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Leitor Zebra RFD40

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RFID Standard Sled



Product Reference Guide

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About This Guide

The table below describes the configuration of the RFD40 RFID Standard sled.

 Table 1
 RFD40 RFID Standard Sled Configurations

SKU	Description			
RFD4030	RFD40, Standard, Standard Range Circular Polarized Antenna, UHF RFID Only, Gun, No Imager, 7000mAh Battery, Midnight Black			

Service Information

If you have a problem using the equipment, contact your facility's technical or systems support. If there is a problem with the equipment, they will contact the Zebra Global Customer Support Center at: zebra.com/support.

When contacting Zebra support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number

Zebra responds to calls by e-mail, telephone or fax within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your business product from a Zebra business partner, contact that business partner for support.

Getting Started

Unpacking

This chapter provides information on RFD40 RFID Standard sled parts, battery installation, mobile device attachment, LED indications, and charging. Carefully remove all protective material from the RFD40 RFID Standard sled and save the shipping container for later storage and shipping.

Verify the following items are in the box:

- RFD40 RFID Standard sled
- Battery
- Lanyard
- Quick Start Guide

Inspect the equipment for damage. If any equipment is missing or damaged, contact the Zebra Support Center immediately.

For a full list of accessories that can be used with the RFD40 RFID Standard sled, refer to the product specific Technical Accessory Guide available at: zebra.com/support.

Setting up the RFD40 RFID Standard Sled

The RFD40 UHF RFID Standard sled provides RAIN Radio Frequency Identification (RFID) tag reading, writing, and locating capability to supported Zebra mobile computers.

To use the sled for the first time with a mobile computer:

- 1. Insert the battery into the sled
- 2. Charge the sled in the charging cradle, charging cup, or by USB-C cable.
- 3. Replace the standard cover that comes with the sled with the adaptor that is specific to the mobile computer being used with the sled.
- 4. Place the mobile computer into the adaptor headfirst.
- 5. Attach the mobile computer on the sled.
- 6. Set the region using 123RFID Desktop or 123RFID Mobile.

For the latest versions of guides and software, go to: zebra.com/support.

For detailed information, refer to the Product Reference Guide at: zebra.com/support.

Features

The RFD40 RFID Standard sled adds a RFID gun-style handle with a scanning trigger to the mobile computer or Windows PC. Used for all RFID operations, the sled increases comfort when using the mobile computer in scan-intensive applications for extended periods of time.



Figure 1 RFD40 RFID Standard Sled Features

Adaptor Installation

To install the adaptor,

- 1. Remove the cover by pulling up on the lip.
- 2. Secure the adaptor onto the sled by fastening the four coin screws into the sled.

Figure 2 Adapter Installation





Installing the Mobile Computer into the Sled

To secure the mobile computer to the RFD40 Standard RFID sled, place the top of the device fully forward into the sled adaptor and push down on the bottom of the mobile computer.



NOTE: Depending on the mobile computer being used with the sled, the mobile computer may be inserted into the adaptor tail-end first.



NOTE: While installing the mobile computer into the adaptor, use caution and do not to collide with the eConnexTMcommunication port pins on the RFD40.



Removing the Mobile Computer from the Sled

To remove the mobile computer from the RFD40 Standard RFID sled, firmly hold the sled handle, and lift the device off of the sled base.



Sled Battery Replacement

Battery Installation

To install the battery:

- 1. Align the battery with the notch facing the back of the device.
- 2. Slide the battery into the handle of the device.
- 3. Snap the battery into place.



Battery Removal

To remove the battery, pinch the clips to unlock the battery and slide downwards to release.



Charging

Before using the RFD40 for the first time, fully charge the battery by placing it in the charging cradle until the LED Power/Charging Indicator turns solid green. The RFD40 RFID sled and mobile computer may be charged in the charging cradle individually or attached together.

When an RFD40 RFID sled is removed from a charging cradle, it is automatically powered on. If a reader is not used for a duration of 30 minutes, the reader enters low power mode.

Figure 3 Single Slot Charging Cradle



UI Indicators

The RFD40 RFID Standard sled presents multiple modalities to inform the user of various device states. The sled provides LED definitions for decode and battery status as well as beeper indications to indicate the charge progress of the battery. The trigger on the sled is capable of carrying out various programmable tasks to decode and initiate a bootloader recovery.

Decode LED Definitions

 Table 2
 RFD40 RFID Standard Sled Decode LED Indications

Scan	LED Status
Good Scan	Green
Scan Error	Red
RFID Tag Read Indicator Enabled	Green
Read Error	Red

Battery LED Definitions

Table 3	RFD40 RFID	Standard	Sled LED	Definitions	While	Charging
---------	------------	----------	----------	-------------	-------	----------

Condition	Indication
Pre-charging	Amber (Fast, Fast, Slow)
Charging	Amber (Blinking)
Fully Charged	Green (Stays On)
Charging Error	Amber (Fast Blinking)
Firmware Update in Progress	Amber-Blinking

Battery Beeper Indications

Table 4 RFD40 RFID Standard Sled RFD40 Battery Beeper Indications

Condition	Tone
Low Battery (20%)	Medium-length tones
Lower Battery (10%)	Short tones - repeat
Suspend	High/Medium/Low
Charging	Short tone when the charger is connected.
Fully Charged	One Beep
Charging Error	Three Beeps (single occurrence)
Power On	Low/Medium/High Beep

Trigger Modes



NOTE: By default, the device assumes the upper trigger as the RFID decode trigger and the lower trigger as the mobile computer decode trigger.

Condition	Upper Trigger	Lower Trigger	Both Triggers	Description
RFID Start/Stop	Х	-	-	User Programmable.
Barcode Start/Stop	-	Х	-	User Programmable.
Start Bootloader Recovery	-	Х	-	Press and hold the lower trigger for five seconds while inserting the battery.
Configurable/Signal Intent to Mobile Device	-	-	Х	Feature support is determined by the mobile computer being used with the device.

123RFID Mobile

This section describes the 123RFID Mobile Application which demonstrates the RFD40 RFID Standard sled's capability and tag operation functionality.

Requirements

Requirements for the 123RFID Mobile Application for Android are as follows:

- · Zebra approved mobile computer compatible with the RFD40 Standard RFID sled.
- 123RFID Mobile Application APK.

Installing 123RFID Mobile

Install the 123RFID Mobile Application on the mobile computer from zebra.com/support or from the Google Play Store. The procedure to install the software on an Android device is dependent upon the Android version.

To install the software:

- Connect the Android device to your computer. It is connected as MTP Device and shown as a drive on the computer. For information on transferring files using Media Transfer Protocol, refer to the Mobile Computer Integrator Guide at: zebra.com/support.
- Navigate to Device Settings > Security and check Unknown Sources to allow installation of applications from unknown sources.
- **3.** Copy the 123RFID_Mobile_1.0.x.x.apk file to the mobile device.
- 4. Go to Settings > Security and select Unknown sources.
- Use the File Manager to locate the 123RFID_Mobile_1.0.x.x.apk file in the folder to which it is copied in Step 3 and select it.
- 6. In the pop-up window, select the Android App installer to begin installation.

Using 123RFID Mobile

To use the application for RFID operations:

- 1. Launch the 123RFID Mobile Application for Android on the mobile device.
- 2. From the Readers list, tap on the available RFD40 device listed under Available Readers to connect and view the Rapid Read screen.
- Tap Settings > RFID > Advanced Reader Options > Antenna. Power Level is set to 27.0 dBm by default. However, it is shown as 270 dbm because the value used is in units of tens of dBm. Japan units are set to a different default power level depending on the SKU type.

4. Tap the Back button and select Regulatory to set the region in which the device is operating.

Readers List

From the bottom navigation menu tap the **Readers icon**.





Tap a reader name from the **Readers List** to establish a session with the selected reader. Tap again to terminate the session. To obtain additional information about the device, tap **Reader Details**.

Figure 5 Reader Details





Updating the Device Firmware

Update the device firmware by tapping Firmware Update from the menu. Next, select the firmware version to be loaded onto the device and tap the Update Firmware button.





Rapid Read

Tap Rapid Read from the Home or Menu screen.



The Rapid Read and Inventory screens display the following data (see Inventory on page 19).

- Total Reads
- · Unique tag count
- Read time (mm:ss)
- Tag read rate (tags/sec).

The Rapid Read and Inventory screens present two different views of the inventory operation on the reader. The **Start/Stop** functionality can be used interchangeably on both screens. For example, when operation starts on the **Rapid Read** screen and you navigate to the **Inventory** screen, the button available on the **Inventory** screen is **Stop**. The same is true when the operation starts on the **Inventory** screen. During the rapid read process, you can navigate to the **Inventory** screen to view tag details along with tag counts for each tag. The statistics displayed are maintained on the **Rapid Read** and **Inventory** screens regardless of the screen used to start the process.

Select **Start** to start the rapid read inventory operation. Select **Stop** to stop inventory operation.



NOTE The scan trigger on the device can also start and stop the inventory operation. Press the trigger to start, continue to hold and release to stop.

Progressing to another screen does not halt the operation. However, attempting to make changes or perform another operation while rapid read is in process results in an error.

Inventory

Once tags begin reading, the tag details populate the inventory screen. To filter the information by type, tap the Memory Bank dropdown menu and select User, Reserved, TID, or EPC.

Select Inventory from the Home or Menu screen.

Bank							
=		•	:			•	:
MEMORY BANK U None V	INIQUE TAGS	TOTAL REA	ADS	MEMORY BANK	UNIQUE TAGS	101AL R	eads 1
				User			
Q				Reserved			
TAG		Count R	SSI	TID		Count	RSSI
0000000000001250000002	26	1	-60	EPC	12500000026	1	-6
0000000000001250000002	29	34	-52	000000000000000000000000000000000000000	250000029	34	-5
000000000000125000000	32	35	-56	000000000000000	250000032	35	-5
0000000000001250000003	31	34	-56	00000000000000	12500000031	34	-5
0000000000001250000002	24	34	-56	0000000000000000	250000024	34	-5
000000000000125000000	30	35	-53	0000000000000000	12500000030	35	-5
0000000000001250000003	33	35	-51	0000000000000000	250000033	35	-5
0000000000001250000002	28	17	-61	0000000000000	250000028	17	-6
0000000000001250000002	27	22	-61	0000000000000	250000027	22	-6
000000000049743052118	59	13	-63	0000000000497	74305211859	13	-6
000000000000125000		1	-63	0000000000000	25000	1	-6
i III III		¢.		: = Beaders	REID	Settings	

Figure 8 Inventory Screen

Memory

Tag reading is started and stopped on this screen as well as on the **Rapid Read** screen (see Rapid Read on page 18). When the process starts, tag information displays on the screen.

Tap **Start** to start the rapid read inventory operation. The **Start** button changes to **Stop**. Tap **Stop** to stop the read inventory operation.



NOTE The scan trigger on the device can also start and stop the inventory operation. Press the trigger to start, continue to hold and release to stop.

The tag ID selected can be filtered by **RFID Settings**, **Locate**, **Pre Filters**, **and Tag Write**. After selecting a tag, tap on the action bar **Locate** icon to go to the Locate screen. Tags are fully convertible to ASCII format. ASCII mode may be enabled by selecting **Settings > Application Settings**.

Figure 9 Tag Data Filters

≡	RFID Settings
MEMORY BANK UNIC	Locate
	Pre Filters
۹	Tag Write
TAG	Count RSSI
000000000000012500000026 RSSI -60	1 -60
0000000000012500000029	34 -52
0000000000012500000032	35 -56
0000000000012500000031	34 -56
0000000000012500000024	34 -56
0000000000012500000030	35 -53
0000000000012500000033	35 -51
0000000000012500000028	17 -61
000000000001250000027	22 -61
000000000049743052	13 -63
00000000000012500000025	1 -63
Readers RFID	Settings

Locate Tag

Tap Locate Tag from the Home or Menu screen.

Figure 10 Locate Tag Screen



On this screen, enter the Tag ID in the text area or select a tag from the Inventory screen to pre-populate the Tag ID to search.

Tap **Start** to start the locate tag operation and tap **Stop** to stop. The device trigger can also be used to start and stop the operation.



NOTE The scan trigger on the device can also start and stop the inventory operation. Press the trigger to start, continue to hold and release to stop.

The color bar on the display shows the relative distance of the tag.

When the locate tag operation starts, moving to another screen does not stop the operation until **Stop** is selected.

Multi Tag

To locate and track multiple tags, select the Add a File icon on the multi-tag panel and select the file containing the specific tag information from the file manager to bring the file into the application.

Figure 11 Multi Tag File Upload



Inventory Screen Features

ltem	Description
Action Bar	
Tags	Tap Memory Bank to select one of the following memory bank options from the drop-down menu:
	None - Defaults to EPC.
	User - Allows reading user memory bank data when the tag is inventoried.
	• Reserved - Allows reading reserved memory bank data when the tag is inventoried.
	 FID - Allows reading FID memory bank data when the tag is inventoried. EPC - Allows reading EPC memory bank data when the tag is inventoried. When the next inventory operation starts, the details from the selected memory bank displays. This menu is inactive if there is an ongoing operation on the connected reader.
	Default Display - None.
Search	Tap the Search icon and enter a tag ID. Tags that match the entry display in the content area.
Power Management	Icon indicates if Dynamic Power is on. See Power Management on page 41. Tap the Power Management icon to open the Battery Status screen.
Content Area (select a tag)	Tapping a Tag ID highlights the tag. The highlighted Tag ID is populated on the Tag Location text area as well as the Tag Pattern area in the Access Control screen. Tap Start to start searching for the tag. See Tag List Match Mode Operation on page 24 for more details. From this screen, return to the Menu or go to the Home screen and select Locate Tag .
Content Area (select a tag)	The tags displayed in this area are based on the option selected from the memory bank. Tap the tag ID to expand details about the tag. Tap the tag ID again to collapse details.
	Example Default Tag Display:
	Tag IDTag Count
	AD99 15404190725965400404
	Example Expanded Tag Display:
	Note : Expanded tag detail can only display when the inventory operation is stopped. Memory bank data is shown only when inventory is complete.
	Tag IDTag Count
	AD99 15404190725965400404
	EPC MEMORY3000
	RSSI
	-50 Dhees
	Phase
	LISER
	1122334455667788AABBCCDDEEEE
	1122334455667788AABBCCDDEEFF
	1122334455667788AABBCCDDEEFF

Table 6 Inventory Screen Features

Tag List Match Mode Operation

When **Tag List Match Mode** is checked on the **Application** screen (Application Settings on page 43), the application identifies tags from a given set of tags in csv tag list format (comma separated values file). The contents of the csv file display on the **Inventory** screen. By default, the application displays friendly names from csv files.

Before the inventory starts, the count is zero. The tag list can be sorted using the drop-down menu choices. Select an option to display the type of tags to show when the inventory starts.

All: Sample 4 Inventory List: Tag List Enabled; All Tag Option Selected on page 28

Matching: See Sample 1 Inventory List: Tag List Enabled; Matching Tag Option Selected on page 24.

Missing: See Sample 2 Inventory List: Tag List Enabled; Missed Tag Option Selected on page 26.

Unknown: Sample 3 Inventory List: Tag List Enabled; Unknown Tag Option Selected on page 27

Sample Contents of Taglist.csv File

The csv file should contain only alphanumeric characters in the tag column. If there are any special characters, the row is discarded.

The Taglist.csv file must be located inside the rfid folder which must be manually created at the Android device root directory.



NOTE The folder name must be all lower case (for example, rfid and not RFID).

Figure 12 1a	aglist.csv File	Contents
--------------	-----------------	----------

A	$1 \bullet \vdots \times \checkmark f_x$	30304035A880C8000012	3658	
	A	В	с	D
1	30304035A880C80000123658	ltem (*-*).001		
2	3035200EDC27074000123663	Item (*-*).002		
3	8DF000000000000081291D	Item (*-*).003		
4	30304035A880C8000012364F	Item (*-*).004		
5	30304035A880C80000123644	Item (*-*).005		
6	30304035A880C8000012365C	Item (*-*).006		
7	30304035A880C80000123654	Item (*-*).007		
8	30304035A880C80000123710	Item (*-*).008		
9	30304035A880C80000123645	Item (*-*).009		

Sample 1 Inventory List: Tag List Enabled; Matching Tag Option Selected

When inventory starts, the application only displays the tag reads that match the tags in the taglist.csv file. Matching tags display in green. Select any tag read to show the matching tag details in the csv file.

7:20 PM 🌣 🛦 🕲	4D# 🔒	7:21 PM 🌣 🛦 🕲	4D# 🕻
\equiv RFDXX	:	\equiv RFDXX	:
TAG LIST MATCHING TAGS All • 4	MISSED TAGS	TAG LIST MATCHING TAGS All • 4	MISSED TAGS O
TAG	Count RSSI	TAG	Count RSSI
ASCII	9 -51	ASCII	9 -51
tag1	9 -28	DETAILS 5A454252415445434853594E	
Item	2 -55	tag1	9 -28
30304035A880C80000123AC1	8 -42	Item	2 -55
300833B2DDD901400000000	79 -63	30304035A880C80000123ABE	
E2806D12000000224D7E86E	6 -45	30304035A880C80000123AC1	8 -42
E2806D12000000224D7E867	4 -26	300833B2DDD9014000000000	79 -63
E2806D1200000	-58	E2806D120000	-45

Figure 13 Matching Taglist.csv File Contents

Sample 2 Inventory List: Tag List Enabled; Missed Tag Option Selected

When inventory starts, the application only displays the tag reads that are missed and included in the taglist.csv file. Missed tags display in red. Select any tag to show the missed tag details in the csv file.

7:26 PM 🌣 🛦 🕲	ወ 🛃	7:27 PM 🌣 🛦 🕲	4 0 0 🖡
≡ RFDXX	:	≡ RFDXX	:
TAG LIST MATCHING TAGS Missing • 0	MISSED TAGS 7	TAG LIST MATCHING TAGS Missing • 0	MISSED TAGS 7
TAG	Count RSSI	TAG	Count RSSI
ltem(*-*).001	0	Item(*-*).001	0
hello	0	hello	0
30304035A880C8000012380F	0	DETAILS 30304035A880C8000012380C	
Item(*- *).004	0	30304035A880C8000012380F	0
Му Тад	0	ltem(*- *).004	0
Sam	0	My Tag	0
hi		30304035A880C8000012380D	
START		Sam	

Figure 14 Missed Taglist.csv File Contents

Sample 3 Inventory List: Tag List Enabled; Unknown Tag Option Selected

When inventory starts, the application only displays tags that were read but not included in the taglist.csv file. Unknown tags display in gray. Select any tag to show the unknown tag details.

7:28 PM 🌣 🛕 🕲	ال ات 🖌	7:29 PM 🏾 🌣 🛕 🕲	ال ال
\equiv RFDXX	:	≡ RFDXX	:
TAG LIST MATCHING TAGS	MISSED TAGS	TAG LIST MATCHING TAGS	MISSED TAGS
TAG	Count RSSI	TAG	Count RSSI
E28011700000020D2A414248	2 -54	E28011700000020D2A414248	2 -54
E2806D12000000224D7E879	1 -51	E2806D12000000224D7E879	1 -51
E2806D12000000224D7E867	1 -34	unknown	
E2806D12000000224D7E86E	1 -29	E2806D12000000224D7E867	1 -34
00004035A880C80000123ABC	1 -50	E2806D12000000224D7E86E	1 -29
300833B2DDD9014000000000	12 -53	unknown	
E2806D12000000224D7E874	-48	00004035A880C80000123ABC	1 -50
E2806D1200000	-42	300833B2DDD9	-53

Figure 15 Unknown Tags

Sample 4 Inventory List: Tag List Enabled; All Tag Option Selected

When inventory starts, the application displays the tags for all of the options:

- Tag reads that match the tags in the taglist.csv file. Matching tags display in green. Select any tag read to show the matching tag details in the csv file.
- Tag reads that are missed and included in the taglist.csv file. Missed tags display in red. Select any tag to show the missed tag details in the csv file.
- Tags that were read but not included in the taglist.csv file. Unknown tags display in gray. Select any tag to show the unknown tag details.

7:33 PM	🌣 🗛 (0		I	0" 🖡	7:34 P	М	🌣 🔺 🕲			٩C)• 🖡
≡	RFDX	X			:	≡		RFDXX				:
TAG LIST All		•	MATCHING TAGS	MISSED T	rags -	TAG LIST A	- All	•	MATCHING TAGS	MISSE	:D Т/ 2	AGS
TAG				Count F	RSSI	TAG				Count	R	SSI
ASCII				1	-55	ASCII					1	-55
tag1				1	-55	DETAIL 5A454	.s 25	241544543	34853594E			
Item				0		tag1					1	-55
3030403	35A8800	00083	0123AC1	0		Item	C				0	
E2806D1	1200000	00022	4D7E887	1	-40	30304	.3 03	5A880C80	000123ABE			
E2806D1	1200000	0022	4D7E867	1	-36	30304	03	5A880C80	000123AC1		0	
300833E	32DDD9	01400	0000000	10	-53	E2806	D1	20000002	224D7E887		1	-40
E280117	7000000		START		-59	E2806	D1	20000	START	Ľ		-36

Figure 16 All Tags

Sample 5 Tag List Matching Selected; Show Friendly Not Names Selected

When inventory starts, the application displays the tags for selected options from All, Matching, Missing, or Unknown. Application shows friendly names (i.e., Tag details instead of EPC) on screen.



Figure 17 Show Friendly Names Enabled

Sample 6 Exporting Data - Tag List Matching Selected

-63

300833B2DDD9

The Application Settings screen on page 43 has the option to Export Data. If the option is checked, data is exported when the inventory stops. The tag content area is exportable to a file. For example, when Matching is selected from the menu to display only matching tags in the tag content area, the matching data can be exported to a file. The exported csv file includes the matching, missing, and unknown tag count shown in Figure 18.

Figure 18 Exported File Content

A	L 👻	:	×	\checkmark	f_{x}	INVENTORY SUMM	IARY
		А				В	С
1	INVENTORY SU	лмма	RY				
2	MATCH COUNT	T:				36	
3	MISS COUNT:					36	
4	UNKNOWN CO	DUNT:				36	
5	READ TIME:					0:00:11	
6							
7	TAG ID				C	OUNT	
8	30304035A880	C8000	0123	658		0	null
9	3035200EDC27	07400	0123	663		13	MATCH
10	8DF00000000	00000	0812	91D		0	MISS
11	30304035A880	C8000	0123	644		18	MATCH
12	30304035A880	C8000	0123	65C		82	MATCH
13	30304035A880	C8000	0123	654		0	null
14	30304035A880C80000123710				7	MATCH	
15	30304035A880C80000123645				1	MATCH	
16	30304035A880C80000123656				0	null	
17	303425485C27074000123662				476	MATCH	
18	30304035A880	C8000	0123	64D		0	MISS
19	30304035A880	C8000	0123	650		0	MISS
20	8DF00000000	00000	07CC	CC7		0	MISS
21	30304035A880	C8000	0123	705		0	MISS
22	30304035A880	C8000	0123	737		3	MATCH
23	30304035A880	C8000	0123	70F		28	MATCH
24	30304035A880	C8000	0123	71D		27	MATCH
25	30304035A880	C8000	0123	721		8	MATCH
26	30304035A880	C8000	0123	736		0	null
27	AD99160042DE	321905	64000	00C6		0	MISS
28	8DF00000000	00000	0812	998		0	MISS
29	30304035A880	C8000	0123	64C		0	MISS
30	30304035A880	C8000	0123	652		0	null
31	30304035A880	C8000	0123	664		532	MATCH
32	30304035A880	C8000	0123	64E		0	MISS
33	30304035A880	C8000	0123	64A		0	MISS
34	30304035A880	C8000	0123	657		0	null

Unique Tag Reporting

When **Unique Tag Reporting** is enabled on the Tag Reporting screen on page 39, the reader reports only unique tags based on the options below.

- When the Matching option is selected (see Sample 1 Inventory List: Tag List Enabled; Matching Tag Option Selected on page 24) the tag count cannot be greater than one because the unique tags are only reported one time.
- When the **Matching** option is not selected, the list displays unique and total reads. The tag count cannot be greater than one because the unique tags are only reported one time.

Settings

To access the Settings of the device, tap the Settings Icon from the bottom navigation bar. Settings is split up into General Settings to configure settings on the device, RFID Settings to configure specific reader and antenna settings, and Application settings to make changes to the 123RFID Mobile application settings.

General Settings



 Table 7
 General Settings Screen Options

Settings Option	Description					
Firmware Update	Update the firmware on the reader.					
Factory Reset	Reset the settings on the reader to Factory Defaults.					
Enable Logging	Enable the logging of tag reads.					
Device Info	View information such as friendly name, serial number, model, and					
	RFID/scan settings.					
Share File	Share a file with a paired device.					
Trigger Mapping	Designate the Upper Trigger for RFID decode and the Lower Trigger for Host Scan or the Upper Trigger for Host Scan and the Lower Trigger for RFID decode.					

Updating the Device Firmware

Update the device firmware by tapping **Firmware Update** from the menu. Next, select the firmware version to be loaded onto the device and tap the Update Firmware button.

Figure 20 Firmware Update

RFDXX	
← Update Firmware	?
SAAFKS00-001-N34D0.FCDAT	
SAAFKS00-001-N40D0.DAT	
SAAFKS00-001-N33D0.FCDAT	
PAAFKS00-002-d36D0.DAT	

From: CAAFKS00-0 To: SAAFKS00-001	01-N40 -N34D0.FCD4	ΛT	
UPDA	TE FIRN	IWARE	
٩	•		

RFID Settings



Table 8

RFID Settings Option	Description
Profiles	Displays Fastest Read, Cycle Count, Dense Readers, Optimal Battery, Balanced Performance, User Defined and Reader Defined profiles.
Advanced Reader Settings	Antenna, Singulation, Control, Start/Stop Triggers, Tag Reporting, Power Management and Save Configuration
Regulatory	Allows region and channel selections.
Battery	Displays the device battery status.
Beeper	Use to turn the beeper on/off, and set volume.
LED	Enables/Disables the device tag read LED indicator.

Profiles

To display the list of profiles, tap **Settings > Profile**.

- The currently selected profile is highlighted in orange.
- Tap profile item to expand the profile and view applicable configurations.
- Profiles can be selected or disabled by using the slider switch to the right of the profile name.



NOTE If Power Level, Link Profile, Session, or Dynamic Power are modified from each respective screen, then the currently selected profile changes to User Defined profile and profile item values are modified with same values.

Profile setting options are as follows:

- Fastest Read Read as many tags as fast as possible.
- Cycle Count Read as many unique tags as possible.
- Dense Readers Use when there are multiple readers within close proximity.
- Optimal Battery Provides best battery life.
- Balanced Performance Maintains balance between performance and battery life.

- User Defined Custom profile used for custom requirements.
- Reader Defined Maintains reader configurations.

Figure 22 Profiles Settings

← Profiles	← Profiles	← Profiles
Fastest Read	Fastest Read	Fastest Read
Cycle Count	Read as many tags as fast as possible	Cycle Count
Dense Readers	Power Level (dbm) Link Profile FM0 640K	Read as many unique tags possible
Optimal Battery	Session S0 -	Link Profile M4 240K
Balanced Performance	Cycle Count	Session S2
User Defined	Dense Readers	Dense Readers
Reader Defined	Ontimal Battery	Optimal Battery
N	N 12:00 PM	N 12:00 PM
← Profiles	← Profiles	← Profiles
Fastest Read	Dense Readers	Dense Readers
Cycle Count	Optimal Battery	Optimal Battery
Dense Readers	Gives best battery life	Balanced Performance
Use when multiple readers in close proximity	Power Level (dbm) Link Profile M4 240K	Maintains balance between performance and battery life
Power Level (dbm) 300	Session S1 -	Power Level (dbm) 270
Link Profile M4 256K -	Dynamic power	Link Profile M4 240K -
Session S1 -		Session S1 -
Dynamic power	Balanced Performance	Dynamic power
Optimal Battery	User Defined	User Defined

← Profiles		← Profiles	
Ontine of Dettermine			
Optimal Battery		Balanced Performa	nce
Balanced Performance	د		
Balanoca i chomiano	•	Llear Defined	
		User Defined	
User Defined			
		Doodor Dofined	
Custom profile		Reduel Delineu	
Used for custom requireme	ent		
		Maintains Reader confi	gurations
	300	Application does not co	onfigure the reader after
Power Level (dbm)		connection	
Link Profile	FM0 640K 🔍		
Link Prome		Power Level (dbm)	
Session	S0 -		E140.6401/
00001011		Link Profile	FMU 640K 🔍
Dynamic power		Quality	- 02
,		Session	30
		Dynamia power	
Reader Defined		Dynamic power	

Advanced Reader Settings

Antenna

To access the Antenna screen, go to: **Settings > Advanced Reader Options > Antenna**. The Antenna screen displays the following:

• **Power Level** - Displays the current selection and a text box for available power levels (as reported by the device). The default setting is 27.0 dBm (shown as 270; the value displayed is in units of tens of dBm). Japan units are set to a different default power level depending on the SKU type.

The minimum power level when DPO is enabled is 3.1 dBm. When DPO is disabled, the minimum power level is 0 dBm.

• Link Profile - Displays the current selection and includes a drop-down list of available link profiles (reported by the device).

Link Profile display format is as follows: Return link bit data rate in bis per second (e.g., 60000 -> 60 Kbs); Miller Value (e.g., MV_4 -> Miller 4); thus profile name M4 240K (240K becomes BLF) modulation type (PR ASK is the only one supported).

- PIE value has no units and is either 1500 and 2000 minimum.
- Tari applicable Tari value in thousands of micro seconds (e.g., 6250 -> 6.25 microseconds).

Figure 23 Antenna Screen

← Antenna			← Antenna	
Power Level (dbm)	300		Power Level (dbm)	200 FM0 640K
Link Profile	FM0 640K	•	Link Profile	M2 240K
PIE	1500	•	PIE	M2 256K
Tari	6250	•	Tari	M2 320K
				M4 256K
				M4 320K
				AUTOMAC 668
				FM0 320K



NOTE The Power Level and Link Profile are blank when there is no connection to the reader.

Singulation Control

To access Singulation Control, go to: **Settings > Advanced Reader Options > Singulation Control**. View or configure the singulation control settings for each antenna.

- Session The drop-down list includes the available session options (S0, S1, S2, S3).
- **Tag Population** A numeric value of the estimated number of tags in the Field of View (FOV). Values shown are 30, 100, 200, 300, 400, 500, 600.
- Inventory State State A, State B, AB Flip.
- SL flag ALL, DEASSERTED, ASSERTED.

Figure 24 Singulation Control Screen

N		1:14 PM
← Singul	ation Control	
Session	S0	-
Tag Population	30	•
Inventory State	AB FLIP	•
SL Flag	ALL	-
	DEASSERTED	
	ASSERTED	

Start and Stop Triggers

To access the Start and Stop Triggers screen, go to: **Settings > Advanced Reader Options > Start\Stop Triggers**.

The Start Trigger Periodic displays the Period input box (in milliseconds).

The **Stop Trigger Duration**, **Tag Observation** and **N attempts** display numeric value input boxes. All time entries are in milliseconds.

All the required details for saving triggers to the reader must be entered or the application does not save the trigger settings to the reader.

Figure 25 Start and Stop Triggers Screen

N	1	1:16 PM
← Start\St	op Triggers	
START		
Start Trigger	Handheld	•
Trigger Released		
Trigger Pressed		
STOP		
Stop Trigger	Duration	~
Duration (ms)	10000	

Required input for Start/Stop Trigger settings are as follows:

- Start Trigger
 - Immediate (default)
 - Hand-held Select either the Trigger Pressed or Trigger Released check box.
 - **Periodic** Enter the period of time in milliseconds.
- Stop Trigger
 - Immediate (default)
 - Hand-held Select either the Trigger Pressed or Trigger Released check box along with Timeout in milliseconds.
 - **Duration** Enter duration in milliseconds.
 - Tag Observation Enter the tag count along with timeout in milliseconds.
 - **N Attempts** Enter the number of attempts along with timeout in milliseconds.

If the start trigger type is set to Hand-held trigger (pressed or released), the application sets the repeat for the operation to ensure the use case if repeated operations can be demonstrated.

If any trigger is defined as Hand-held, the application does not act on immediate trigger type for a Hand-held trigger action.

Tag Reporting

To access Tag Reporting, go to: **Settings > Advanced Reader Options > Tag Reporting**.

Figure 26 Tag Reporting Screen

10:09 AM 🌣 🛦 🕲	ው 🖁
Tag Reporting	
Tag Report Settings	
PC	
RSSI	\checkmark
Phase	
Channel Index	
Tag Seen Count	
Batch Mode Settings	
Batchmode	•
Unique Tag Settings	
Report Unique tags	
NXP BrandID Check	
Check BrandID	

Table 9 Tag Reporting Screen Options

Option	Description
PC	Select to allow reporting the PC as part of the Tag Data.
RSSI	Selection indicates whether or not the RSSI (Received Signal Strength Indication) is reported as part of the Tag Data.
Phase	Select to indicate whether or not the Phase is reported as part of the Tag Data.
Channel Index	Select to indicate whether or not the Regulatory Channel Index is reported as part of the Tag Data.
Tag Seen Count	Select to indicate whether or not the Tag Seen Count is reported as part of the Tag Data.
Report Unique Tags	When this option is enabled, the reader reports only unique tag reads. The Unique Tag reporting feature can be enabled when using Tag List Match mode.

Power Management

This screen provides an option to enable **Dynamic Power Optimization (DPO)** in the reader. Enabling DPO enhances battery life during inventory operations.



NOTE DPO is enabled by default. It is not necessary to disable DPO when executing access operations or using filters because DPO is automatically disabled and when the operation is complete, it is automatically enabled.

If **Dynamic Power** is On, a green battery icon appears in the title bar of the application. Tapping on this opens the **Battery Status** screen.

To access Power Management, go to: Settings > Advanced Reader Options > Power Management.

Figure 27 Power Management Screen

÷	Power Management	
Dynami	c power	

Dynamic Power optimization configures the reader for best battery life and works with Pre configured settings. Dynamic Power optimization works only for inventory operation

Save Configuration

To access Save Configuration, go to: **Settings > Advanced Reader Options > Save Configuration**. This screen is used to save the settings and displays the current settings on the device.

The settings are saved on the device until a reset to factory defaults is performed on the unit (see Settings on page 31).

The Tag Pattern area is automatically filled in when a tag is selected in the Inventory screen.

Figure 28 Save Configuration Screen



Access Control

Figure 29 Access Control Screens - Read/Write, Lock, Kill

0:22 AM 🏼 🌣 🔺 🕲			•
		1	
READ \ WRITE	LOCK		KILL
30304035A8800	8000012	3ABB	
Password		00	
Memory Bank		EPC	•
Offset (words)		2	
Length (words)		0	
Data			
	_		
READ		WRIT	E

The Tag Pattern area is automatically filled in when a tag is selected in the Inventory screen.

Read/Write

The Read/Write access operation is simplified with offset and length fields are hidden. The user can tap the more/advanced options icon to see offset and length fields. Tap the icon again to hide the advanced options.

Memory Bank options now have extended menu options to choose directly interested area of memory bank. This avoids typing of offset and length etc.

Read/Write

Read/Write options are:

- Tag ID and Password values are in hex. Tag ID is edited.
- Memory Bank options EPC, TID, USER, PC and CRC, Access Password, Kill Password.
- Offset and Length values are in 16-bit words. This is only available after tapping the Advance Options icon. To toggle visibility, tap Advanced Options again.
- Access operation screen maintains edited tag ID.

Lock

Lock privilege options are as follows:

- Read and Write
- Permanent Lock
- Permanent Unlock
- Unlock

Kill

Permanently renders the tag unusable. A Kill Password must be provided.

Application Settings

From the **Settings** screen, select **Application**.

Figure 30	Settings - Application Screen
-----------	-------------------------------

← Application	
Reader Connection Settings	
Auto Connect Reader	~
Notification Settings	
Reader Connection	
Reader Battery Status	
Data Export Settings	
Export Data	
Match Mode	
Tag List Match Mode	
Show Friendly Names	
ASCII Mode	

Table 10 Application Settings

Settings Option	Description
Auto Reconnect Reader	When checked, the device connects to the RFID service which manages the connection to the reader.
Reader Connection Notification	When checked, the application notifies the user when the reader is connected or disconnected.
Reader Battery Status Notification	When checked, the application notifies the user when the battery has reached specific critical states.
Export Data	When checked, the application writes the inventoried RFID data to a file when the inventory operation stops. On Android platforms the file is saved in a fixed directory. Check the files in file browsing in the Inventory directory (Sdcard/inventory/ <files>). The files may be copied to a PC.</files>
Tag List Match Mode	Check to enable matching mode.
Show Friendly Names	Check to show the tag's friendly names instead of EPC ID. Show friendly names is only available when Tag List Match Mode is enabled.
ASCII Mode	Displays tag ID in ASCII format. If the full tag ID or memory bank data is convertible to ASCII format, then the application only shows the same. Inventory, Locate, Access, and Pre Filters show ASCII mode represented data in respective sections.

123RFID Desktop Application

123RFID Desktop is a setup and optimization tool for the RFD40 Standard RFID Sled. This section describes the application and its features.

123RFID Desktop Features

- Connect allows users to search for readers on the local subnet or USB port.
- Read allows users to start an inventory, view summary metrics on tag reads and sort, filter and export tag data. Select an antenna and set the power level to begin building an inventory.
- Configure allows users to configure reader and antenna settings. Settings can be saved to a file or as a printed report.
- Firmware allows users to update the firmware on up to five devices.

Connect

Users can locate readers on the local subnet or via USB port by clicking the **Find Readers** button or by entering the IP, hostname or COM port and clicking **Connect**.

秋 12	23RFID Desktop
((O)) Connect)) Read	Welcome Find Network and USB Readers Click to find reader(s) on local subnet or USB port. FIND READERS
Configure Firmware	Connect a Reader by IP or Hostname or COM port Enter reader's IP address or hostname or COM port below Enter IP or hostname or COM port CONNECT

Figure 31 Adapter Installation

To discover readers on the network view the Available Readers section of the application and click Connect on one of the associated rows to connect to the specified reader.

Figure 32 Reader Discovery

23RFID Desktop								((o)) 0 Readers (Connected.	How to Videos	1 Help with Discov
Reader Discovery											
Reader Discovery											
Connected Readers					_						
Read	ier Name Model	IP/COM	Port Reader ID	D Firmware Serial Number	Mfg. Date Anter	nas	Country Code				
			No: 1. C	readers connected. Click FIND READERS below to d	iscover readers.						
			2. C	Click CONNECT.							
Available Readers (2)											
Available Readers (2)	Reader Name	Model	IP/COM Port	Firmware	Serial Number	Mfg. Date					
Available Readers (2)	Reader Name USB Serial Device (COM20)	Model USB Serial Device (COM20)	IP/COM Port COM20	Firmware	Serial Number	Mfg. Date					
Available Readers (2) PING CONNEC	Reader Name 1	Model USB Serial Device (COM20) USB Serial Device (COM22)	IP/COM Port COM20 COM22	Firmware	Serial Number	Mfg. Date					
Available Readers (2) Pitro College	Reader Name T	Model USB Serial Device (COM20) USB Serial Device (COM22)	IP/COM Port COM20 COM22	Firmware	Serial Number	Mfg. Date					
Available Readers (2) Pind connect	Reader Name	Model USB Serial Device (COM20) USB Serial Device (COM22)	IP/COM Port COM20 COM22	Firmware	Serial Number	Mfg. Date					
Available Readers (2)	Reader Name ψ USB Senal Device (COM20) ψ USB Senal Device (COM22)	Model USB Serial Device (COM20) USB Serial Device (COM22)	IP/COM Port COM20 COM22	Firmuare	Serial Number	Mfg. Date					
Available Readers (2)	Reader Name ψ USB Senial Device (CDM28) ψ USB Senial Device (CDM22)	Model USB Serial Device (COM20) USB Serial Device (COM22)	IP/COM Port COM20 COM22	Firmware	Serial Number	Mfg. Date					
Available Readers (2)	Reader Name	Model USB Serial Device (COM20) USB Serial Device (COM22)	IP/COM Port COM20 COM22	Firmware	Serial Number	Mfg. Date					
Available Readers (2)	Reader Name	Model USB Senia Device (COM20) USB Senia Device (COM22)	IP/COM Port COM20 COM22	Femuse	Serial Number	Mfg. Date					
Available Readers (2)	Roader Name	Model USB Senia Device (COM20) USB Senia Device (COM22)	IP/COM Port COM20 COM22	formuse .	Serial Number	Mfg. Date					
Available Readers (2)	Reader Name	Model USB Senial Device (COM20) USB Senial Device (COM22)	IP/COM Port COM20 COM22	Firmsare	Serial Number	Mfg. Date					
Available Readers (2)	Reader Name	Model USB Senia Device (COM20) USB Senia Device (COM22)	IP/COM Port COM20 COM22	Rimeace	Serial Number	Mfg. Date					
Available Readers (2)	Reader Name ψ USB Senal Device (COM02) ψ USB Senal Device (COM02)	Model USB Senial Device (COM20) USB Senial Device (COM22)	IP/COM Port COM20 COM22	femuare	Serial Number	Mfg. Date					

Read

The read feature allows users to start an inventory. Users can view summary metrics on tag reads by reader, sort, filter and export tag data to a file. Select antenna and set power level to do inventory.

徳 12	23RFID Desktop						<u>(())</u>	0 Readers Connected.	How to Videos	Help with Reading
((O)) Connect	Data View					🔹 🥠 Charts	O TAGS	ar Export +	Running	START Time: 00:00:00:00
P) (P) Read Configure Eirmware	Filters EPC ID	Count	RSSI	First Seen	Last Seen					
About	Reader	Tags Reads	Read F	Rate 🧐 Ant	1 谢 Ant 2	୍ୟୁଅ Ant 3 ସ୍ଥ୍ୟ	Ant 4 🌘 Ant 5	ୱିହା Ant 6 🕼 Ant 7		

Figure 33 Data View

Click the Start button to start reading tags and recording an inventory.

Figure 34	Inventory	View
-----------	-----------	------

美 。1:	23RFID Desktop	(<u>Q</u>) 2 Rest	ters Connected 🔜 How to Videos 🌖 Help with Reading	
((Q)) Connect	Data View	4 ™00 5,957 mexos 3 © ● Chefs Top Food Chef Top Food Chef	ATT SEC START Running Time: 60:00:00:18	
H) 🗐	Filters		1 USP Seriel Desire (COM/0)	-
Read	EPC ID	Count RSSI First Seen Last Seen	(CC0120)	100%
-	2F2523447334C3100002ED8F	1175 -57 5/17/20214.34.48 PM 6/17/20214.34.49 PM		
T	300833E2DDD901400000000	4300 -43 6/17/2021 4:34:40 PM 6/17/2021 4:34:40 PM	((4))	
Configure	2F2403447334C3100002EDCE	471 - 39 0/17/2021 4:34:49 PM 0/17/2021 4:34:49 PM	30	
_	A2FF33B2DDD901400000000	11 -73 8/17/2021 4.34.49 PM 8/17/2021 4.34.49 PM		
Firmware			2 USB Serial Device (COM22)	100%
			((cp))	
			Antennas	
	Reader	Terro - Develo Devel Dela Dela Dela Arti - Della Arti - D		
	1 USB Secial Davice (CCM20)	1 202 08 203		
	2. USB Serial Device (CCM20)	3 303 102 3024		
About	E. OUD GRID DEVICE (COM22)	a pres tre creation		

To download the inventory data for offline view:

1. Click the Export button to export tag data to excel.

- a. Export Summary Save a snapshot of all the tag reads displayed on Read screen, in excel.
- b. Export History Save timeline data for tags read, in excel.

To edit access operation information on a specific tag, select and double click on the associated tag row.

颜. 1	23RFID Desktop	(0) 1 Reader Connected	How to Videos () Help with Reading
((O)) Connect	Data View	7 TAGE 1,185 REAGE 308 REAGE TAGE Charts Tag Facus Clear Export	START Running Time: 00:00:00:03
P) Configure	© Fitters EFC D Count R58 Pert Seet Lad Seet 300331020000000000000000000000000000000		Image: State Read Profile
About	Reader Tigs Reade Reader Main Main	M Ants	

Figure 35 Access Operations

To access specific tag location details, click on the Tag Locate tab.

A. 12	23RFID Desktop										(<u>(0)</u> 1 Rea	fer Connected	How to Videos	 Help with Readin 	
((Q)) Connect	Data View										7 TAGS 1,185 READS 3	08 READS	Ru	START nning Time: 00.00:00:03	
n) C Read	Filters FOR ID 30083382DDD901400000000 000000000000000000000000	Count 808 68	RSSI -67 -44	First Seen 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM	Last Seen 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM							1011		FD40 C&M Device1 (OM20)	120%
Configure	E2806894000040017790B874 A2FF33B2DDD901400000000 2F330000AABBAA00AABA00AA 2F2403447334C3100002EDCE AABB2222DDD90140000000AA	68 68 68 68 37	-45 -60 -40 -51 -68	7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM	7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM 7/6/2021 10:48:13 AM	g Details s Operations 1	Tag Locate			х			30 Fast	test Read Profile	
					EP	C : 300833820	000001400000000	54	Start Sto	op					
								54							
	Reader	Tags Reat	is Read	Rate 🕸 Ant 1 🖓 A	nt 2 🕅 Ant 3 🕅 Ant	4 θ γ θ Ant 5	۹۴ Ant 6 ۹۴ Ant	1 Øyð Ant S							
About	1. KP D40 C&M Device1	0 0	J	U											

Figure 36 Tag Locate

Reader Configuration

The Reader Configuration wizard configures the reader and antenna settings and saves them instantly. Users can also save settings to a file on the PC or print a report.

- 1. Click Edit Configuration on Reader to edit reader's settings and use the wizard to do the following:
 - Assign names to reader and its connected antennas.
 - Set antenna settings or reset them to factory defaults.
 - Change reader's region configuration.
 - Create rules for your GPIO (General Purpose Input/Output) accessories on when to trigger inventory and output results.
 - Save/print configurations to a file.
- 2. Click Load a Saved Configuration File to Reader to load a saved configuration file from the PC to another connected reader.

Figure 37 Configuration Settings



Reader Name

Add a description or name the reader by filling out the form fields on the name screen.

Figure 38	Name Screen	
🛝 123RFID [Desktop	

40.12	Des	жор	www.z-readers-connectednew to viseos Help with Connguration
(c) Connect) E Red Configure Firmware	EACK FIDE CAM FIDE CAM FIDE CAM Control Settings Region Antanna Trigger Pre-Filar Advanced Save Config	Receive Manne and Description The fields before the man expression and the addressed in substants, there is the states, there is the states is the state is	
About		TREV NEXT	

General Parameter Settings

Configurable general parameter settings include trigger mode (RFID or barcode), beeper volume (high/medium/low/quiet), dynamic power (enable or disable) and unique tag reporting (enable or disable).

Figure 39 General Settings

徳 12	23RFID Des	ktop	((O)) 2 Readers Connected	How to Videos	- 🗆 X
(O) Camer Read Configure Firmware	Control of the second s	Arran Satura Satur			
About		PREV NEXT			

Region Configuration

To set up the region in which the reader will be used, select the Region of Operation from the drop down menu. Next, select the appropriate channels by clicking the associated check boxes.

Ensure that the reader is configured for the correct region that it will be used in. Configuring the device for a different region is illegal.



徳. 12	23RFID Des	ktop				((O)) 2 Readers Connected	How to Videos	- 🗆 X
 the second second	Carrent Settings FFD do CAM FFD do CAM Device Anne Annen Annen Advanced Save Contry	Ktop Region Configuratio Selus the region coeffy () a with Configure Region - Select from Regord of Operation: Configure Region - Select from Warning- Selecting a F	n 2) you intend to use the reader. the available regions, communication standard an state UP 191750 UP 19250 UP 191750 UP 191750 UP 191750 UP 191750 UP 191750 UP 191750 UP 191750	d frequency. Regal region		(0) 2 Readers Connected	How is Video:	Help with Rogon Setup
About		K34 V389	1					

Antenna Configuration

Configure the name and color of the antenna, enable or disable Select for Reads, adjust the power (dBm), and enable different RF modes using Antenna Port Settings.

Figure 41 Antenna Port Configuration



Trigger Configuration

Triggers that indicate to the device to start reading tags can be configured to occur during specific events such as what Start is pressed, when the handheld trigger is pressed, or after a specified duration (ms).

Triggers that indicate to the device to stop reading tags can be configured to occur after specific events such as when Stop is pressed, a specified amount of tag reads, a specified duration of time (ms), a specific number of inventory rounds complete, or when the handheld trigger is released.





Pre-Filter Configuration

Configure pre-filters by first enabling the filter by clicking the checkbox. Next, enter the data into the tag pattern field, select the target, memory, and action from the associated dropdown menus. Last, enter the offset into the form field and click Next.

Figure 43 Pre-Filter Configuration



Advanced Configuration Settings

Enable Editing of Advanced Settings, then choose antenna singulation from the dropdown menu, select State Aware options, and determine the Tag Population Estimate. Click Sync to save the changes and complete the configuration workflow.

igure i ravanosa sonngaration sotting	Figure 44	Advanced	Configuration	Settings
---------------------------------------	-----------	----------	---------------	----------



Save and Print Configuration

Save the configuration file to the PC, push the antenna settings to the reader, or reset the antenna settings to factory defaults at the end of the configuration workflow.

Figure 45 Save Configuration

颜. 12	23RFID Des	ktop	((O)) 2 Readers Connected	How to Videos	- 🗆 X
((Q)) Connect	← BACK	Print/Save Reader Configuration		0	Help with Print/Save Configuration
9))@ Read	RFD40 C&M Device	Save config to PC: Save Config			
Configure	Name General Settings Region	Pensit antenna settings on reader: Save to Reader			
Firmware	Antenna Trigger Pre-Filter	For summary of the configuration, click the button below to print/save a report. Print/Save Parameter Report			
	Advanced Save Config	Reset antenna settings to factory defaults. Reset			
About		PREV SOUT			d

Firmware Management

To update reader firmware on up to five devices simultaneously, select the devices on the table by clicking the associated checkbox and click the **Update Firmware** button.

Figure 46 Select Devices to Update

1:	23RFI	D Desktop							_		(O) 2 Readers Connected	How to Videos	Hein with Einmeare Lindate
((Q))	Upda	ate Reader F	irmware								0 den	vices selected for update	业 UPDATE FIRMWARE
Connect	Available	Readers (2)											
H)@		Reader Name	Model	IP/COM Port	Reader ID	Firmware	Serial Number	Mfg. Date	Locale	Update Status			
Read		RFD40 C&M Device COM20	RFD4031-G108700-IL	COM20	210625201E0040	PAAFKS00-001-N40	210625201E0040	03Mar21	ISR				
Configure	8	USB Serial Device (COM22) COM22	RFD4031-G108700-E8	COM22	210635201E0011	PAAFKS0D-001-N36	210635201E0011	04Mar21	AIA				
Firmware													
About													

Next, the Reader Firmware Update window displays. Click Browse to select the firmware version to be enabled onto the selected device.

Figure 47 Select a Firmware Update

美 。1:	23RFI	D Desktop									(()) 2 Readers Connected	How to Videos	X
((O)) Connect	Upda	ate Reader Firr Readers (2)	nware								2 dev	vices selected for upda	nte 👱 upcate ferminaer
1)E	×	Reader Name	Model	IP	Reader ID	firmware	Serial Number	Mfg. Date	Locale	Update Status			
Read	×	USB Serial Device (COM20) COM20	RF04031-G108700-IL	COM20	21052520160040	PAAFKSDC-C01-N36	210525201E0040	03Mar21	5R	Queued			
Configure	V	USB Serial Device (COM22) COM22	RFD4031-G108700-E8	COWSS	210635201E0011	RAARKS00-001-N36	210635201E0011	04Mar21	GBR	Gueued			
Firmare						Social for Box	venaue et al. Server Upone Upone te to Server a Inventor of the Inventor venaue of the Inventor Venaue of the 1234710 Da	date ware the (J [*]) in a you would sature support	(DAT)	If on the setucted dence.			
About													

Once the firmware file is selected, the update starts and the progress bars next to the associated readers indicate the completion percentage of the update.

Figure 48 Firmware Update Progress

atr. 1	1 23 RF	ID Desktop							_		((Q)) 1 Reader Connected	How to Videos	X Help with Firmware Update
((O)) Connect	Upd Availabl	ate Reader F e Readers (1)	irmware								1/2 devic	es updated successfully	1 👱 UPDATE HRMWARE
»))@	V	Reader Name	Model	IP/COM Port	Reader ID	Firmware	Serial Number	Mfg. Date	Locale	Update Status			
Read	2	USB Serial Device (COM22) COM22	RFD4031-G108700-E8	COM22	210635201E0011	PAAFKS00-001-N36	210635201E0011	04Mar21	AIA	Updating (6%)			
Configure		RFD40 C&M Device COM20	RFD4031-G10B700-IL	COM20	210625201E0040	PAAFKS00-001-N4	210625201E0040	03Mar21	ISR	Reader available for reconnect			
Firmware	1												
61													
Jour	-												

Maintenance and Technical Specifications

This chapter provides suggested sled maintenance, troubleshooting, and technical specifications.



CAUTION:Always wear eye protection.

Read warning label on compressed air and alcohol product before using.

If you have to use any other solution for medical reasons please contact Zebra for more information.



WARNING: Avoid exposing this product to contact with hot oil or other flammable liquids. If such exposure occurs, unplug the device and clean the product immediately in accordance with these guidelines.

Maintenance



IMPORTANT Use pre-moistened wipes and do not allow liquid cleaner to pool.

- ¹ Ensure the following items are addressed when using sodium hypochlorite (bleach) based cleaners:
 - For device only. Do not use on cradle.
 - Always follow the manufacturer's recommended instructions: use gloves during application and remove the residue afterwards with a damp cloth to avoid prolonged skin contact while handling the device.
 - Due to the powerful oxidizing nature of sodium hypochlorite, the metal surfaces, including electrical contacts on the device, are prone to oxidation (corrosion) when exposed to this chemical in the liquid form (including wipes) and should be avoided. In the event that these type of disinfectants come in contact with metal on the device, prompt removal with a dampened cloth after the cleaning step is critical.



IMPORTANT To avoid damage to the device, use only approved cleaning and disinfecting agents listed below. The use of non-approved cleaning or disinfecting agents may void the warranty.

Known Harmful Ingredients

The following chemicals are known to damage the plastics on Zebra devices and should not come in contact with the device:

- Acetone
- Ammonia solutions
- · Aqueous or alcoholic alkaline solutions
- · Aromatic and chlorinated hydrocarbons
- Benzene
- · Carbolic acid

- Compounds of amines or ammonia
- Ethanolamine
- Ethers
- Ketones
- TB-lysoform
- Toluene
- Trichloroethylene.

Approved Cleaners

- Isopropyl alcohol 70% (including wipes)
- 10% Bleach (Sodium Hypochlorite 0.55%) and 90% Water solution
- 3% Hydrogen Peroxide and 97% Water solution
- Mild dish soap.

Cleaning the Sled

Routinely cleaning the exit window is required. A dirty window may affect scanning accuracy. Do not allow any abrasive material to touch the window.

To clean the device:

- 1. Dampen a soft cloth with one of the approved cleaning agents listed above or use pre-moistened wipes.
- 2. Gently wipe all surfaces, including the front, back, sides, top and bottom. Never apply liquid directly to the device. Be careful not to let liquid pool around the device window, trigger, cable connector or any other area on the device.
- **3.** Be sure to clean the trigger and in between the trigger and the housing (use a cotton-tipped applicator to reach tight or inaccessible areas).
- 4. Do not spray water or other cleaning liquids directly into the exit window.
- 5. Wipe the device exit window with a lens tissue or other material suitable for cleaning optical material such as eyeglasses.
- 6. Immediately dry the device window after cleaning with a soft non-abrasive cloth to prevent streaking.
- 7. Allow the unit to air dry before use.
- 8. Connectors:
 - a. Dip the cotton portion of a cotton-tipped applicator in isopropyl alcohol.
 - **b.** Rub the cotton portion of the cotton-tipped applicator back-and-forth across the connector on the Zebra sled at least 3 times. Do not leave any cotton residue on the connector.
 - **c.** Use the cotton-tipped applicator dipped in alcohol to remove any grease and dirt near the connector area.
 - **d.** Use a dry cotton tipped applicator and rub the cotton portion of the cotton-tipped applicator back-and-forth across the connectors at least 3 times. Do not leave any cotton residue on the connectors.

Technical Specifications

Item	Description				
Physical Characteristics					
Dimensions	Height: 15.6 cm (5.94 in.)				
	Width: 8.4 cm (3.3 in.)				
	Length: 16.6 cm (6.5 in.)				
Weight	~19.1 oz./~541 grams (sled with battery)				
Power	PowerPrecision+ 7000 mAh Li-Ion battery				
Frequency Range/	US: 902-928 MHz; 0 - 30 dBm (EIRP)				
RF Output	EU: 865-868 MHz; 0 - 30 dBm (EIRP)				
	Japan: 916-921 MHz (w LBT); 0 - 30 dBm (EIRP)				
User Environment					
Operating Temperature	-10°C to 50°C (14°F to 122°F)				
Storage Temperature	-40°C to 70°C (-40°F to 158°F)				
Charging Temperature	0°C to 40°C (32°F to 104°F)				
Relative Humidity	Operating: 5 to 85% non-condensing				
Sealing	IP54				
Drop Specification	Multiple 5 ft./1.8 m drops onto concrete				
Tumble Specification	500 1/2 meter tumble cycles (1000 drops) at 20°C				
Electrostatic Discharge	± 15 kV air discharge				
(ESD)	± 8 kV direct discharge				
	± 8 kV indirect discharge				

Table 11 RFD40 RFID Standard Sled Technical Specifications

Troubleshooting

Troubleshooting

Symptom	Possible Cause	Action
The RFID sled does not read tags.	The RF region configuration is not set.	Use the 123RFID Desktop or 123RFDID Mobile application to set the regulatory region or country operation per the application instructions.
RFID sled is attached to mobile device and it is not responsive to a RFID application, even after the trigger is pressed.	Battery is too low and not able to power the RFID sled.	Press the trigger for a couple of seconds to power the RFID sled On. The RFID sled LED blinks amber when it is turned On. (By default, pressing the trigger turns On the RFID sled if it is in Off mode. However, the RFID sled can be disabled in which case this step is not necessary.) Place the RFID sled in the charging cradle. The RFID sled blinks amber LEDs indicating charging commenced.
	Zebra supported mobile computer is not properly inserted in the RFID Sled.	Reinsert the Zebra supported mobile device securely in the RFID sled and ensure that the USB cable is correctly inserted.
	Damaged battery.	If the RFD40 RFID sled LED does not blink amber after sitting on charging cradle for a while, request service to replace battery.
RFID sled is responsive but cannot read tags.	Battery is critically low.	Place the RFID sled in the charging cradle. The RFID Sled LED blinks amber. The RFID sled can be used when its LED turns on momentarily amber or green upon removal from charging cradle.
The RFD40 RFID sled LED blinks fast amber when in the cradle.	Charging error.	Restart charging by removing the RFID sled from the cradle and inserting it back in the cradle. If issue persists, request service to replace battery.

 Table 12
 Troubleshooting the RFD40 RFID Standard Sled

Table 12	Troubleshooting the RFD40 RFID Standard Sled
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Symptom	Possible Cause	Action
RFID sled LED blinks red, or LED blinks red alternating with green or amber while in use (not while charging).	Battery end of life indication.	Request service to replace battery.
Zebra supported mobile computer battery is not charging.	Charging cradle was unplugged from AC power.	Ensure the charging cradle is receiving power.
	The Zebra supported mobile computer is not fully seated in the cradle.	Remove and re-insert the zebra supported mobile computer into the cradle, ensuring it is firmly seated in the charging cradle.



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