1 OPTICAL PART OF PULSE PICKER ALIGNMENT

Please refer to paragraphs 7.1.1-7.1.5 of the manual that will guide you through the installation process.

2 ELECTRICAL PART OF PULSE PICKER ALIGNMENT

1. Turn on the control unit using switch and “Power” button on the front panel.
2. Please set the following parameters:
    - In the menu section “Divider 1”:

      √Divider enabled
      Divider 1 clock
      100 MHz crystal
      Clock phase
      Positive edge
      Divider 1 prescaler
      ÷256
      Divisor 1
      ÷390
      Phase 1A
      00001
      Phase 1B
      00001
    - In the menu section “Delay channels” → “Triggering”:

      Triggering signal
      Divider 1 out 0
      Triggering polarity
      Positive edge
      Trigger synchro
      100 MHz crystal
      Delay clock
      PT oscillator
      Interlock enabled
    - In the menu section “Monitor outputs”:

      Monitor out 1
      Delay Start
      Monitor out 2

Pulse 1 Start
Monitor out 3
Delay 2

3. Set up the fast photodetector at the output of the pulse picker system after the polarizer number 2 ('Pol. 2' in Fig. 4). Set up the λ/2 waveplate onto the side of the Pockels cell. Supply the signal from the photodetector to the "Channel 1" input of the oscilloscope. Adjust the λ/2 waveplate so that the CW optical signal from He-Ne laser becomes represented in the oscilloscope.
4. Supply the signal from 'Out 1' output from the front panel of the control unit to the input "Channel 2" of the oscilloscope. Synchronize the oscilloscope by the "Channel 2".
5. Set the following parameters:
    - In the menu section "Delay channels" → "Delay 1":

      Coarse delay 1
      00.01 μs
      Fine delay 1
      10.00 ns
      Pulse duration
      0.50 μs
      Tail adjustment
      10.00 ns
      High voltage 1
      530.0 V
      √High voltage 1 on
      Enable subsample

    - In the menu section "Delay channels" → "Delay 2":

      Coarse delay 2
      00.01 μs
      Fine delay 2
      10.00 ns
      High voltage 2
      460.0 V
      √High voltage 2 on

Enable subsample

10. Connect the control unit and the Pockels cell shutter OG88-1 or OG8-1 (see manual)
11. Press the button 'Output On/Off' on the front panel of the control unit. LED ‘Output’ should turn green.
12. Remove the $\lambda/2$ waveplate that has been earlier installed on the side of the Pockels cell.
13. By changing 'High voltage 1' (or 'High voltage 2') in the menu section “Delay channels” → “Delay 1” (or 'Delay 2') achieve maximum signal amplitude at “Channel 1” of the oscilloscope.
14. The repetition rate of the picked pulses is adjusted by dividing the 100 MHz repetition rate in the menu “Divider 1” by ‘Divider 1 prescaler’ and ‘Divisor 1’ values (for example, 100 MHz/256/390 = 1 kHz).