Triggering for rodent fMRI - Ventilation - Scan - Stimulation

(Version : w202102, Wenju@Keilholz MIND Lab)

1. Set animal artificial ventilation 1.6Hz and trigger out to Master-8 EXT1
2. ALL-1-ENTER (call program #1)
3. Set ch1 as TRIG mode: (triggered by EXT1, switching on and off in second to control trigger-in to start a session. If left it on, it may continue triggering after session)
    a. TRIG-1-ENTER
    b. INTER-1-100-ENTER-3-ENTER (100ms interval, i.e. 10Hz)
    c. DURA-1-10-ENTER-3-ENTER (10ms pulse, single pulse @ TRIG mode)
4. CONCT-1-2-ENTER (ch1 connects ch2 to trigger ch2)
5. TRAIN-2-ENTER (set ch2 as TRAIN mode for TR = 1.25sec EPI scans: 10min+12.5sec dummy scan; ventilation rate set on 1.6Hz, i.e. phase-locked to every other breath)
    a. INTER-2-1250-ENTER-3-ENTER (1.25sec cycle)
    b. DURA-2-10-ENTER-3-ENTER (10ms pulse)
    c. M-2-510-ENTER-0-ENTER (500 scans + 10 dummy scans - need setting up in scan, ALSO connecting ch2 with TTL-inverter cable with USB plugging in any USB port for power supply to trigger Bruker scanner that needs high potential to low potential in triggering)
6. CONCT-1-8-ENTER (ch1 connects ch8 to trigger ch8,)
7. TRIG-8-ENTER (ch8 as TRIG mode to set delay, no delay in TRAIN mode)
    a. DELAY-8-12.5-ENTER-0-ENTER (delay 12.5s during 10 dummy scans)
    b. INTER-1-100-ENTER-3-ENTER (100ms interval, i.e. 10Hz)
    c. DURA-1-10-ENTER-3-ENTER (10ms pulse, single pulse @ TRIG mode)
8. CONCT-8-5-ENTER (ch8 connects ch5 to trigger ch5,)
9. TRAIN-5-ENTER (Ch5 for stim. block design,10s-on 20s-off for 10min scans)
    a. INTER-5-30-ENTER-0-ENTER (30s per cycle)
    b. DURA-5-10-ENTER-0-ENTER (10s stim. per cycle)
    c. M-5-20-ENTER-0-ENTER (20 cycles)
10. CT-5-3-ENTER (ch5 connects ch3 to trigger ch3)
11. TRAIN-3-ENTER (ch3 for stimulation)
    a. M-3-40-ENTER-0-ENTER (4Hz lasting 10sec, i.e.10*4=40 pulses)
    b. INTER-3-250-ENTER-3-ENTER (1/4=250ms per cycle)
    c. DURA-3-10-ENTER-3-ENTER (10ms pulses, setting ISO-flex 1.5mA for forepaw)