

Navigating Vulcan RFID Connect

Introduction

Vulcan RFID Connect comes pre-installed on all Vulcan RFID Titanium readers. This document will take you through the software's main categories to give you an overview of its functionality.

For an in-depth guide to Vulcan RFID Connect, please visit vulcanRFID.com/support or email info@vulcanRFID.com.

First, be sure you are connected to the reader and logged in to Vulcan RFID Connect. These instructions are covered in the Getting Started document.

Main Dashboard

The dashboard is the first page you see after logging in.

\diamond	VULCAN RFID	Dashboard		2 Refresh O Upgrade	🖥 Export 🔹 🛱 Import 👻 🗑 Reset 👻
Vulca	n RFID™ Titanium	Device			
HOME © CONFI	Dushboard Monitor Insura.non RFID Read Modes Network & Time Samloss	IP 1723-68.200397 MAC 04:##38/2%b10 OFF Internet ONLINE RF Region FCC	Device ID VUL-FR-TTRNULM-4PG Vulcan RFID [™] Connect version 22800 Vulcan RFID [™] Connect uptime dum side RF subsystem 02/0143-2043-81-823010.6000 MCU subsystem 14.097050	Enabled se CSVService Simpler(TT USBHDService RestService	Nees
40	GPIO Test	Hardware			
•	Events & Actions	Device time 07/4/2024 t5057 (-5500) Uptime 0.05/2334	Disk partitions usage	Nar 25 %	Memory usage RAM 57 %
ି ।	RF Status: OFF STOPPED				Vulcan RHD ^W Connect Manager v2024



The dashboard displays a variety of useful information, such as:

- Device info IP address, MAC address, RF status, Internet availability, Vulcan RFID Connect version and uptime
- Enabled services All enabled services, regardless of their configuration
- Hardware info Time and date, reader uptime, memory usage

At the top of the dashboard is the toolbar.



- **Refresh -** Refresh the dashboard
- **Upgrade** Upgrade the Vulcan RFID Connect version, install SQL libraries, and install other programs onto the reader
- **Export** Export the system logs file, services configuration file, and device configuration file, as well as a CSV file of tag reads (which is configurable in the Services tab)
- Import Import device configuration file and services configuration file
- **Reset –** Reset the device to factory defaults, reset the reader logs and CSV data, and reboot Vulcan RFID Connect

Monitor Tab

The monitor is where you start and stop RF power, view the live stream of tag reads, and export the session's CSV file.

Note that the CSV file here is different than the one on the main Dashboard – the CSV from the Dashboard contains all data from when the reader was first powered on and is configurable in the Services tab. The CSV in the Monitor contains data from a single inventory session.

Quicer HOME	VULCAN RFID'	Monitor STOPPED RF Status: OFF Status: CONNECTED Device mode: AUTONOMOUS Read mode: AUTONOMOUS	5	0 Current Total	
0	Dashboard	FRO manhar		Ordensen B COD	
۵	Monitor	CPO MONIO		Courris - B Cov	
CONFR	OURATION	EPC	Port Mux1 Mux2 Location	RSSI Count Phase Time *	
(ŀ	RFID				
۰	Read Modes				
-	Network & Time				
	Services				
40	GPIO Test				
٠	Events & Actions				



RFID** Titanium	STARTED RF Status: CN Status: RF_ON Device mode: Autonomo Read mode: AUTONOM	ous							7 Current	7 Total
Deshboard	EPC monitor								Columns •	B CSV
IRATION	EPC	Port	Mund	Mux2	Location	RSSI	Count	Phase	Time *	
RFID	1000000	- 4	0	0		-67	1	110	12:29:4	6:779
Read Modes	2000000	4	0	0	¥	-64	1	57	12:29:4	6:778
Network & Time	11000000	4	0	0		-80	1	153	12:29:4	6:758
ervices	1a1e4d9c7839a4e528fc5c11	4	0	0	-	-83	1	101	12:29:4	6:755
SPIO Test	22000000	4		0		-71	1	48	12:29:4	6:740
ivents & Actions	2100000	4	0	0		-65	1	52	12:29:4	6:736
	1a6e4d9c7839a4e458d84cd3	4	0	0		-76	1	67	12:29:4	6:524

You can also use the Monitor to quickly write to tags.

Monitor							
STOPPED	RF Status: Of Status: STOF Device Mode	EPC: e2801191a50)200603()93e173	93e173		
	Read Mode:	EPC & Pwd	Memo	ory Access	Kill Tag		
EPC Monitor		Change EPC					
EFC Monitor		New EPC		Access pas	sword		
EPC		e2801191a50200)6)		••••		
<u>e2801191a5020</u>	0603093e173	16-256 hex chars, m of 4	ultiple	0-8 hex chara	acters		
<u>ac00000000000</u>	<u>00000000010</u>	Change passw	ords				
<u>e280689400005</u>	01779176976	New access pass	word	New kill pas	sword		
22000000			•••				
<u>1a1e623d4289a</u>	<u>4d64a3e0658</u>	U-8 hex characters		U-8 hex chara	acters		
<u>4e48313435393</u>	938					Þ	
000000000000	02429511075		4	0	0		

RFID Tab

The RFID tab is where you configure the Titanium's RFID parameters.



🔶 VULCAN RFID	RFID						B Save	Export
Woen RFID ^{ree} Titenium	RFID Settings							Expert
OME	Region	FCC	~	Road trig	iger	None		v
Dashboard	Power (dBm)	30.0	~	GPLline		2		~
Monitor	Sensitivity (dBm)	-85	~	Trigger o	onfig			4
IFIGURATION	Write power (dBm)	27.5	~	EPCGen	20	Q_6		~
P REID	Session	50	~	EPCGen	2 mod	M2		~
Read Modes	Targot	AB	~	EPCGen	2 Tari	TARI6_2	5	~
Network & Time				EPCGen	2 BLF			~
Services								
GPIO Test	Antennar					ine Billoload	B Template	Personal I
Events & Actions	Porterinas					ien L opene		Northpard and
	Port Mux1	Mux2	Power	Sensitivity	Location		Orientation	Tools
	1 v none v	none v	inherit ~	inherit v	antennal1,0,0		None	
RF Status: OFF								
STOPPED							Videan	ED ^{ar} Connect Mar

- **Region -** Select your operating region
- Power/Sensitivity Choose your preferred transmit power and reader sensitivity
- Session/Target Choose the reader session and search target
- **Read Trigger –** Configure GPI triggeres to start/stop RF operations
- Antennas Add or remove antennas manually or download a template to upload antennas in bulk
- Save Save the current settings
- Export Export the current settings to a xml file

For more detailed information on configuring the RFID settings, please visit vulcanRFID.com/support or email info@vulcanRFID.com.

Read Modes Tab

The Read Modes tab is where you choose settings for how the reader will take inventory.

Titanium	Device mode	Autonomous	~	Start on boot	
	Read mode	AUTONOMOUS	¥	Start the RF operation automatically when powering it up C Koop always running	
hboard				Start the RF operation automatically after a 5 minutes span	
nitor					
ON	General Settings Off	ntervals EPCGen2 Filter FastID	TagFocus Enab	le TID Read Start-Up Filters	
0	East arrange switching				
d Modes	PE On time Inst. 0				
work & Time	600				~
Aces	RF Off time (ms)				
O Test	0				~
nts & Actions	Use fixed antenna read	time O			
	Generate TAG_READ e	vonts O			
	Generate TAG_DIREC	ION events			
	Time scan in stdisabled-1	0			
	4				~
	Evonts TTL (ms) O				
	1000				~
	Advanced JSON conf @				
2003 PM					/ _
UE OFF					

Device and Read Mode:

1. Autonomous (default)

- AUTONOMOUS: The reader schedules antenna switching automatically between the available RF ports (1, 2, 3 or 4).
- AUTONOMOUS_TRACK_MISSING: Keeps a list of continuously read tags and generates an event when one of the controlled tags has left the field of view.
- SCAN: To be used at read points where we want information on tags passing through the field of view. Not designed to inventory static tags.

2. Sequential

- SEQUENTIAL: The reader waits for read commands.
- **DYNAMIC_INVENTORY**: Keeps track of tags in the field and generates TAG_ADD and TAG_REMOVED events.

EPCGen2 Filter: Enable Tag Filtering

ad modes				Save	Expor
evice mode ead mode	Autonomous AUTONOMOUS	* *	 Start on boot Start the RF operation automatically when powering it up Keep always running Start the RF operation automatically after a 5 minutes span 		
General Settings Off Inte Mask offset (bits)	rvals EPCGen2 Filter FastID TagFo	ocus Enal	ole TID Read Start-Up Filters		
32 Filter mask (hex) 🛛					~
Mask length (bits) 🕑					
0					~
U					



Network and Time Tab

The Network and Time tab is where you choose the reader's date and time, as well as configure a static IP address.

an R/ID* Titanium	Method				
	CHOP V				
6	IP Address	Mank		Outoway	
Deshboard	192.168.200.62	/04 (255.255.255.0)	~	\$P2.568.200.1	
Monitor	Multiple a solid P			Must be a valid SP	
Dola illa d'Inche	DNS addresses		NTP Servers		
100	88888844		O europe pool stp.org.t.eu	ope.pool.ntp.org.D.north-america.pool.ntp.org.1.north-ameri	(a.p.
port.	One or more IPs, separated by menetaet		One or more Ehchoelmannes, sepa	estad by constant	
Read Modes					
Network & Time	B Seve				
Services					
OPIO Test	Data		Tene		
Events & Actions	06/23/2024		11:20:10 AM		0
	MADAGenyy				
	TimeZone				
	America/Winvipeg				w.
	E Seve				
If Status Of T					

Services Tab

Enable and configure data output in the Services tab.

VULCAN RFID	Services
Vulcan RFID™ Titanium	Advanced
HOME	RestService Enabled
🕒 Dashboard	USBHIDService
 Monitor 	SQLService
CONFIGURATION	
중 RFID	MQTTService
Read Modes	CSVService Enabled
器 Network & Time	HamachiService
E Services	
▲ Ø GPIO Test	

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REST Service – Configure the REST API authentication method.

USB HID Service - Enable and configure USB HID emulation.

SQL Service – Enable and configure data output to a SQL-compatible database. Requires installing required SQL libraries.

MQTT Service – Enable and configure data output to MQTT brokers.

CSV Service – Configure the CSV file that comes from the Export button on the main Dashboard.

Hamachi Service – Enable and configure a VPN through Hamachi. Requires an existing LogMeIn account.

HTTP Service - More advanced configuration than Simple HTTP Service.

Simple HTTP Service – Enable and configure data output to an HTTP endpoint in either XML or JSON.

For more detailed information on configuring services, please visit vulcanRFID.com/support or email info@vulcanRFID.com.

GPIO Test Tab

Here, you can test GPIO connections to ensure they work properly.

	*	OPI	OPO	-					
	1			Total duration	200 ms	~	Total duration	200 ms	~
		•	۰	Time on	50 ms	~	Time on	200 ms	~
	2	•	۰.	Time off	0 ms	~	Time off	0 ms	~
	3	•	•	Frequency	1000	~		40 Test	
	4	•	۲	Volume	1	~			
	5	•	۰		40 Tost				
	6	•	۲						
6	7	•	۲						
	8	•	۲						
	9		۲						
	10	•	۲						
	11	•	۲						



Events and Actions Tab

Under Events & Actions, you can configure the GPIO trigger and action details.

	SYSTEM STARTING UP	SPEAKER ACTION	× 68
shboard			
Aonitor	Frequency 042		
IATION	5000		v
RFID	Volume O		
Read Modes	1		~
Network & Time	On time (ms) O		
Services	50		~
GPIO Test	Off time (ms) O		
Events & Actions	0		~
	Total time (ms) O		
	200		v

For more detailed information on configuring GPIO, please visit vulcanRFID. com/support or email info@vulcanRFID.com.

