

Surface Trak - Smart RFID Table Surfaces



Intelligent RFID Tracking in an Integrated RFID Surface

The RFID Surface solution from Venture Research provides the state of the art in tracking solutions where there is a need for a low profile RFID reading surface that can cover large surface areas in an industrial setting. Suitable for tool management, packaging and shipping stations, receiving stations, mobile shelf carts and anywhere that an integrated large surface reader and antenna array is required.

Eliminates the need for Cabinet or Drawer storage

For the first time, tools and critical assets can be left in the work area and tracked without the daily task of moving tools and assets to a cabinet or drawer storage area. Studies have shown up to an hour a day is saved for each person that is required to manage their tools using drawer and cabinet storage systems.

Tool or WIP Tracking

The Surface Trak solution can be used to manage tools but also as a work surface for the movement of materials across a work area to perform work in process tracking. Tracking of start and end times of a particular process can now be performed automatically. As items are being assembled in a work area, if they are tagged, automatic capture of serialized items can be performed without scanning or paperwork.

Critical Asset Management

The Surface Trak combines the state of the art in RFID and IoT technology by providing a large surface antenna array for reading of items with RFID tags but also Low Energy Bluetooth active tag support for critical assets that must still be read up to 100' away from the surface.

Rugged Surface

The exclusive stacked layer construction of the surface provides the utmost in resilience to heavy tools and materials that are placed on the surface. Surfaces can be cleaned with ordinary cleaning solutions.

Intelligent Store and Forward ready for Cloud computing

All Venture Research products provide an exclusive store and forward capability to allow direct interaction with the Cloud. Surfaces can run autonomously without network connection if required and still collect critical asset movement.

24 x 7 x 365 Support

Venture Research maintains a world class support organization that can provide real time monitoring and alerting of system operability. All hardware products from Venture Research contain automatic self-diagnosis and alerting. Connecting the product to the remote Venture Research monitoring system called SiteWatch, allows non-stop read point sensing for mission critical applications.

Surface Trak shown on a 3' x 6' table surface managing tools

Some of the applications where Surface Trak has been used to Trak Assets:

- Tool Management
- WIP and Manufacturing
- Kanban Replenish
- Packout Stations
- Check in/Check out stations
- Packaging and Shipping Stations

Product Features

Features	Benefits
Antennas and Readers are a single and continuous surface	No need to wire separate components together
Both passive RFID and IoT active technology in the same reader	Provides asset tracking on the surface and up to 100' away from the surface
Tri Color LED on Edges	Gives operator feedback directly without the need of a computer or screen
Integral store and forward capability for all transactions	Ready for the cloud
Sizes of surfaces from 9" x 9" up to 3' by 6'*	Flexibility to fit the surface in any work area
POE (Power over Ethernet) capable	Reduces cabling and power requirements
Optional battery power	Can be used on mobile carts

* Specify surface/table size at time of order up to 3' by 6'

Specifications

Electrical Specifications

Model	SHELF_RDR_001_XX
RFID Reader	1 Watt (30 dBm) class 1 GEN2 (ISO 18006c) reader, US (902-928 Mhz)(European frequencies ETSI - 865-868 Mhz also available)
RF Shelf Interfacing	Single 12V cable with CANBUS protocol. Up to 4 surfaces can be daisy chained
Power	POE or direct connect at 12V - 1.5 A, optional battery backup
Diagnostic Indicators	Red, Yellow and Green diffuse LED's for local notification and diagnostics
Edge LED's	Programmable Edge LED's - R, Y, G Modulated
RFID Antennas	Exclusive Venture Research Array antennas

Interfacing

Connection	Serial, Aux Serial, Ethernet Cat5/6 (RJ45), USB-A, Wifi (802.11 b/g), BLE, CAN Bus, Optional Cellular
Protocol	Simple text based configuration and tag read stream (via Telnet). Online help is built in for all commands. Up to 5 independent simultaneous sessions.
Cloud Computing	Store and Forward with all filtering / aggregation being performed in the reader. Direct Web Service update capability using HTTP Post. SD Card storage.
Optional Sensors	Biometrics, Card, HF Badge, Camera, Floor mat sensor, motion sensor
BLE (Low Energy Bluetooth)	Can read both Eddystone and iBeacon protocols
I/O	2 In / 2 Out Conditioned

Display

Edge LED's	R,Y,G continuously variable programmable LEDs for operator feedback
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Specifications are subject to change without notice

Software/OS

Operating System	Open embedded Linux, Optional Android 4.X
Applications	Tool Management, Tag Verification, Material Expiration, BLE tracker, Tag Encoding, Check in/out

Base Surface Trak Configurations

Reader Surface - Base	SHELF_RDR_001_XX
Options	

Power	Part Number
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Battery Backup	SHELF_RDR-OPT-BATT-PACK
Battery Charger – Single Battery	SHELF_RDR-OPT-BATT-CHRG1
Battery Charger – Quad Battery	SHELF_RDR-OPT-BATT-CHRG4
Spare Battery	SHELF_RDR-OPT-BATT
POE Injector – 48v	SHELF_RDR-OPT-INJECT

Communications

4G LTE Module	SHELF_RDR-OPT-CELL
Carrier Service – 1 Year	SHELF_RDR-OPT-CELL-CARRIER

Sensor

Mat Sensor - 3'x1.5'	SHELF_RDR-OPT_MAT
External Input (PIR Motion Sense)	SHELF_RDR-OPT-PIR
Facial Recognition	SHELF_RDR-OPT-FACEREC

Operating System

Open Embedded Linux	SHELF_RDR-OPT_OS-LINUX
Android 4.0	SHELF_RDR-OPT_OS_Android4

Cabling

CANBUS Interconnect Cable 15'	SHELF_RDR-OPT_CAN_15
Serial Interface Cable to USB	SHELF_RDR-OPT-USB-SER

Notes

- Cellular requires yearly service contract
- Specify service provider at time of order (AT&T, Verizon, T-Mobile, Sprint)
- Each surface has a CANBUS interface to daisy chain additional surfaces together.
- ETSI / EU – 865-868 MHZ Version available at extra cost
- Specify surface size at time of order

Warranty

- 1 year parts and labor
- 1 year, post 1 year maintenance agreement available