

## Guide to using PACER with bluetooth scanners at checkpoints

This guide relates to using bluetooth-connected barcode (BT) scanners at event checkpoints (CP) for time recording with PACER. There are several advantages of using BT scanners - the primary one being flexibility. A tethered or wired (USB) scanner requires a laptop. These need to be powered and can be difficult to protect from the weather at outside CPs. BT scanners, which come with their own internal power source, provide a much more flexible option since they can be paired to most smartphones and tablets including both Android and Apple devices.

The following is a step-by-step guide on how to setup a BT scanner with a smartphone or tablet. it covers setting up before the event and scanning practice during the event. A QuickStart guide is provided for those already familiar with the detail.

### QuickStart Guide:-

Set Auto-Lock to Never and Passcode to Off - pair scanner with tablet/phone - log In to your Checkpoint via bookmarked URL & 'remembered' Checkpoint Key - select 'Scan Times - Mobile' screen - tap cursor into yellow scanID field (keyboard will appear) - squeeze scanner's trigger, scanner beeps then beeps again 5secs later (keyboard disappears) - run PACER comms check - re-tap cursor into scanID field and you're ready to scan.

**Do not be pressurised by waiting entrants - you cannot scan unless the cursor is in the scanID field and keyboard is suppressed**

## Detailed Setup

### Prior to the event:

1. **Pair** your BT\* scanner to your chosen recording device (smartphone or tablet):-
  1. Turn on bluetooth on your device & go to Bluetooth in Settings
  2. Squeeze and hold scanner's trigger during device discovery
  3. After several seconds your scanner's name will appear. Tap to pair it.
  4. The scanner will beep once to indicate pairing and the keyboard will also suppress
2. **SIM** - if you are planning to use cellular (ie no wifi at your CP) you will need a SIM in your smartphone/tablet. All smartphones and many tablets already have a SIM installed and you may choose to use this. A CP will typically use a maximum of 50MB of data. One of the particular benefits of the smartphone/tablet approach is that they are sold with the latest cellular features installed.
3. **Set-up** connection to PACER
  1. Using your recording device go to PACER's CP login page at:-  
[https://www.ldwa.org.uk/admin\\_clubs\\_new/checkpoints/checkpoint\\_login.php](https://www.ldwa.org.uk/admin_clubs_new/checkpoints/checkpoint_login.php)
  2. Bookmark this for future logins
  3. Select your Group (e.g. Surrey) in the drop down window & check Remember Me

\* Local Group:

\* Checkpoint Key:  ← scan or type 12 digit Checkpoint Key here

Remember Me:

4. Now scan or type the Checkpoint Key for your CP - as provided from the Event Organiser
5. Tap Log In to go to the CP timing page
6. **Check that you have accessed the correct CP, ie the one you should be timing at**

7. Finally, run a PACER comms test - or example type in an invalid entrant number such as 99999 - PACER will respond with invalid entrant. The response shows you have comms.
- \* The BT technology allows two device to be 'associated' or 'paired' with one another. Once paired the devices are able to communicate using their BT network. To save internal battery many BT devices (including BT barcode scanners) lapse into a standby or sleep mode when they are inactive. In this dormant state, whilst they remain paired, they drop their connection. Once activated they automatically re-connect to their paired associate and are then able to pass data.

### **The day or night before the event:- fully charge phone / tablet**

1. Fully charge BC scanner (leave it on charge overnight)
2. If applicable fully charge your powerbank (backup) battery (leave it on charge overnight)
3. Pack your powerbank-to-device charging cable

### **On the day, prior to the start:**

1. **Change smartphone / tablet sleep mode & screen lock settings to NEVER. (On iOS devices set Auto-lock to NEVER & Passcode to OFF)**
2. Login to PACER via the bookmarked URL and the 'remembered' CP KEY
3. From the CP page select 'Scan Times - mobile'
4. Tap into the yellow ScanID field - the keyboard will appear
5. Briefly squeeze the scanner's trigger to wake it. It will beep once then, 5secs or so later, will beep again (to indicate its re-connection) and the keyboard will suppress.
6. **With the cursor in the ScanID field and the keyboard suppressed you are now ready to scan - if either of these conditions are not met scanning will not take place**
7. During use your scanner will go dormant after 30secs or so of inactivity to conserve its internal battery - when it does it will beep and the keyboard will re-appear. (If you want you can delay sleep by intermittently squeezing the trigger)
8. To re-connect and make ready for scanning repeat steps 4 & 5
9. You can run the PACER comms test at any time to check that all is well. Simply enter an invalid entry number like 99998 or 99999. Being invalid PACER responds with an error message. Simply receiving this message serves to confirm the integrity of your connection to PACER. When testing you can input either number. If you do repeated tests, one after the other, you will need to input the numbers alternately. PACER is designed to ignore a second and any subsequent inputs of the same number.

### **During the event:**

#### **Scanning**

1. With the inevitable gaps between the arrival of participants, inactivity will cause the scanner to go dormant to conserve its internal battery - indicated by a beep and the appearance of the keyboard. (if you give the trigger an occasional squeeze it will stay awake).
2. As an entrant approaches, point the scanner towards the ground and give the trigger a quick squeeze - the scanner will beep then, about 5secs later it will beep again and the keyboard will suppress
3. **With the cursor in the ScanID field and the keyboard suppressed you are now ready to scan (with Auto-Lock set to 'never' the cursor should remain in the scanID field)**
4. With a good signal the entrant's details will be returned into the other fields (name, status etc) with minimal delay after scanning. With a weaker signal there may be a more noticeable delay before details appear. Don't worry, just keep scanning - data will be buffered.
5. Whilst scanning keep an eye on the screen and respond to any warning prompts before scanning the next card.
6. **Experience has shown that the best way to scan is to tilt the card (45-60deg) away from the beam. Scanning face-on does not always result in a successful scan.**
7. When scanning ensure the card is shaded from bright sunlight.
8. If you feel there may have been a mis-scan, check to ensure the cursor is in the ScanID field, the keyboard is suppressed and scan again. You can scan as many times as you like since only the first successful scan gets recorded - repeated scans are ignored.

9. Keep the scanner angled downwards. Avoid pointing at eyes.
10. Even with a waterproof scanner try to keep the scanner's lens from getting wet. If it does wipe with a soft cloth. Rain on the lens will adversely affect scanning.

**Do not be pressurised by waiting entrants - you cannot scan unless the cursor is in scanID field and keyboard is suppressed**

## Handling retirements

If an entrant wishes to retire at your CP:-

1. Scan card as usual - tap 'Active' button & select 'Retired'.
2. If entrant returns later to retire, scan card and click 'OK' to error message. Then tap 'Active' button & select 'Retired'.
3. **In either case ensure cursor is in Scan field before scanning next entrant.**
4. *It is recommended that the card be marked 'retired' and retained by the timekeeper. It should be returned to event HQ via the pick-up driver or close-down marshal. Returning it to the entrant could result in it being inadvertently re-scanned at the finish thus upsetting the stats (more finishing than started).*

**If an entrant arrives without a card** - do NOT take their word for their number - entering the wrong number can take considerable time to resolve

1. Ask them to wait and deal first with any entrants waiting to be scanned
2. When time permits look up their name from your list of entrants and get their number
3. Manually enter the number into PACER, tap return - you may need to wait for up to 30 secs until the scanner goes dormant and for the keyboard to appear.
4. Tap the cursor back into the ScanID window and squeeze scanner to continue

## Entrant arrives at a CP and is not expected

1. PACER 'knows' which entrant should pass through which CPs (defined by their selected route). If an entrant changes route or loses their way they may arrive at a CP they are not expected at.
2. A warning will appear when their card is scanned - "... is on route which does not pass through this CP".
3. tap OK (to record a time) and note Name & Number
4. Pass this information to your event HQ.

## Making and receiving calls

1. If you are recording on a smartphone you can still use its phone function.
2. If you want to make a call, choose a quiet moment, access the phone screen, make the call, return to the PACER screen, tap into the ScanID field and continue.
3. If you receive a call there are 2 scenarios:-
  - **the scanner is dormant with keyboard visible:-**
    - a. answer the call - finish the call
    - b. smartphone auto returns to the scan screen with the cursor still in the ScanID window.
    - c. squeeze the BT trigger its usual, beep, 5secs, beep, keyboard suppresses and you're good to scan
  - **call comes in whilst in the process of scanning:-**
    - a. **the card you are scanning at the instant the call arrives will NOT get recorded** and scanning is prevented for the duration of the call.
    - b. once finished you are back to c. above BUT **the card being scanned when the call comes in will need to be rescanned**

In either case if an entrant appears whilst on the call then either don't pick-up, ask the entrant to wait or make a note the entrant's number and time for later manual entry. Preference would be to cut the call so obviating any typing and potential mistakes.

**Following the event:**

1. *Go to the bluetooth settings on your recording device and 'forget' the scanner. This is most important since not doing so prevents the scanner from being paired to another device.*