F64-USB
product manual
V1.0

steering wheel for racing simulators

Ascher Racing GmbH

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1. general information

- USB connection via coiled cable

- 285mm diameter

- mass: 1140 g

- standard 6 x 70mm bolt pattern (M5 threaded) to mount quick release

- 64 inputs in total

- grips covered in genuine leather

- package contents:
    - F64-USB steering wheel
    - coiled USB cable (Binder connector to USB Type-A)
    - alternative magnets to adjust paddle shifter force (**see foam insert**)
    - bolts and washers to mount standard Quick Release (such as Q1R)
    - tool to remove Binder connector nut
   - button & encoder labels sheet

2. mounting and connection

- sufficient clearance between steering wheel and motor required for coiled cable connector
- length of Binder connector approx. 64mm
- SQR (see 2.1) provides sufficient clearance
- additional spacers may be required for other mounting solutions
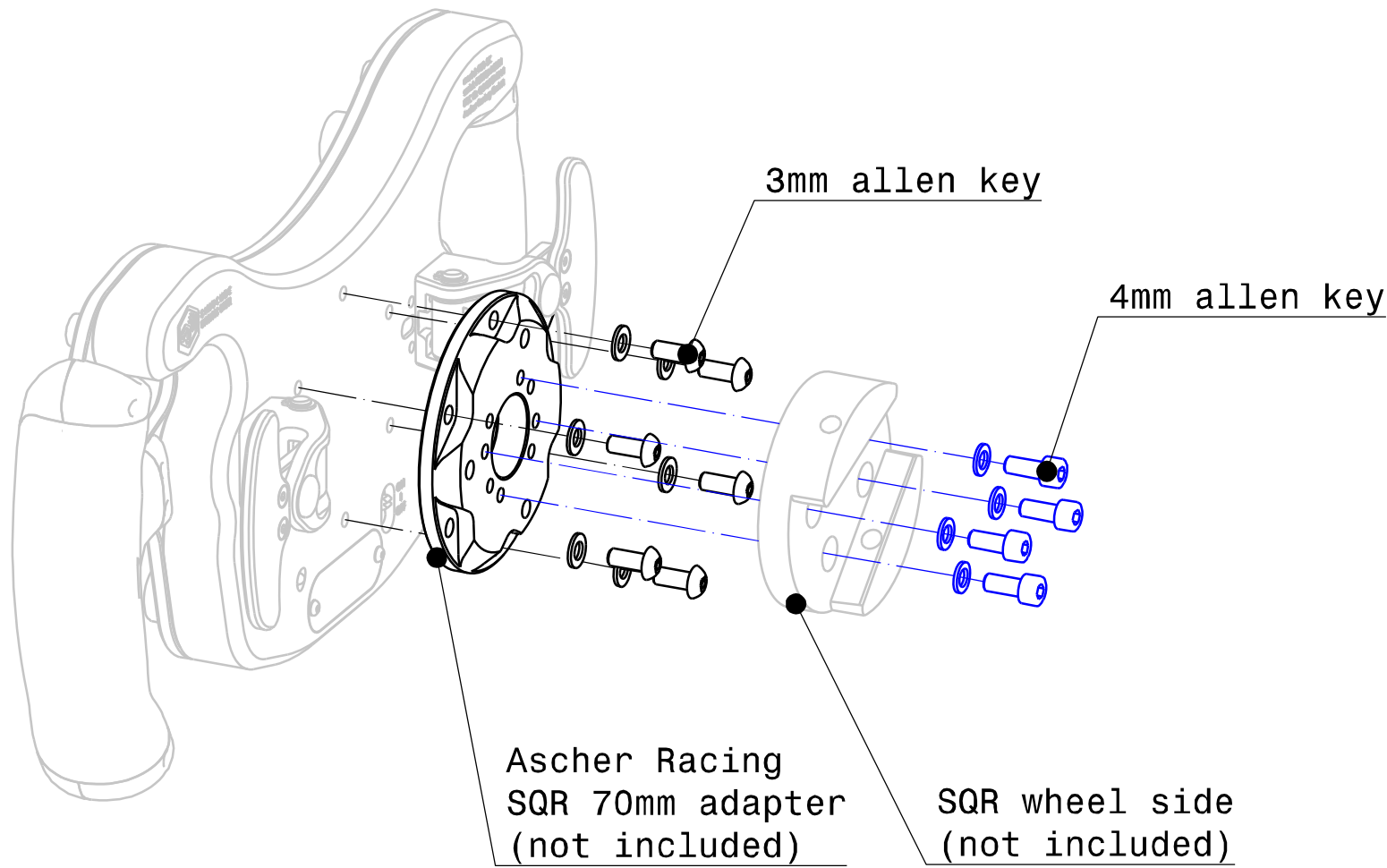- USB extension cable mounted securely to the sim rig is recommended

mount Quick Release:

1. SQR wheel side via standard SC2 adapters
2. SQR wheel side via *Ascher Racing SQR 70mm Adapter*
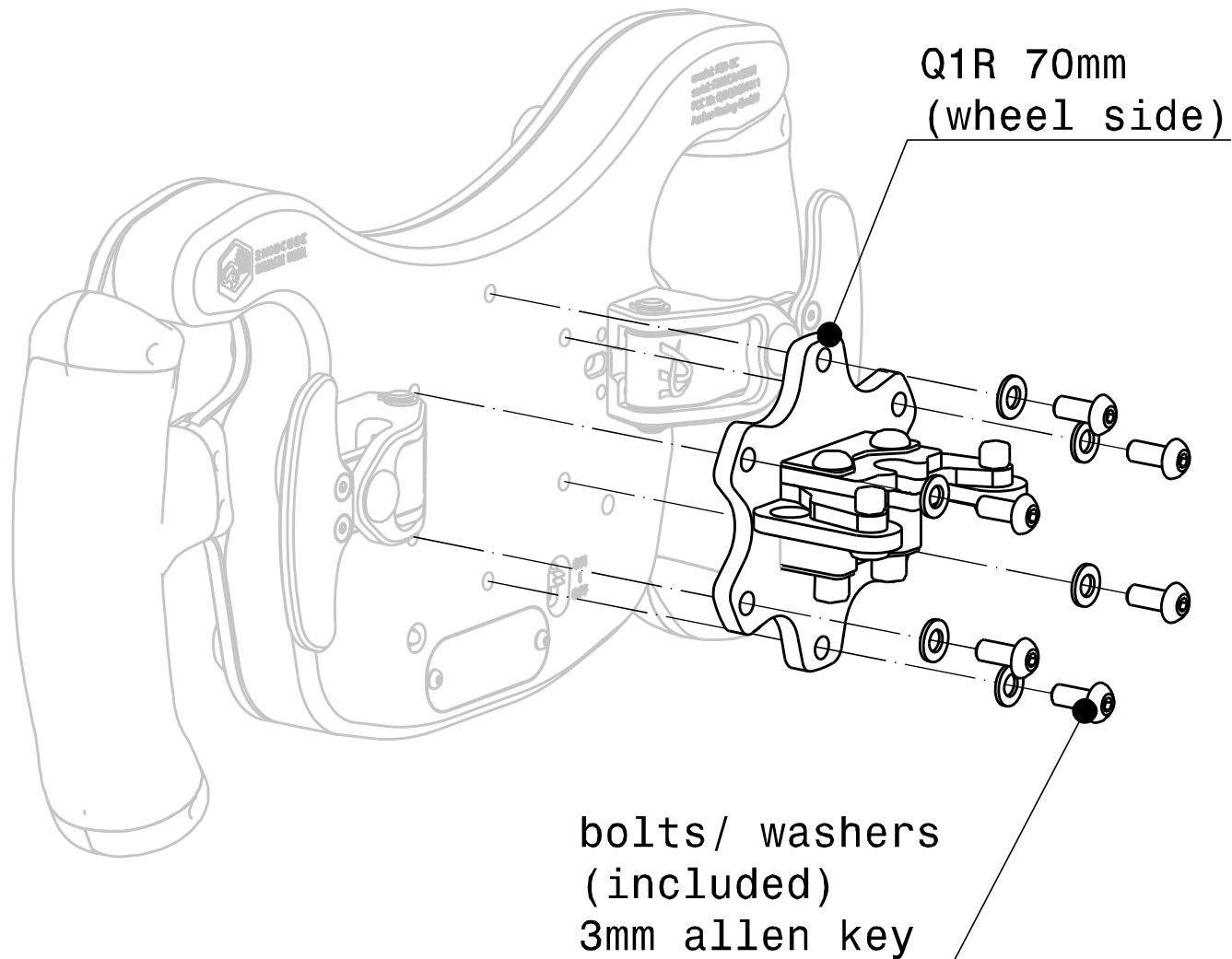3. Q1R 70mm wheel side
4. M5 threaded QRs

2.1 SQR wheel side via standard SC2 adapters
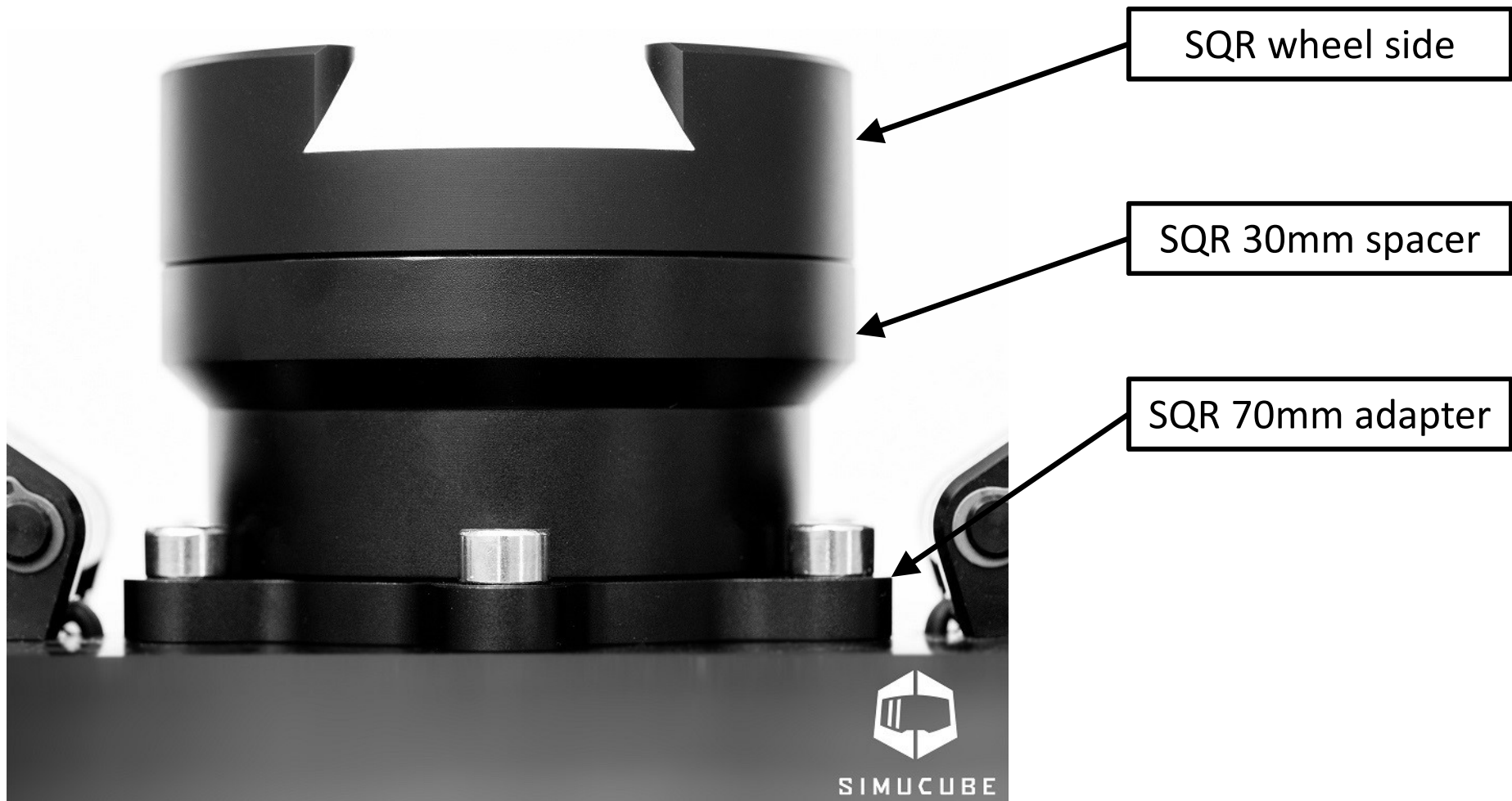
SQR wheel side

SQR 30mm spacer

SQR 70mm adapter

2.2 SQR wheel side via *Ascher Racing SQR 70mm Adapter*

3mm allen key

4mm allen key

Ascher Racing
SQR 70mm adapter
(not included)

SQR wheel side
(not included)

2.3 Q1R 70mm wheel side

Q1R 70mm
(wheel side)

bolts/ washers
(included)
3mm allen key

2.4 M5 threaded QRs

- not as straight forward as previous QRs due to both parts being M5 threaded
- M5 threads of one part need to be bypassed using captive screws

- through hole M5 threaded QRs (e.g. HRS Xero Play QR) → bypass the QR part

- blind hole M5 threaded QRs (e.g. NRG/ Fanatec Podium Hub) → use captive screws from inside the wheel casing
    1. remove Binder connector nut (rear side; required tool included)
    2. open wheel rim by removing 7 x front plate bolts (2.5mm allen key)
    3. screw in 5 x captive screws completely until threads do not intersect anymore
    4. attach QR by turning each bolt ¼ turn in a circular pattern
    5. attach front plate – make sure not to squeeze shifter/ clutch cables

3. operation

- no driver installation required
- wheel shows up in Windows as a standard HID-Gamecontroller (human interface device)
- configuration tool can be used to adjust settings such as rotary switch modes, master clutch…
- refer to the product page to download latest configuration tool/ firmware
- clutch bite point can be adjusted on the wheel (without using the configuration tool):
  - push both joystick buttons for 1s to enter bite point mode
  - rotate left joystick for 1% increments
  - rotate right joystick for 0.1% increments
  - push both joystick buttons for 1s to exit bite-point mode

4. configuration tool

4. configuration tool

1. **Reset All**: reset all settings to factory default

2. **Analog Input Mode**
   - Throttle and Brake: two separate axis for both clutches
   - Dual Clutch: one single axis for both clutches, both signals are compared and whichever signal is greater will be the output

3. **Master Clutch**
   - set which clutch is the master clutch
   - master clutch will not be affected by clutch bite point setting
   - slave clutch is scaled down so that 100% mechanical throw equals clutch bite point

4. **Clutch Bite Point**: set the value of slave clutch at 100% mechanical throw

5. **Rotary Switch Mode**:
   - 12 Way Rotary: constant button press of the rotary switch
   - 12 Way Rotary Pulsed: pulsed button press of the rotary switch
   - Encoder: pulsed button for each clockwise and anti-clockwise rotation
   - Shift Encoder: one rotary switch acts as selector, the other one as encoder -> use 12 encoders for various settings this way

6. **Encoder Pulse Width**: set the duration of button presses of encoders

7. **LED Intensity**: adjust intensity of the bite point calibration mode signal LED

8. **Inputs**: shows all available inputs (must not show every single encoder step due to update cycle)

9. **X-Axis/ Y-Axis**: output of left/ right clutch
   - linearity modes: linear, progressive/ degressive, S-Curve
   - dead zones: adjust buffer between electrical and mechanical throw, LOW = start/ HIGH = end

10. **Calibrate**:
    1. set **Analog Input Mode** to **Throtte and Brake**
    2. release clutch and click **Set Low**
    3. pull clutch fully and click **Set High**

5. how to use bite point

- recommended procedure for finding suitable bite point setting
    1. enter calibration mode and set bite point to high value, e.g. 80 %
    2. pull slave clutch only
    3. apply throttle
    4. reduce bite point in 1.0 % increments (left joystick) until vehicle starts moving
    5. make test starts to fine tune desired bite point setting
    6. exit bite point calibration mode

- recommended procedure for quick race starts
    1. pull both clutches (master and slave)
    2. apply throttle
    3. race start → let master clutch snap (it will take less than 20 ms to reach desired bite point)
    4. slowly release slave clutch

6.   label application

- encoder knobs must be removed to apply label (hex wrench)
- to apply labels the easiest way use a tool such as a knife
- put the label on the very tip of the knife
- position label centered and horizontal
- press the label on the surface

7. paddle shifter force setting

- paddle shifter snap action force is set by the combination of magnets and spacers
- do not let magnets smash into each other – magnets are very brittle and can break
- to pull out installed magnets, put additional magnets carefully on top
- press the paddle shifter to separate installed magnets
- pull out top and bottom magnet
- magnets can be separated the best by shearing them off

- 4 pcs 3mm **magnets & spacers** can be found in the **packaging foam insert**
- approx. actuation force depending on magnet height and spacers:
    1. 800g = 5mm + 5mm (factory default)
    2. 570g = 5mm + 5mm + 1 spacer
    3. 480g = 3mm + 3mm
    4. 440g = 5mm + 5mm + 2 spacers
    5. 340g = 3mm + 3mm + 1 spacer
    6. 260g = 3mm + 3mm + 2 spacers

8.   dimensions