suffer from poor implementation of swing, preventing changes to be made live, or providing swing for only 4/4 patterns.

How about the necessity to sync analog sequencers and arpeggiators with MIDI gear? And now you can swing the timing of those devices as well.

Support for the fabulous Roland CR-78 has been lacking in the past. Finding a WS-1 or TS-1 programmer for this drum machine is next to impossible. The Swynx can replace the need for either of these devices, allowing your CR-78 play in time with other MIDI devices, and swing its internal patterns. The ability to add swing alone will breathe new life into this old friend.

The Swing value is accurate to 0.5% providing much more control than is typically found in sequencers and drum machines.

The Swynx is all about making the gear you have sound better.

We encourage you to approach the Swynx as a tool for live manipulation of music timing.

Whatever you do with it… it’s got to be funky!

PRECAUTIONS

Never expose this device to rain or moisture. If liquids are spilled into the unit, unplug the power supply immediately and let the unit sit in a dry warm environment until all moisture has evaporated.

Avoid exposing the unit to smoke, dusty, or extreme hot and cold environments, as these things may cause premature component failure.

Clean the exterior with a soft dry cloth. Never use abrasive cleaners that may harm the surface and finish of the unit.

Never use AC output power supplies with this unit. Should your power supply become lost or damaged, replacements can be purchased directly from Future Retro.

WARRANTY

A 1 year warrant is provided for this product. Please register the product within 30 days of purchase online at: www.future-retro.com/register.html for your warrant to be valid.

POWER

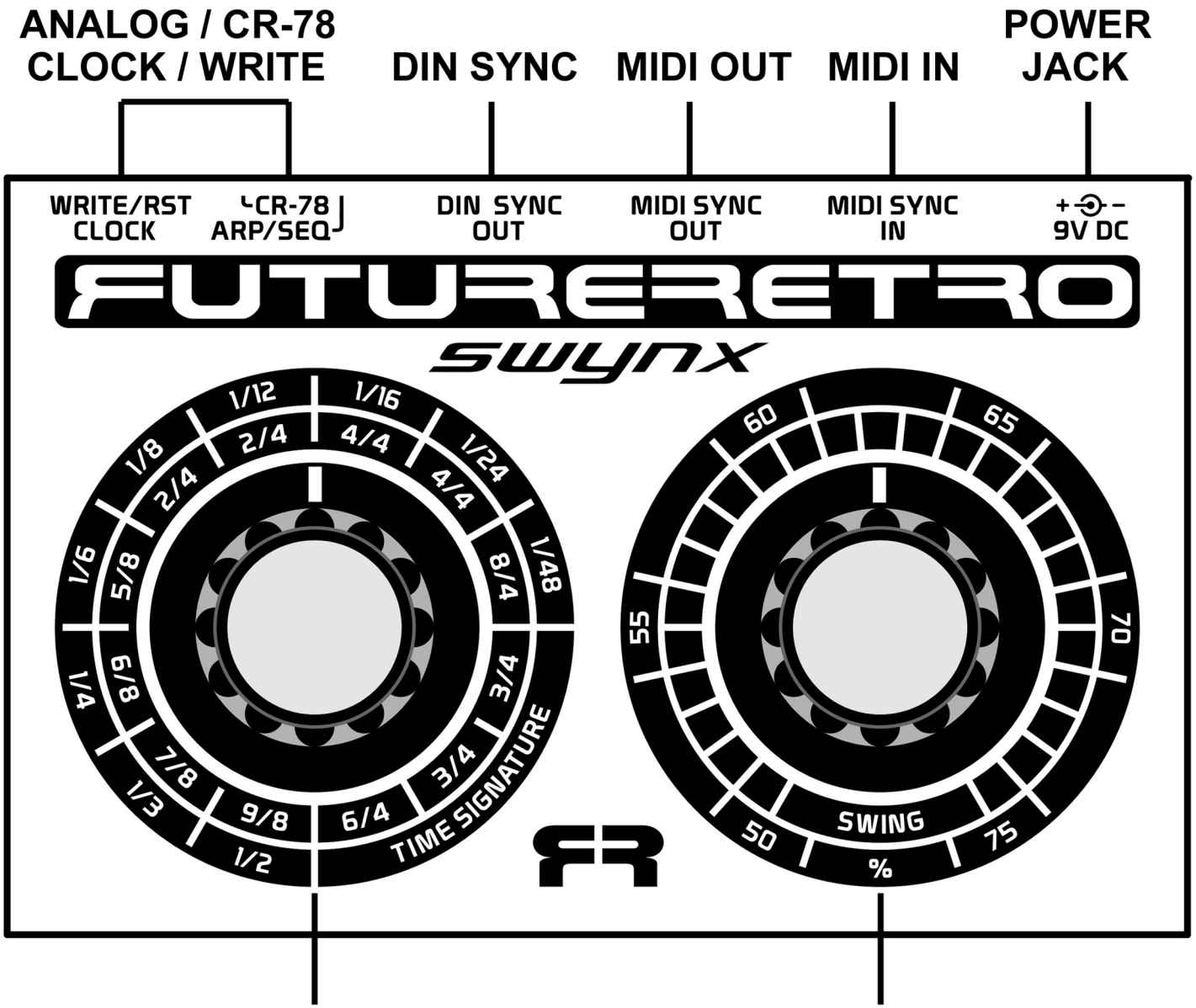
A universal power supply is provided with your unit. This power supply can be used in any country simply by using the correct AC plug (included) for your country.

This power supply is a 9V DC center-pin positive, outer-pin negative type supply and should only be replaced with the same type if ever lost.

Never use AC output power supplies to power the Swynx!

Insert the power supply into the wall outlet. Connect the DC output plug to the power jack located on the back panel of the Swynx.

There is no power switch, this unit will be on any time power is connected.


ANALOG / CR-78
CLOCK / WRITE
DIN SYNC
MIDI OUT
MIDI IN
POWER
JACK
WRITE/RST
CLOCK
CR-78
ARP/SEQ
DIN SYNC
OUT
MIDI SYNC
OUT
MIDI SYNC
IN
+ -
9V DC
FUTURERETRO
swynx
1/12
1/16
1/8
2/4
4/4
1/24
2/4
4/4
1/6
5/8
8/4
1/48
6/8
3/4
1/4
7/8
3/4
1/3
9/8
6/4
1/2
TIME SIGNATURE
60
65
55
70
SWING
50
%
75
TIME SIGNATURE CONTROL
SWING CONTROL

MIDI IN

The MIDI IN accepts MIDI clock and note information.

When using the Swynx for clock synchronization, connect the MIDI OUT of the MIDI device acting as your master clock to the MIDI IN of the Swynx.

When using the Swynx as a CR-78 programmer, connect the MIDI OUT of a MIDI keyboard to the MIDI IN of the Swynx.

MIDI OUT

The MIDI OUT sends MIDI clock for syncing external MIDI sequencers and drum machines.

Connect this MIDI OUT to the MIDI IN of the external device you want to sync.

DIN SYNC OUT

The DIN SYNC OUT sends DIN Sync clock/start/stop messages in 24ppq format.

Connect this output to the DIN Sync IN of the device you want to sync.

CR-78, ARP/SEQ SWITCH

This switch determines if the phone jack will produce Clock and Write signals for the CR-78, or Analog Clock and Reset signal for analog sequencers and arpeggiators.

To make changes to this setting, first stop playback of the master MIDI clock being sent to the Swynx. Slide the switch to the desired mode. Playback of the master MIDI clock can then be resumed.

The analog clock will have a 50% duty for each clock pulse.

PHONE JACK

The phone jack is a stereo output. The Tip connection will provide Analog Clock or CR-78 clock signals. The Ring connection will provide an Analog Reset signal, or the CR-78 Write signal.

If only the clock signal is needed, a mono cable can be used with this output.

If your situation requires Clock and the Analog Reset or CR-78 Write signals, use a “send-return” audio cable to break the stereo signal out into two separate mono signal connections. These cables are available from most music stores, and the mono signal connectors are often labeled as either Tip or Ring for clarity.

LED

The LED on the front panel will blink to indicate activity of the Analog Clock or CR-78 clock, which ever is selected.

TIME SIGNATURE CONTROL

The Time Signature control provides twelve different time signature selections, as indicated by the numbers on the inner-ring.

Time signatures can be changed while the unit is syncing, and new time new signature selections will take affect at the beginning of the next bar.

TIME SIGNATURE	CLOCKS PER MEAURE	NUMBER OF STEPS TO LOOP
9/8	18	9, 18
7/8	14	7, 14
6/8	12	3, 4, 6, 9, 12
5/8	10	5, 10
2/4	8	2, 4, 8, 16
4/4	16	2, 4, 8, 16
8/4	32	2, 4, 8, 16, 32
3/4	12	3, 6, 12
6/4	24	3, 6, 12, 24

TABLE 1

If the sequencer you are syncing has an adjustable loop point, set the number of steps to loop for that sequence to even divisions of the Clocks Per Measure.

Use TABLE 1 to select the ideal number of steps to loop within your sequencer for each time signature.

Using loop point values other than those listed will produce an evolving selection of steps. If you are the experimental type, this may be just the thing you are looking for.

Clock output types can behave slightly different with different time signatures. We will now discuss these differences.

MIDI

When using time signatures 9/8 through 8/4, set the external MIDI sequencer to use an internal time signature of 4/4.

When using time signatures 3/4 and 6/4, set the external MIDI sequencer to use an internal time signature of 3/4.

DIN SYNC

Many DIN Sync devices have pre-scales. Patterns in these DIN Sync devices should be programmed using the proper pre-scale for the time signatures in the Swynx.

Time signatures 9/8 through 4/4 work with the 4/4 DIN Sync pre-scales.
Time signature 8/4, works with the 8/4 DIN Sync pre-scale.
Time signature 3/4, works with the 3/4 DIN Sync pre-scale.
Time signature 6/4, works with the 6/4 DIN Sync pre-scale.

Using an improper pre-scale for the time signature the Swynx is generating, may produce undesirable results.

ANALOG CLOCK

Analog sequencers and arpeggiators generally do not have internal time signature divisions. They simply play at the rate of the analog clock. If the sequencer you are controlling has a Reset input, the Swynx Reset out signal can be used to loop the proper number of notes for each time signature.

CR-78 CLOCK

Time signatures used in the CR-78 will vary, but in general are mostly 4/4 with a few 3/4. Therefore you will need to experiment and see what time signature settings in the Swynx provide the best results for controlling the patterns selected and playing in the CR-78.

For best results with the CR-78, use 4/4 and 3/4 time signature settings in the Swynx. Time signatures 2/4, 8/4, and 6/4 can also provide usable results.

In general, irregular time signatures 9/8, 7/8, 6/8 and 5/8 will not generate pleasing results with the CR-78 due to how it handles clocks. But you're free to try them out.

SWING CONTROL

The Swing control allows real-time control of the timing of specific clocks and how they are delayed to create a more human feel.

The Swing control range is from 50% to 75%. A setting of 50% produces strictly quantized clock timing, while a setting of 75% produces the maximum amount of swing effect.

Adjustments made to the Swing value will take affect on the next interval of notes. This interval varies with different time signatures, see TABLE 2.

For instance, with a 4/4 time signature and a swing interval of 1/8th notes, changes to the Swing value will take affect every 1/8th note.

Notice there are two selections for the 2/4, 4/4, and 3/4 time signatures. Each of these provides a different swing interval to produce a different feel.

NOTE: Swing control has no effect on 9/8 and 7/8 time signatures.

TIME SIGNATURE	SWING INTERVAL
9/8	N/A
7/8	N/A
6/8	1/8
5/8	1/4
2/4	1/2
2/4	1/4
4/4	1/4
4/4	1/8
8/4	1/16
3/4	1/6
3/4	1/3
6/8	1/12

TABLE 2

SYNCING

Connect the MIDI OUT of your master MIDI clock device to the MIDI IN of the Swynx.

Connect the MIDI, DIN SYNC, and Analog/CR-78 clock outputs to the appropriate MIDI, DIN SYNC, and Analog/CR-78 clock inputs of each device to be synced.

Make sure MIDI and DIN Sync devices to be synced are properly setup to receive external clocks.

Since the Swynx does not provide a Start/Stop control for the CR-78, you need to press the CR-78's Start/Stop switch to cue up the sync operation. You will need to do this every time before playback is started.

Start playback of the master MIDI clock device, and all devices syncing to the Swynx should begin playback.

Before stopping playback of the master MIDI clock, press the CR -78's Start/Stop switch. This allows the CR-78 to stop and reset to its first step.

If you fail to press the Start/Stop switch before playback is stopped, the CR-78 will not play from the beginning of the bar when playback is started again.

Stop playback of the master MIDI clock, and playback of all devices syncing to the Swynx will stop.

A FEW NOTES ON SYNCING

It is normal for the first clock generated (when playback starts) to be shorter in duration than typical for the selected Time Signature and tempo. This is due to the way the Swynx has to calculate incoming MIDI clocks to generate the output clock signals.

Changes to the master tempo can in some cases cause timing errors while syncing. In general slowing the tempo down will not cause problems. But when increasing the tempo, do so with gradual changes. Increasing the tempo quickly may cause missed MIDI clocks to occur.

PREPARING THE CR-78 FOR PROGRAMMING

- Connect the MIDI OUT of a MIDI keyboard to the MIDI IN of the Swynx.
- Connect the Ring portion of the Swynx phone jack to the Write IN of the CR-78.
- Set the analog output switch on the Swynx to the CR-78 position.
- Select one of the CR-78's four user memory locations to write to.
- Set the CR-78 Programmer switch to the ALL position, and press the CLEAR key. This clears out the contents of this user memory location.
- Connect the Tip portion of the Swynx phone jack to the CR-78's Clock IN.
- Set the CR-78 Programmer switch to the MEMORY position.
- Press the Start/Stop switch of the CR-78.
- The CR-78 is now ready to be programmed.

STEP WRITE: PROGRAMMING THE CR-78

- Use the Instrument Selector of the CR-78 to select an instrument track to write.
- Set the note duration to be written into the CR-78 using the Swynx Time Signature control. Note durations are indicated by the outer ring of numbers displayed around the Time Signature control.
- To write a note-on for the current step, play any white key on your MIDI keyboard. The CR-78 will then advance to the next step.
- To advance the CR-78 to the next step without writing a note, play any black key on your MIDI keyboard.
- Patterns in the CR-78 are all two bars in length. Keep track of what position you are currently writing to.
- Once two bars are programmed, you can continue adding notes to this instrument track, or select another instrument track to write.
- Repeat these steps until all four tracks have been written.

CHECKING YOUR PATTERNS

- Press the Start/Stop switch of the CR-78 to stop programming.

- Set the CR-78 Programmer switch to the PLAY position, remove the cable going to the CR-78's clock IN jack, then press Start/Stop to play the CR-78 and hear the results.

- If mistakes are made, clear individual instruments by setting the Programmer switch to MEMORY, select the appropriate instrument, and press the CLEAR key on the CR-78. To clear all instrument tracks, set the Programmer switch to ALL, then press the CLEAR key.

- If patterns need further editing, make sure playback of the CR-78 is stopped. Reinsert the cable into the CR-78's clock IN jack, and press the Start/Stop switch of the CR-78 before proceeding with step writing.

TAP WRITE: PROGRAMMING THE CR-78

An alternative method to Step writing is manually tapping the beat into memory.

For this method, do not connect a cable to the CR-78's clock IN jack. Connect a cable from the Swynx Write output, to the CR-78's Write IN.

- Select the 1/48 note duration with the Time Signature control of the Swynx. This allows notes to be written more rapidly.
- Start playback on the CR-78, and tap the rhythm into memory by playing white keys on your MIDI keyboard.
- When using this method, it is helpful to slow down the tempo the CR-78 is playing at. You might also select a preset like ROCK 1 to play along with so you have a reference of where down beats exist.
- If mistakes are made, clear individual instruments by setting the CR-78 Programmer switch to MEMORY, selecting the appropriate instrument, and pressing the CLEAR key. To clear all instrument tracks, set the Programmer switch to ALL, then press the CLEAR key.

TIPS

- Using the Tap write method to enter notes into the CR-78 can take some practice to play notes on the correct beat. This is because the CR-78 has an internal quantization value of 48 steps per measure.

  If you make a mistake, simply erase the track and try again.

- You can combine Step and Tap writing methods when programming the CR-78. For instance you may want to Step write a 1/4 note kick and snare track to lay the foundation. Then switch to the Tap write mode to lay down a bongo or conga track.

- The Swynx supports the 24ppq (pulse per quarter note) DIN Sync clock standard. This standard was popularized by Roland and used throughout their DIN Sync line of equipment. Some other companies like Korg adopted a 48 ppq DIN Sync clock standard.

  While you can sync the 48ppq DIN Sync devices with the Swynx, keep in mind that these devices will play back at half tempo, and Swing values may have little to no effect on their timing.

SPECIFICATIONS

Construction: Steel
Dimensions: (L) 5.0” x (W) 3.0” x (H) 2.25”
Unit Weight: 0.7 lbs
Universal Power Supply: 100-240V AC input, 9V DC
Power In: 9V DC (center positive)
Inputs: MIDI clock
Outputs: MIDI clock, DIN Sync, Analog clock/reset, CR-78 clock/write
Time Signatures: 9/8, 7/8, 6/8, 5/8, 2/4, 4/4, 8/4, 3/4, 6/4
Swing: 50% - 75%, (0.5% accuracy)
CR-78 Step write divisions: 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/16, 1/24, 1/48
Analog Clock: 50% duty cycle for each clock step

Each product is hand made in the USA.

Manual written by: Jered Flickinger

www.future-retro.com