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DuraScan D600 USERGUIDE

DURASCAN®

Bluetooth® wireless technology Contactless Reader/Writer

DuraScan D600

www.socketmobile.com

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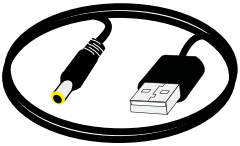
PACKAGE CONTENTS

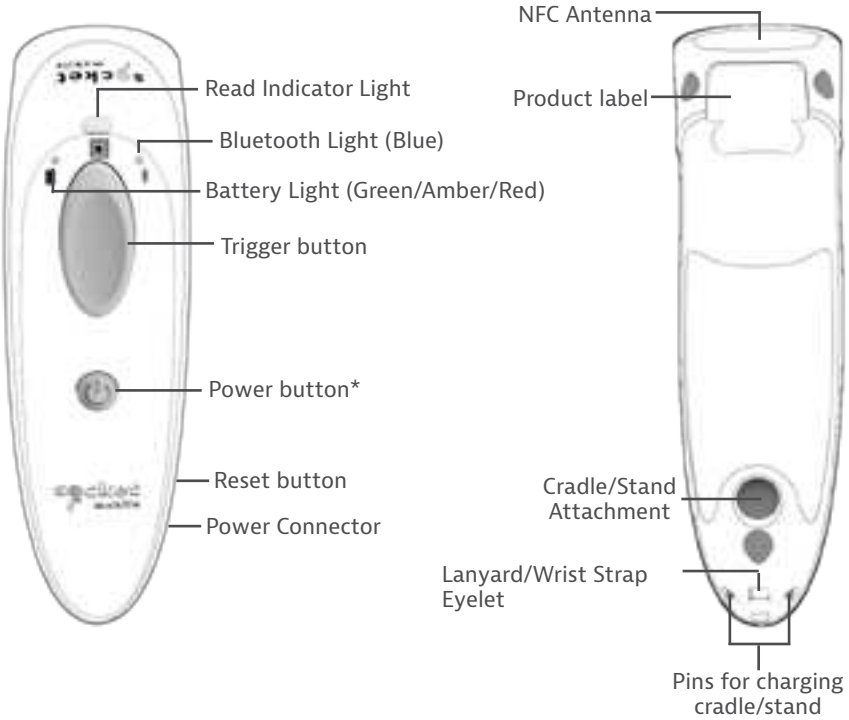
DuraScan
D600

Wrist Strap



USB to DC Plug
Charging Cable

Thank you for choosing Socket Mobile!
Let's get started!



Socket Mobile's readers can be wiped clean with a cloth dampened with isopropyl alcohol or water. Or, the readers can be wiped clean with a SaniCloth.

Warning: DO NOT IMMERSE IN WATER (readers mechanics could be damaged)

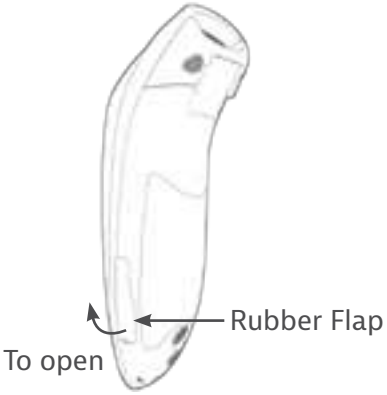
DO NOT USE BLEACH FOR CLEANING (readers material property may be affected)

The D600 has a protection rating of IP54 for dust and water protection.
**Also used to toggle the on-screen keyboard in Basic Mode (iOS only).*

Attach the Wrist Strap (optional)

1. Detach the string loop of the tether from the wrist strap.
2. Feed the string loop through the eyelet.
3. Pull the gimbal through the string loop.
4. Pull tight so the string loop is secure.
5. Reattach the string loop's tether to the lanyard or wrist strap.

CHARGE THE BATTERY



The reader must be fully charged before first use. Please allow 6 hours of uninterrupted charging for the ***initial*** battery charge.

Lift the rubber flap to access the power connector.

- Amber Light = Charging
- Green Light = Fully charged

Important: Charging from a computer USB port is not reliable and not recommended.

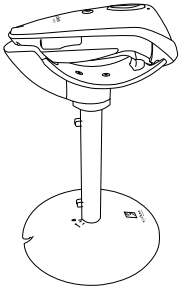
The reader beeps twice (high-high tone) to indicate a valid power supply is detected and the reader has started charging.

Only use a USB to DC plug charging cable (with the yellow plastic tip, provided by Socket Mobile)

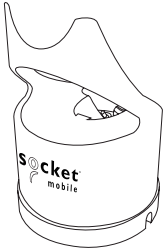
OPTIONAL CHARGING ACCESSORIES

Available separately

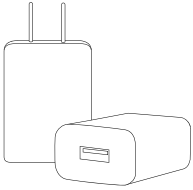
Charging Cradle



Charging Stand

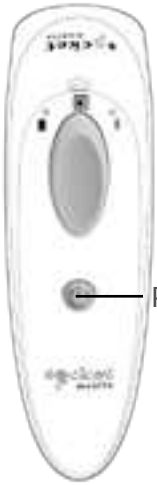


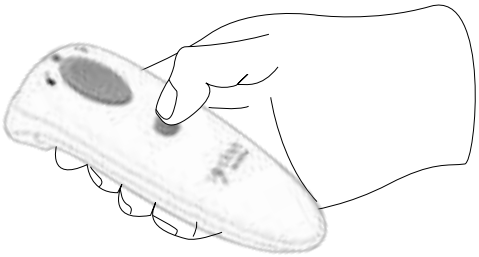
Charging Dock



AC Power Supply
International Adapters available

For all optional accessories visit our Socket Store.





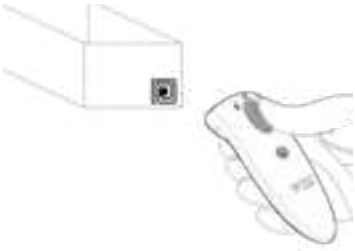
Powering On:

Press and hold down the small power button until the Battery light turns on and the reader beeps twice (low-high).

Powering Off/ Disconnecting:

Press and hold down the small power button until the reader beeps twice (high-low) and all lights turn off.

The reader will power off automatically if device is not connected within 5 minutes. Reader connected to a device will power off within 2 hours if idle/inactive.



Reading Tags

1. Hold the reader on the card, tag or smart device to be read.
2. For best results, the card, tag, or smart device should be parallel to the D600 antenna.
3. Press the trigger button momentarily; the read indicator light turns orange to indicate the D600 is pulling data from a tag.
4. Hold the reader steady until the read operation is complete (orange LED turns to green).

By default, the reader will beep, vibrate, and the read indicator will flash green to confirm a successful read. These default settings can be changed by application commands and configuration cards.

The D600 will only read tags while connected to a host device. However, if the trigger button is continuously pressed for 15 seconds, it will initiate continuous reading.

The D600 can be configured to continuously read, initiated by a secure tap command from an application.

BLUETOOTH CONNECTION PROFILE

Connect your reader using one of the following Bluetooth connecti
modes:

Bluetooth Connection Profiles

Bluetooth Mode	Description
Application Mode (RDR) (Default)* Reader Only	· Software installation is required · More efficient and reliable data communications for RFID tags containing lots of data · If you have an application that supports the Socket Mobile reader, this is the mode recommended
Application Mode (PC/SC) Personal Computer / Smart Card	· SDK-enabled functions to support read and write capabilities
Basic Mode (HID) Human Interface Device Profile	· NO software installation required · Connects to most devices · Good for RFID tags containing small amounts of data · Reader interacts with host device like a keyboard

***By default, the reader is set to Application Mode (RDR).**

BLUETOOTH CONNECTION PROFILE

Bluetooth Connection Profile button sequence will toggle the D600 between two profiles: Application Mode and Basic Mode.

To switch from Application Mode to Basic Mode or visa versa, perform the following steps:

1. Power OFF the D600.

2. Press and hold the trigger button.

3. Press and hold the power button while continuing to press the trigger button. Hold both buttons for 10 seconds.

4. After 10 seconds, release both buttons. The D600 will play the Success Melody and it will be powered on and ready to pair in the new mode.

Note: If either button is released before 10 seconds, the D600 just performs a normal Power on.

Profile Indications:
HID "Keyboard Emulation" - two tones synchronized with two short vibrations and two green RFID flashes. After, the RFID light flashes blue for 75 seconds, or until the D600 connects, or the trigger button is pressed.

App "D600 Application" – three tones synchronized with three short vibrations and three green RFID flashes. After, the RFID light flashes magenta for 75 seconds, or until the D600 connects, or the trigger button is pressed.

Note: This procedure will put the reader in discoverable mode.

Step 1: Unpairing the reader: Delete the Bluetooth Pairing

If the reader is paired with a device, unpair it before trying to connect to a different device.

a. Power on the reader.
b. Press the trigger button then power button and hold both until you hear 3 beeps.

The reader will unpair and automatically power off. The next time you power on the reader, it will be discoverable.

Step 2: Remove or forget the reader from the Bluetooth list on the host device

Important: Both steps above must be done to complete the unpairing.

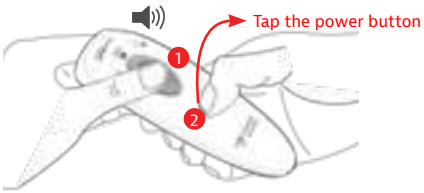
Factory Reset will restore the D600 to Factory Default settings (configured as shipped).

Follow the Factory Reset (button) sequence:

1. Power ON the reader.

2. Press and hold the trigger button.

3. Tap the power button once while continuing to press the trigger.



4. Keep holding the trigger button until you hear a beep (about15 seconds).

When you release the trigger button you will hear 5 confirmation beeps.

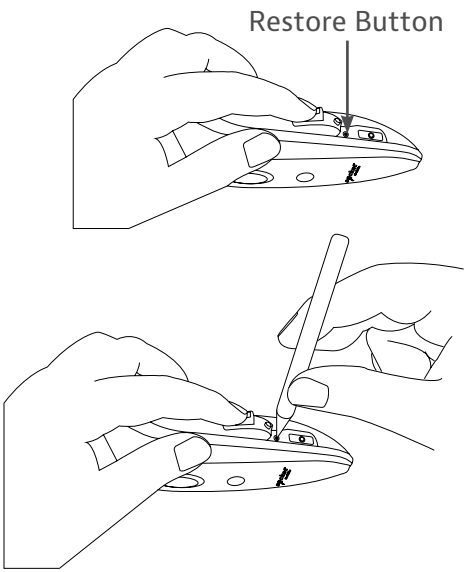
The next time you power on the D600, it will take longer to start up. After it finishes powering on, it will have factory default settings (Application Mode (RDR)) and will be unpaired from host device.

Note: If you follow this sequence but release the trigger button too early (before 15 seconds and the beep) the Factory Reset will not be successful.

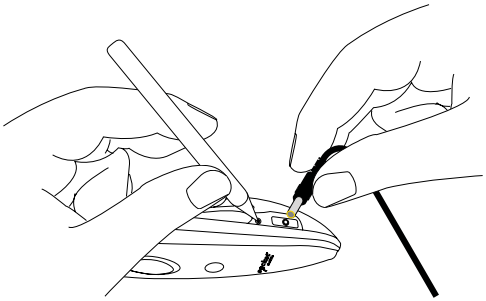
To cancel a firmware update and restore your previous state, follow the Recover Mode (button) sequence:

1. Power Off the D600 and disconnect from external power (DC-in Jack, Charging Stand, Charging Cradle)

2. With the end of a pen or stylus, press and hold the Restore Button (located next to the power connector).



3. Connect the D600 to external power while holding the Restore Button for about one second.



4. When the D600 starts in Recover mode, the Battery and Read LEDs become solid red.

5. Remove the pen from the Restore Button.
6. Tap the Trigger Button to confirm the firmware.

The D600 will rewrite its firmware. Power and RFID LEDs blink red for 16 seconds during the process, then the reader will restart.

NOTE: If your reader remains in an unresponsive state after following the Factory Reset, Hardware Reset is available to reset the reader as if the battery is temporarily removed.

The Hardware Reset should be the last attempt used to revive an unresponsive scanner. It will reinitialize the core hardware.

1. Make sure your reader is powered off and not connected to external power.
2. Press and hold the power button until the LED lights goes on and then off (the cycle should take about 10 seconds)

AUTO MODE (CHARGING STAND)

If you have purchased the Socket Mobile Charging Stand, the D600 can both charge and read stationary in Auto Mode.

1. Pair and connect the D600 to your device prior to placing the reader in Auto Mode. The reader is not discoverable when in Auto Mode and in the Stand. This facilitates a fast connection to the current connected device when powered on (for example the start of the new business day).
2. The Trigger button must be pressed to disable Auto Mode (and enable Mobile Mode) after the reader is removed from the Stand.
3. The reader will not turn off when its in Auto Mode and in the Stand under AC Power.
4. To avoid excessive power drain, the reader should not be left out of the Stand in Auto Mode. Either press the trigger button or power the reader off.

Auto Mode (In the Stand)

Action	Behavior	Notification		
		Beep Pattern	Light Activity	Vibrate
Place Reader in the Stand	Reader switches to Auto Mode	High-high tone confirms proper seating*	Battery Status Light is Disabled	None
Place an RFID tag in the Reader's Field of View	Initiate Read operation	1 Beep when Data successfully reads	Green Light blinks (while reading)	None

Mobile Mode (Not in the Stand)

Action	Behavior	Notification		
		Beep Pattern	Light Activity	Vibrate
Remove the Reader from the Stand and press the Trigger button	Reader switches to Mobile Mode	None	Battery Status Light is Enabled	Enabled
Press the Trigger button	Initiate Read operation	1 Beep when Data successfully read	Green Light blinks (while reading)	Vibrate when Data successfully read

Automatic Reconnections

Each time you power on the reader, it will automatically try to connect to the last device it was connected to.

- Make sure the device is in range with Bluetooth turned on.
- Pressing the trigger button will initiate the attempts to connect.
- If using Application Mode, make sure the Reader-enabled Application is launched or running.
- If a connection is made, the blue light will stop blinking and turn solid.
- If a connection is not made after several attempts, the reader will emit a long beep (and the blue light will turn off).

Operating System Connection Options

Operating Systems (OS)	Devices	Bluetooth HID Support	Bluetooth APP Support
Android	Android 4.4 & later	Yes	Yes
Apple iOS	iPod, iPhone, & iPad	Yes	Yes
Windows PC	Windows 7, 8, 10, 11	Yes	No
Mac OS	Mac OS X 10.4 to 10.X Mac Books, Mac Mini, & iMac	Yes	No

Note: To switch from one mode to the other you must remove the pairing information from both devices - host computer and the reader. *(see Bluetooth Unpairing procedure on page 12)*

Android: Connect Android Device in Basic Mode

In this mode the reader functions and communicates similar to a keyboard. Therefore, the reader will work with Notes, and any other application that support an active cursor.

1. Power on the reader. Make sure the reader is discoverable (unpaired) The Blue light blinks fast.
2. Settings | Bluetooth.
3. Make sure the device has Bluetooth "On" and read for devices.
4. In the list of found devices, select D600 [xxxxxx]. Tap Pair.
5. The reader will connect to the Android device.
6. The reader will beep once after it has connected.

Note: The characters in bracket are the last 6 characters of the Bluetooth address.

**If you have trouble connecting or pairing with host device, turn host device's Bluetooh off/on, and/or perform Factory Reset to the reader (see page 13).*

Now you are ready to read RFID tags!

Apple: Connect to Apple iOS Device or Mac OS Device Basic Mode

In this mode the reader functions and communicates similar to a keyboard. Therefore, the reader will work with Safari, Notes, and any other application that supports an active cursor.

1. Power on the reader. Make sure the reader is discoverable (unpaired). The Blue light blinks fast.
2. Start a Bluetooth device search.
   - Settings | Bluetooth: Turn on Bluetooth and search for device.
   - Mac OS: Click System Preferences | Bluetooth. A Bluetooth device search will begin.
3. In the device list, tap on D600 [xxxxxx]. Tap Pair.
4. The reader will connect to the Apple device.
5. The reader will beep once after it has connected.

Note: The characters in bracket are the last 6 characters of the Bluetooth address.

Now you are ready to read RFID tags!

To use the virtual keyboard while the reader is connected, double tap on the power button. See YouTube video for demonstration.

Windows: Connect Windows Device in Basic Mode

In this mode the reader functions and communicates similar to a keyboard. Therefore, the reader will work with Notes, and any other application that supports an active cursor.

1. Turn Bluetooth on for your device. Go to Settings > Bluetooth. A Bluetooth Devices search will begin.
2. Tap Socket D600[xxxxxx] in the list of Devices found. After a few seconds the “Not Paired” status will change to “Connected” or “Paired” and the reader blue light will stop blinking and turn solid blue.

Note: The characters in bracket are the last 6 characters of the Bluetooth address.

Now you are ready to read RFID tags!

Connect Apple iOS device in Application Mode

Please check with your reader application vendor or visit www.socketmobile.com/appstore to confirm your reader-enabled application supports the reader.

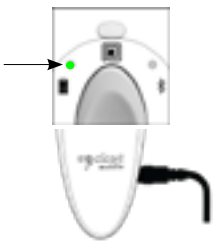
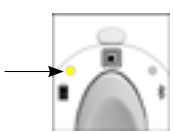
If you are using the reader with an Apple iOS device and a reader-enabled Application that does not provide instructions how to connect your reader, please use the following steps.

1. Power on the reader. Make sure the reader is discoverable (unpaired). The Blue light should be blinking fast.

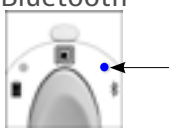
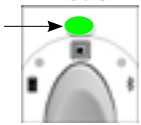
2. Turn on Bluetooth on the Apple device. Go to Settings > Bluetooth.
   A Bluetooth Devices search will begin

3. Launch your reader-enabled Application. The reader will beep once indicating that it is connected to the appropriate application.

Now you are ready to read RFID tags!

Battery Charging when plugged into Power Supply	LED Activity	Meaning
	Blinking Yellow	Charging the battery
	Solid Green	Battery is 100% full
Battery Status When not connected to power supply	**LED Activity**	**Meaning**
	Solid Green	Battery capacity from 100% to 25%
	Solid Amber	Battery capacity from 25% to 10%
	Solid Red	Warning - Battery capacity below 10%
	Blinking Red	Charge immediately! The battery level is critically low.

STATUS INDICATORS (CONTINUED)

Bluetooth	LED Activity	Meaning
Bluetooth 	Quick Blinking Blue (2 blinks every second)	Discoverable - waiting for a host Bluetooth connection.
	Slow Blinking Blue (1 blink every second)	Attempting to connect to a paired device. Searching the last known Host. Note: Will STOP attempting after approx. 1 minute.
	No Light - No Activity	Reader has attempted to connect and failed. Press trigger button to try again.
	Solid Blue	Reader is connected
Read	**LED Activity**	**Meaning**
Read 	Solid Orange	Reader is poling for an RFID
	Blink Green Once	Good Read
	Blink Red Once	Bad Read
	Solid Red - for as long as power button is pressed	Power Button Pressed
	Quick Blinking Green (2 blinks every second)	Reader is in bootloader mode during firmware upgrade.

STATUS INDICATORS (CONTINUED)

Beep Pattern	Sound Meaning
Low-High Tone	Power On
High-Low Tone	Power Off
High-High Tone	Power Supply detected and reader started charging
1 Low Beep	Reader has toggled on-screen keyboard or keyboard toggle feature is enabled (iOS devices only)
1 Beep	Reader connected to device and is ready to read tags
1 Beep	Data successfully read
2 Beeps (same tone)	Reader disconnected
1 Long Beep	Reader gave up searching for a host
3 Beeps (escalating tone)	Reader has been reconfigured (the configuration card successfully)
3 Beeps (escalating tone followed by long tone)	The configuration card did NOT work! (Verify if the configuration card used is valid for your reader and try again)

Vibrate	Meaning
Short Pulse	Data successfully read
Medium Pulse	Power on
Long Pulse	Data unsuccessfully read

If you are using a reader-enabled application, typically the application provides settings for LED, beep, and vibrations.

Configuration Settings

Time after powering on Reader	Bluetooth mode
0-5 minutes	Discoverable and connectable
5 minutes	If connection is not made, reader powers off
2 hours	If your reader is connected but not used it will power off in 2 hours. When trigger button is pressed the timer is reset.

PRODUCT SPECIFICATIONS

Specifications	D600
Dimensions (L x W x H)	5.2" x 1.5" x 1.6" (132.2 x 37.1 x 40.1 mm)
Total Mass	3.8 oz (108 g)
Antimicrobial	Antimicrobial additive in external surfaces
Battery	1400 mAh Lithium - Ion Battery
Charge Time	6 Hours
Battery Life - Per Full Charge	Standby time: over 30 hours Active Read Time: 70,000 reads within 9 hours (based on 2 reads every 1 second) or 14,000 reads within 16 hours (calculation based on 1 read every 4 seconds) *Note: Battery life varies depending on operating conditions.*
Bluetooth Version	Bluetooth Low Energy v4.2
Bluetooth SIG	Design ID 83178
Wireless Range	330ft (100 m) line of sight
Reader Type	NFC/RFID (13.56 MHz)
HF RFID Tags Supported:	ISO15693: ICode SL2, LRI512, my-d, Tag-It HF-I Proprietary: ICode SL1, PicoTag (no anti-collision), Tag-It HF ISO/IEC 14443 A and B compliant tags with all variants (Mifare, Sony FeliCA) Compliant with EPC GEN 2 HF and ISO 18000-3 mode 3 ThinFilm: NFC Barcodes NFC: NFCIP-1, ISO/IEC 18092) in 2 modes: reader and peer-to-peer, initiator, passive

PRODUCT SPECIFICATIONS

Specifications	D600
Maximum RFID Read Range:	0.4” - 2” (10 - 50 mm)
NFC/RFID front-end:	NXP CLRC663
Carrier frequency:	13.56 MHz (RFID HF, NFC)
Card/tag Read/Write Speed:	264 kbps (ISO 15693), 1064kbps (ISO 14443, 212/424kbps (ISO 18092)
Antenna:	Integrated, 28mm x 14mm, balanced
Systems/Battery Charging Requirement	USB Type 5V 1A
Power Connector	EIAJ - 02 DC-in
Operating Temperature	-4° to 122° F (-20° to 50° C)
Storage Temperature	-40° to 158° F (-40° to 70° C)
Relative Humidity	95% at 140° F (60° C) (non-condensing), 4 days
Sealing	IP54 (Ingress Protection rating for dust and water) EN60529
Drop Specifications	Multiple 5 ft. drops to concrete
Tumble Specification	250 cycles at 1.64 ft. (0.5 m) (500 drops), IEC60062-2-31

Technical Support & **Product Registration:**
https://support.socketmobile.com
Phone: 800-279-1390 +1-510-933-3020 (worldwide)

Warranty Checker:
https://www.socketmobile.com/support/warranty-checker

Socket Mobile Developer Program:
Learn more at: http://www.socketmobile.com/developers

The User's Guide (full installation and usage instructions) can be download at:
https://www.socketmobile.com/support/downloads

SAFETY AND HANDLING INFORMATION

WARNING: Failure to follow these safety instructions could result in fire or other injury or damage to the tag readers or other property.

Carrying and Handling the DuraScan NFC/RFID Reader:
The Socket Mobile D600 contains sensitive components. Do not disassemble, open, crush, bend, deform, puncture, shred, microwave, incinerate, paint, or insert foreign objects into this unit.

Do not attempt to disassemble the product. Should your unit need service, contact Socket Mobile technical support at https://support.socketmobile.com/

Changes or modifications of this product, not expressly approved by Socket Mobile may void the user's authority to use the equipment.

Do not charge the DuraScan tag reader using an AC adapter when operating the unit outdoors, or in the rain.

Operating Temperature - this product is designed for a maximum ambient temperature of 50° C or 122° F.

Pacemaker Disclaimer: We do not have specific information on the effect(s) of vibration or Bluetooth devices on pacemakers.
Socket Mobile cannot provide specific guidance.
Individuals who are concerned with using the tag reader should immediately turn the device off.

FCC ID: LUBD600-1

Federal Communication Commission Interference Statement
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement
This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 1.5 centimeters (15mm) between the radiator and your body.

Radio Frequency Interference Notices
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:

1. this device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

IC ID: 2529A-D6001

Industrie Canada Industry Canada

This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CE Marking & **European Union Compliance**

Products intended for sale within the European Union are marked with a CE Mark, which indicates compliance to applicable Directives and European Normes (EN), as follows. Amendments to these Directives or ENs are included: Normes (EN), as follows:

Conforms to the Following European Directives
Low Voltage Directives: 2014/35/EU
RED Directive: 2014/53/EU
EMC Directive: 2014/30/EU
RoHS Directive: 2011/65/EC
WEEE Directive: 2012/19/EC
Supplementary Information:
Safety: EN 60950-1: 2006/A11:2009, A12:2011, A1:2010, A2:2013
ETSI EN 300 328
ETSI EN 301 489
55
WEE

Telec Marking Compliance

R020-210234 

Products intended for sale within the country of Japan are marked with a Telec mark, which indicates compliance to applicable Radio Laws, Articles and Amendments.

BATTERY WARNING STATEMENTS

This device contains a rechargeable Lithium-Ion battery. 

Stop charging DuraScan D600 if charging isn't completed within the normal specified time (approx. 6 hours).

Stop charging the battery if the DuraScan D600 case becomes abnormally hot, or shows signs of odor, discoloration, deformation, or abnormal conditions is detected during use, charge, or storage.

Stop using the DuraScan D600 if the enclosure is cracked, swollen or shows any other signs of misuse. Discontinue immediately and promptly dispose of unit.

Your device contains a rechargeable Lithium-Ion battery which may present a risk of fire or chemical burn if mistreated. Do not charge or use the unit in a car or similar place where the inside temperature may be over 60 degrees C or 140 degrees F.

- Never throw the battery into a fire, as that could cause the battery to explode.
- Never short circuit the battery by bringing the terminals in contact with another metal object. This could cause personal injury, or fire, and could also damage the battery.
- Never dispose of used batteries with other ordinary solid wastes. Batteries contain toxic substances.

- Dispose of used batteries in accordance with the prevailing community regulations that apply to the disposal of batteries.
- Never expose this product or the battery to any liquids.
- Do not shock the battery by dropping it or throwing it.

If this unit shows any type of damage, such as bulging, swelling or disfigurement, discontinue use and promptly dispose.

Product Disposal
Your device should not be placed in municipal waste. Please check local regulations for disposal of electronic products.

CE MARKING AND EUROPEAN UNION COMPLIANCE
Testing for compliance to CE requirements was performed by an independent laboratory. The unit under test was found compliant with all the applicable Directives.

Low Voltage Directives: 2014/35/EU
RED Directive: 2014/53/EU
EMC Directive: 2014/30/EU
WEEE Directive: 2012/19/EC

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT
The WEEE directive places an obligation on all EU-based manufacturers and importers to take-back electronic products at the end of their useful life.

RoHS STATEMENT OF COMPLIANCE
This product is compliant to Directive 2015/863.

NON-MODIFICATION STATEMENT
Changes or modifications not expressly approved by the party responsible for compliance.

LIMITED WARRANTY

Socket Mobile Incorporated (Socket) warrants this product against defects in material and workmanship, under normal use and service, for one (1) year from the date of purchase. Product must be purchased new from a Socket Authorized Distributor or Reseller. Used products and products purchased through non-authorized channels are not eligible for this warranty support.

Warranty benefits are in addition to rights provided under local consumer laws. You may be required to furnish proof of purchase details when making a claim under this warranty.

Consumables such as batteries, removable cables, cases, straps, and chargers: 90 day coverage only

For more warranty information, please visit:
https://www.socketmobile.com/support/downloads/product-support

Read configuration card(s) to quickly configure the Reader.

Extend Your Warranty...

SocketCare™

Protect Your Investment...
Enhance Your Service

SocketCare Extended Warranty Coverage

Purchase SocketCare within 60 days from the date of purchase of the scanner.

Product Warranty: The barcode scanner's warranty period is one year from the date of purchase. Consumables such as batteries and charging cables have a limited warranty of 90 days. Extend your scanner's standard one-year limited warranty coverage up to five years from the date of purchase.

Additional service features are available to further enhance your warranty coverage:

- Warranty period extension only
- Express Replacement Service
- One-Time Accidental Coverage
- Premium Service

For detailed information visit:
socketmobile.com/support/socketcare