



- A. **Keyboard:** G2-C4. Full range is G-2 to C8. Will also transpose any recorded sequence. See “MIDI” for latching
- B. **Red:** MIDI channel segment. 1-4.
- C. **Green:** Values segment.
- D. **Octaves:** 4 up and 4 down. Press both Octave buttons at the same time to return to center.
- E. **MIDI** - Channel selection 1-4. Pressing MIDI button while holding down note/notes will latch those notes. SHIFT will light up. To unlatch return to the latched MIDI channel and press any octave key. Temporary hack.
- F. **VEL/OSC** - Velocity 0-127. In 1M mode velocity is recorded into a sequence and output on Yarns CV2. Try recording a different velocity for each note in your sequence and using CV2 output to modulate something. When “OSC mode” is on slider changes to Waveform selection.
- G. **ARP** - Range “0-4”. “0” is off. Turns on at “1” with red LED. Turning with SHIFT turns on “Euclidean mode” with green LED. In “4T mode” used to turn on RG - Rhythm Generator.
- H. **DIR** - Arp direction. Used also in “Euclidean mode”
- I. **PAT** - Arp Pattern “1-22”. In “Euclidean mode” chooses Euclidean Fill “0-32”.
- J. **FINE** - Fine tuning. In “Euclidean mode” chooses Euclidean Rotate “0-32”.
- K. **SHIFT** - Special functions and Latch indicator
- L. **3 & 7** - When recording sequences in Yarns these will insert 3 or 7 ties. Together with SHIFT will insert 3 or 7 rests. In “Euclidean mode” will choose Euclidean Length +/-
  - a. **3 & 7 explained:** Press “Record” on Yarns to record a sequence. It shows “step 01”
    - i. Insert any note in “step 01” from Needles.
    - ii. Press “3”. You inserted 3 ties. Yarns will be on “step 5”.
    - iii. Insert any note.
    - iv. Press “7”. You inserted 7 rests. Yarns will be on “step 13”.
    - v. Press “3”. You inserted 3 ties. Yarns will be on step “17”.
    - vi. Press Record on Yarns exit recording. You recorded a 16 step sequence. This is how you can record sequences in Yarns super fast!

	3				7								3		
note	tie	tie	tie	note	tie	tie	tie	tie	tie	tie	tie	note	tie	tie	tie
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

- vii. Try inserting a kick on step 1, 5, 9, 13 by pressing 3 in between each one and exiting Yarns record mode on step 17. Takes 3 seconds (-:

- M. **SLIDE** - Inserts a Slide. Legato must be turned on. Together with SHIFT chooses Sequence Clock Division “-”
- N. **REST** - Inserts a Rest. Together with SHIFT chooses Sequence Clock Division “+”
- O. **TIE** - Inserts a Tie. Together with SHIFT chooses Voicing (2P, 4P, 2>, 4>, 8>)
- P. **MOD** - Vibrato. Independant for each channel. In “4T Mode” chooses Trigger Duration
- Q. **SPEED** - Vibrato Speed. Independant for each channel. In “4T Mode” chooses Trigger Shape
- R. **TUNE** - Tuning System 0-33.
- S. **PORT** - Portamento. Only when Legato is off.
- T. **LEG** - Legato on/off with LED indicator. Turn on for Slides. In “4T Mode” turns on Trigger Velocity Scale, used with Velocity Slider
- U. **OSC - DEF - 4T:**
- Default mode in center.
  - 4T mode changes SPEED, MOD, LEG, ARP to send 4T specific values. Remember that triggers in 4T come out of the Yarns CV outputs. Set the NO(TE) parameter to the trigger note you want for each Part. Default is “36, 38, 40, 42”. I recommend setting it to “60, 62, 64, 65” which means C3, D3, E3, F3 which is the center octave setting on Needles. Save your Layouts in Yarns too.
  - OSC mode turns on an oscillator and loads a Saw waveform to as many channels as your current Yarns setup allows. Velocity slider chooses between the waveform. For example:
    - On CV4 in monophonic mode (1M)
    - On CV3 and CV4 in duophonic modes (2M or 2P)
    - On CV1, CV2, CV3, CV4 in quadraphonic modes (4M or 4P)
- This is great for using Yarns as a 4 channel oscillator module (each channel having it's own unique waveform), or for fattening up sounds when sequencing in 1M and 2M modes - because CV3 or CV4 will play the exact same sequence that is recorded and sent out of CV1 and CV2.. So you can flip the OSC switch anytime and viola - you get one or two extra voices.
- V. **XTRA** - button for something of your choice.

## YARNS MIDI IMPLEMENTATION CHART:

<https://docs.google.com/spreadsheets/d/15TJX1dSbiRo1jPDxPYR4GV2ICQuVu5B6wAjiAAwP60o/pub?gid=1>

Most of Yarns settings can be accessed from Needles. But to record sequences you need to work together with Yarns to enter “Record mode”. Choose the Layout you want in Yarns (1M, 2M, 4M etc..), and then choose if you want each Part to receive messages it's own unique channel messages. For example, if you want Needles to control 4 different and unique channels:

- choose 4M layout on Yarns
- Set Part 1 to receive on Channel 1 - Needles channel 1 will control it
- Set Part 2 to receive on Channel 2 - Needles channel 2 will control it
- Set Part 3 to receive on Channel 3 - Needles channel 3 will control it
- Set Part 4 to receive on Channel 4 - Needles channel 4 will control it