10 Tips from Tracient Technologies
For using our readers

For support email support@tracient.com
10 Tips

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Plus additional slides and graphics
Good Power Management

- **Good Practice** – charge the battery every night.
  - Charge the Battery overnight before you use the unit the first time!
  - Even if it may not need it

- Don’t leave the device on the shelf without recharging it every three months.
  - The batteries will self discharge and Li-ion batteries can fail without maintenance.

- You can charge from a USB port of a PC but don’t let the PC hibernate.

- It takes 6 hours to charge from completely flat.
  - This is deliberate to allow operation from a PDA or weak USB port but talk to us about your needs

- **Know the operational limits**
  - HF readers are rated to 25,000 read attempts, UHF to 15,000 read attempts
  - A read attempt can occur as fast as every 200ms if you are in continuous mode. Slow it down to suit.
Getting started quickly

- First Install TraceConnect on a PC and connect via USB.
  - Install TraceConnect Software before connecting the reader
  - Our Control Panel configuration tool is what you should run first.
  - Don’t attempt a Bluetooth connection until you have first tested the reader via USB

- Test a tag to Verify operation!
  - Turn on the reader, place the reader on the desk and place a tag on the reader, click the “RFID-Test tab” then click the “read tag” button. If it doesn’t read its not configured yet.
  - Refer to our app notes and user guides, user guides are installed with TraceConnect. (see Tutorials, Videos, and More Resources)

- If you intend running from a PDA make sure the PDA is connected via ActiveSync when you install TraceConnect.
  - But don’t worry if it wasn’t you can install to a PDA anytime, refer to our app notes.

- Try the “PDA Reader Demo” on our PDA you can do a lot of proof of concept with it.
  - It logs every read, It reports unique reads, it creates timestamps, it gives you approximate read rate, its easy to demo.
  - Follow our app note to install it on your PDA.
Usability and Readability

- Choose the right operational mode
  - **Single** mode - one button press takes a single inventory best if you are hovering over the tag not moving reader about, best for power consumption
  - **Burst** mode – button press sets the reader reading continuously until it times out after no reads – conserves battery and best for stock taking
  - **Continuous** mode – harshest on battery but best for “no hands” operation, reads everything in sight so good for inventory but not so good for singulated reads

- You can trigger a read from the reader or remotely from your application
  - Choose which by determining how you want your user to behave and interact with the process.

- Use Datascan only if you want to read user data simultaneously
  - It slows down the read time but allows you to extract user data at the same time you read the tag, if you only want to read the tag number then don’t enable it

- Best readability is achieved by scanning (waving over) rather than pointing the reader
  - Allow time to illuminate the tag, don’t wave too fast,
  - Moving in a arc like fashion to compensate for tag orientation
Touch Button – does and don’ts

**The button on the reader is touch Sensitive!**
- Touch it briefly to turn the reader on
- When it is on touch it briefly to make a read
- To turn the reader off touch and hold for a few seconds (configurable in control panel) until it powers down and remove your finger immediately
- If configured for burst mode, touching the button alternates between entering and exiting burst mode.

**Don’t Rest your finger on the Button.**
- Like a touch sensitive screen leaving your finger on the button causes things to happen, unexpected reads but more usually it turns off and you will find your connection drops out.
- Adjust the power down time in the control panel to maximum if you have a habit of leaving your finger on the button.
- If you absolutely need to have a button lock mechanism talk to us

**Develop a finger “stroking” manner**
- Stroke rather than “click or press” the button

**If the device appears to stop responding to the button reset it via USB**
- The advanced tab in the control panel can be used to hard reset the reader.
Indicators – what do they mean?

- **The Blue LED**
  - Shows system operation and connect state
  - Single short blue flash every second – device operational
  - Two short blue flashes every second – device connected via Bluetooth

- **The Orange LED**
  - On when connected via USB - charging
  - Off when connected via USB – charge complete
  - Short orange flash every second – low battery, charge immediately

- **The Red/Green LED**
  - Green flash on read attempt (button press or burst/continuous modes) – read success
  - Red flash on read attempt – read failure or no tag present
  - Red flash periodically
    - Tag data log is full – download the log from the reader and erase before continuing
    - System error – refer to user manual or contact us
    - Real time Clock is wrong and needs setting via control panel
Bluetooth – setting up connections

- There are two ways Bluetooth and Virtual com
  - Use the Bluetooth setting for supported stacks: Microsoft, Widcomm, Bluetopia, Bluesoleil you don’t have to pair first this way and the readers show up as reader names
  - Use virtual com for others or if having trouble it means you have to pair first and the readers show up as com port numbers.
  - There are how to’s for different devices on our ftp site

- Connections will start to drop if the battery is getting flat
  - Even if the orange led isn’t flashing, connection dropouts shortly after connecting and with the reader in range (<10m) could indicate the battery is low.

- If asked for a passkey it’s the last 5 digits of the reader serial number
  - The Serial number is printed on the back of the reader or will show up on the main tab of the control panel if you plug the reader in via USB

- Don’t search for readers each time use caching of friendly names
  - It can take up to a minute to find readers using BT discovery first time. We always cache the friendly name so you can select it next time to speed things up. Only refresh if you have to

- Some Motorola stacks behave differently
  - Refer to our app notes. The MC70/75 especially should have the BT explorer turned off to use Tracient apps easily via Bluetooth otherwise you have to use Virtualcomm

- There’s lots of apps and help available
  - Don’t panic contact us and usually we can get it configured for you online.
Power management

- Set the read rate as low as you can without compromising throughput
  - Set the read interval in the control panel (reader tab) to as long as possible
- Set the power as low as you can without compromising readability
  - Set the output power to something less than maximum if you know you don’t need the read range (RF tab on control panel) practically speaking the changing the tag population doesn’t make much difference for handheld reads
- Operating on a USB tether will trickle charge the reader
- Use single mode if you can
- Use burst mode instead of continuous mode where practicable
- Top up the reader battery during the day
  - Even 15 minutes connected to a mains adaptor will extend the operational life during the day
- If stock taking as soon as you get a read move on – don’t waste reads
  - Only one good read is needed all the rest are wasting battery
USB connections

- USB is not designed for harsh environments, there is no self locking and they are hard to seal
  - Take precautions in your system design and if necessary inquire about alternatives.

- Use the right USB cable
  - Use plugs with a step moulding rather than a flush moulding

- Don’t pull out the rubber bung
  - It’s there for a reason if it becomes a real issue slice it off. Pulling it out compromises the internal integrity of the USB connector fitting

- Cable tie the cable to the reader if you can

- If in doubt unplug the reader, repower it and plug it in again

- Inquire about supply using semi-permanent or permanent tethering
Read range tips

- The antenna is linearly polarised
  - Align dipole tags along the long axis of the reader when reading (i.e. reading held vertically reads tags best if tag is aligned vertically)

- The antenna has a look angle which becomes noticeable at long ranges
  - The reader is designed for scanning not pointing at long distances; the beam looks down at 30 degrees which means at long range you may need to tilt the reader backwards to get a read

- Writing to tags takes more power and reduces range
  - The write range for writing the EPC is only a few cm

- The field emanates from both top and bottom of the case
  - This is great for getting the reader into tight spaces you don’t have to have the reader facing the right way

- Move slowly for best effect, move your hand to vary rotation and tilt

- Smaller tags can’t usually be read as far as larger tags
Tutorials videos and more resources

- FAQ  [http://www.tracient.com/faq/-forum.html](http://www.tracient.com/faq/-forum.html)
Readers

HF Reader showing antenna position

UHF Reader showing antenna position
Connecting via Bluetooth

- There are two ways:
  - Bluetooth – Stonestreet, Bluetopia, native support by Tracient (preferred)
  - Virtual COM – com port emulation (fiddly)
Bluetooth Explorer tips

✓ When using Tracient Bluetooth apps
  ✓ For MC35 make sure Bluetooth Explorer is **ON**
  ✓ For MC70, MC75 make sure Bluetooth Explorer is **OFF**

✓ When using Virtual Com interface
  ✓ Make sure Bluetooth Explorer is **ON** for all devices
Making RFID Mobile!
Handheld, Portable, Wearable.

Asset Tracking, Inventory Management, Logistics, Healthcare, Point of Sale, Library, Retail, Manufacturing