

# 8 Features Every Mobile E-Ticketing Device Needs

Finding the right tool for the job.



**Two Technologies, Inc.®**

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# 8 Features Every Mobile E-Ticketing Device Needs

Finding the right tool for the job.

Having the right tool for the job is important in every industry, but never has it been more important in the e-ticketing market. Having the right mobile device, with the right features, can mean the difference between having an efficient citation writing system or a system full of user frustration and product failures. There are 8 main features of a mobile e-ticketing device that will help reduce overall cost of ownership, eradicate data loss, and maintain streamlined business processes all while keeping your workforce happy and engaged.



## Mobile Operating System

There are three possible operating systems that mobile devices may use; Android, Windows and Apple iOS with Android and Windows being the dominant choice for citation devices.

Since the citation application will be the primary application used on the device the availability of the multitude of applications in the Apple Store or Google Play has less meaning than devices used for personal use. Also, the user interface will be defined by the citation application.

A consideration when choosing which operating system to use is how often the platforms are upgraded, if legacy equipment running on older versions will be supported and the ease to upgrade.

You may also consider the ability to add peripherals. Android and Windows Mobile devices have adopted the Micro USB standard, whereas Apple insists on its proprietary Lightning cable.





## Integrated Thermal Printer

One of the most important considerations for those issuing citations is how and where the citation is printed. There are three options;

### 1. Printer is permanently installed in the officer's vehicle

#### *Advantages*

- Printer can run on vehicle's battery.
- Less chance of damage or loss

#### *Disadvantages*

- Requires Bluetooth pairing.
- Lengthy time to issue a ticket due the time spent traveling to and from the vehicle.

### 2. Portable Bluetooth Printer worn on the officer's belt and a handheld mobile device

#### *Advantages*

- Tickets can be issued in a timely manner
- Repairs, if needed, are limited to just the printer or the mobile device.

#### *Disadvantages*

- Extra weight and size on an already crowded belt.
- Requires Bluetooth pairing which can be timely and cumbersome.
- The mobile unit and the printer work on separate power systems, so battery life will not be synchronized.

### 3. A Mobile Device with an integrated printer

#### *Advantages*

- The mobile device's size is only slightly enlarged to incorporate the integrated printer.
- In a well-designed product, both the printer and the mobile device use a common power system. Therefore, battery life is synchronized between the two functions.
- Bluetooth pairing is not required. You can power-on and go without worry.

#### *Disadvantages*

- Entire product would need to be returned if a repair is required.





## Hot Swappable Batteries

While most mobile batteries boast a long battery life, they can't meet the demands of a purely mobile workforce. The ability to easily swap batteries in and out of devices while in the field is an integral piece in e-ticketing efficiency. Users are not bound by low power, and can repower easily with an interchangeable, fully charged battery, saving time once caused by battery drained devices. A hot swappable battery is a battery that allows easy and swift replacement without having to power down the device. Hot swappable batteries are also cost efficient, reducing the number of devices needed per user. Each user will only require one device, and a set of rechargeable batteries.



## Bar Code Scanning

Bar Code scanning is often a requirement for mobile devices dedicated to the parking and citation sector. Bar Codes are often used to record vehicle identification as well as driver license information.

There are two methods of reading bar codes from mobile devices; imagers use a camera-based imaging technology that uses rows of CCD or CMOS sensors arranged in a two-dimensional array to generate an image of the symbol. The image is then decoded. It works similar to digital camera.

The advantage of an imager is its' lower cost due to using the camera already inherent to the mobile device and software to decipher the image into usable bar code content.

The other option is a dedicated laser scanner. With laser scanning technology: The optics inside a laser scanner emit a laser beam and use a lens to focus the beam with an oscillating mirror that moves the laser beam line across the barcode very rapidly. The laser light beam is then reflected off the barcode and back to the scanner, allowing the scanner to decode the reflected signal.

A dedicated laser scanner has many advantages when used for parking and citations;

- Lasers are faster and typically provide decode rates of over 1,000 real-time decodes per second.
- Lasers provide a sharp, clear laser line which only focuses on the barcode.
- Lasers can read over long distances and provide greater depth of field (the inside and outside distance from the scanner).

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## Ruggedness

The outdoor work environment of most mobile devices lends itself to a high risk of damage and wear. Rain, grime, and accidental dropping are just a few ways that a mobile device used outdoors may suffer and be rendered useless. Selecting devices with proven ruggedness decreases revenue loss associated with these risks by reducing equipment replacement and repair costs. A measure of device protection against intrusion from body parts (hands and fingers), dust, accidental contact, and water is called the “IP Rating.” A mobile e-ticketing device should be selected with the highest ratings in mind. IP Ratings are important when selecting a device for outdoor use, the chart below details these ratings:

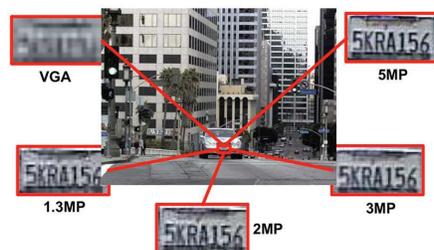
SOLID OBJECT		MOISTURE	
1	Protected against a solid object greater than 50mm such as a hand.	1	Protected against vertical falling drops of water. Limited ingress permitted.
2	Protected against a solid object greater than 12.5mm such as a finger.	2	Protected against vertical falling drops of water with enclosure tilted up to 15 degrees from the vertical. Limited ingress permitted.
3	Protected against a solid object greater than 2.5mm such as a screwdriver.	3	Protected against sprays of water up to 60 degrees from the vertical. Limited ingress permitted.
4	Protected against a solid object greater than 1mm such as a wire.	4	Protected against water splashes from all directions. Limited ingress permitted.
5	Dust protected. Limited ingress of dust permitted. Will not interfere with operation of the equipment.	5	Protected against jets of water. Limited ingress permitted.
6	Dust tight. No ingress of dust.	6	Protected against powerful jets of water. Limited ingress permitted.
IP65		7	Water tight against the effects of immersion in water between 15cm and 1m for 30 minutes.
		8	Water tight against the effects of immersion in water under pressure for long periods.

The other important specification to keep in mind is MIL Spec 810G which tests for vibration and shock. Let’s face it, mobile devices get dropped. Consumer devices are not design for the worst environmental conditions. Seek out a manufacturer that specializes in ultra-rugged devices for your demanding environments.



## High Resolution Picture and Video Capture

The ability to capture proof of a violation is vital to reducing ticket disputes and ensures swift payment. Quality of images and videos are important because the more detail available, the less likely a violator will successfully challenge the ticket. Some devices on the market today do not offer video, which is more telling of a



violation than a picture, especially when having to include the street sign in the reporting process. Devices that offer video provide more details, for example street signs and other markers used in the reporting process. Video and higher pixel cameras provide clear details and confirmation of violations.





## Card Readers

Both magnetic card stripe and smart card readers come included in some mobile devices. Having a wide range of options for collecting payment or issuing permits and access is essential in parking enforcement industry. Some of these options include: scanning a driver license to auto populate fields within an e-ticket application, taking direct credit/debit payment for parking access, and verifying private access via smart cards.



## Wireless Data Connection

When mobility is paramount, the ability of devices to connect to a system's backend is not negotiable. Devices have the option of connecting to a computer via USB cable, the use of Wi-Fi, where available, to upload information to a database or through cell signals such as 4G LTE. Base your connectivity decisions on the ubiquity of coverage and the need for "real-time" data transfer.



## Take Action!

Armed with the information regarding technological advances in mobile e-ticketing devices, ask yourself *"Can we afford not to have these features in our devices?"* We invite you to consider the above information and call Two Technologies. Our newest product offerings, the N5 Print and the N5Scan, have all of these features and more to satisfy your customers' and employees' needs.



## Who is Two Technologies?

You may not know our name or recognize our logo, but you have seen our products every day, throughout the world. Two Technologies has been designing and manufacturing customizable, rugged mobile, industrial, mobile computers and handheld terminals for industrial and commercial applications since 1987.

With over 400 partners, 4,000 customers and over a million products in the field, our rugged mobile computers and industrial terminals can be found in a multitude of different applications: surveying and measurement, transportation and distribution, medical, manufacturing, field service, hospitality, agriculture, security, government and everything in between.

Learn more at [www.2t.com](http://www.2t.com) or call to speak with us at [215-441-5305](tel:215-441-5305) today!



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