7 Drawer, Rugged Deployed, w/Switch E-Tools Mobile Manager Cabinet (EMMC)

Part # 510-1167-F01-00
Part # 510-1167-F21-00

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Tracewell Systems

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Theory of Application

The Tracewell 7 Drawer Rugged Deployed E-Tool Mobile Manager Cabinet (EMMC) is an answer to the Defense and Commercial Industries' initiative to implement and field electronic media platforms and tools, reducing the reliance on traditional paper bound manuals.

The Tracewell Systems EMM provides a storage, transport, and charging system with a single-point LAN connection for a wide variety of E-Tool platforms in a lightweight and rugged cabinet, enabling worldwide use and operation in harsh environments.

Physical Requirements:
The system is ruggedized to withstand harsh transport and handling without degrading system functionality. The system does not exceed 140 lbs. when empty. The system does not exceed 36" in height when in the shipping configuration. The cabinet contains, protects, and secures 7 laptop-size E-Tools in a variety of sizes, PDAs, batteries and chargers from damage during shipment and from theft.

Environmental Requirements:
The system operates in harsh environments and temperatures from 0ºC to +50ºC. The system maintains a filtered, cooling airflow for each drawer. The system is weather tight when in shipping configuration, and is externally resistant to water and most corrosive chemicals when sealed and not degrade its functionality or appearance from exposure.

Handling Requirements:
The system is capable of being wheeled while in its operating configuration for handling during daily use. Wheels are removable and storable for transport. The system is stackable and interlockable to two units high without tipping during shipment and operation.

Theory of Operation and Design

The Tracewell Systems solution ensures the availability, security and protection of the E-Tools.

Availability is defined as E-Tools that have the most current technical data and sufficient electrical charge for operators and technicians to use anywhere in the world. The system features a universal AC receptacle in each drawer that accepts most of the world's standard line cord plugs. This allows any laptop battery charger to be used, no matter where the system is located. Each drawer has separate current limiting to protect the system from individual device failures.

While charging, the E-Tools and the system itself require cooling air to prevent over-temperature conditions. The system provides metered airflow through each drawer by using a speed controlled fan pressurizing a central plenum and distributing air throughout the chassis and drawers. The system's temperature sensitive components are housed inside the plenum, providing a compact design. The input air is filtered through washable media for particulates. Current E-Tools data is provided by a single-point LAN connection to an Ethernet switch. From the Ethernet switch data is distributed to each drawer and then to each E-Tool mounted and wired in the drawer.

E-Tools are secured through a single-point locking mechanism, allowing operators to lock every drawer with a locking device for transport and security measures to prevent theft.

To protect E-Tools, the system itself is designed to withstand harsh handling and environmental conditions. The lightweight, all aluminum chassis is laser stitch welded for a close tolerance component fit and structural strength. The doors are a honeycomb synthetic material within an aluminum frame mating to gasket material to form a weather-tight seal. Both the chassis and the doors are coated with an impervious, abrasion and corrosive resistant polyurethane. The combination of door, chassis, and coating make a weather-tight seal in the shipping configuration. Internally, each E-Tool and accessory is secured to its individual storage drawer with a multi-point, Velcro-strapping system that securely holds a variety of E-Tools sizes and shapes.

The system is designed for easy operation and mobilization with minimal training, including a single-point LAN connection, single-point power connection, tool free set-up and packing, quick release latches and casters, self storage for all components, quick reference spares listing, and easily replaceable COTS components. Total setup or packing time is designed to be less than 15 minutes.

About this manual:

This manual covers two variations of the 510-1167 product line, F01 and F21. The F21 cabinet has a Juniper managed switch mounted on the inside of the rear plenum door. The F01 cabinet has an Netgear passive network switch mounted on the outside of the rear plenum. Also, the F01 cabinet has modified mounting foot plates on the top. When two cabinets are stacked, these modified plates allow the use of separate hold-down straps for the upper and lower cabinets.

Operational Warning Notification

FAILURE TO ADHERE TO THE FOLLOWING WARNINGS CAN RESULT IN OPERATIONAL AND/OR CATASTROHPIC DAMAGE TO THE CABINET AND DEATH OR SERIOUS INJURY TO THE OPERATOR.

Danger: High Voltage

Warning: DO NOT Stack More Than 2 High
Warning: Use Locking Pins When Stacked
Warning: DO NOT Extend More Than 1 Drawer At A Time Per Column

Caution: 2-Person Lift
Caution: Insure AC Input Power Conforms To System Specifications
Caution: Remove Front And Rear Doors Prior To Operation
Caution: Do Not Fork Lift
Caution: Keep Fan Doors Closed During Operation
Caution: Place On Level Floor
Caution: Lock Wheels Prior To Use
Caution: Fully Extend Wall Stand-off To Stop Prior To Use And Insert Locking Pin

Note: Do Not Use Silicone-Based Products on Surface Coating

Transportation Storage & Set Up

Tools Required:

NO TOOLS REQUIRED— DO NOT UTILIZE ANY OBJECT TO OPEN DOORS OR INSERT CASTERS.

Securing Unit for Mobilization:

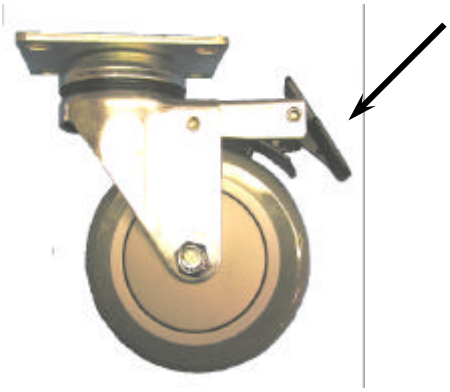
- ENSURE ALL E-TOOLS ARE POWERED DOWN
- ENSURE ALL DRAWERS ARE FREE OF FOREIGN OBJECTS
- UTILIZE VELCRO STRAPS TO ENSURE ALL E-TOOLS ARE SECURE
- UTILIZE VELCRO STRAPS TO ENSURE ALL SPARE BATTERIES AND MATERIALS ARE SECURE
- UNPLUG ALL LAPTOPS FROM THE DRAWER AC POWER OUTLETS
- SLIDE LOCKING MECHANISM INTO LOCKED POSITION
- REMOVE ALL EXTERNAL CABLING FROM REAR OF UNIT AND PLACE IN STORAGE BAG
- REMOVE PIN AND RETRACT WALL STAND-OFF AND REINSERT PIN
- REMOVE ANY FOREIGN DEBRIS FROM AIR FILTER OR OTHER AREA OF UNIT
- ENSURE ALL INTERNAL DOORS ARE SECURED
- REMOVE FOOT MOUNTING PLATES FROM STORAGE BRACKET INSIDE UNIT (X4)
- REMOVE CASTERS FROM MOUNTING BLOCKS ON BOTTOM OF CHASSIS AND SECURE INTO STORAGE BRACKET INSIDE UNIT(X4)
- INSTALL FOOT MOUNTING PLATES INTO QUICK CHANGE MOUNTING BLOCKS ON BOTTOM OF CHASSIS (X4)
- PLACE EXTERNAL DOORS ON UNIT ENSURING THAT GASKET HAS FIRM SEAL
- SECURE DOOR LATCHING MECHANISM TO LATCHED POSITION

Un-securing Unit from Mobilization:

- REMOVE EXTERIOR DOORS
- REMOVE FOOT MOUNTING PLATES FROM EXTERNAL MOUNTING BLOCKS
- REMOVE CASTERS FROM STORAGE AND INSERT INTO MOUNTING BLOCKS
- INSTALL FOOT MOUNTING PLATES INTO STORAGE MOUNTING BRACKET INSIDE UNIT
- EXTEND AND SECURE THE WALL STANDOFF
- ENSURE AC POWER INPUT TO SYSTEM MEETS MANUAL SPECIFICATIONS PRIOR TO PLUGGING IN
- RELEASE LOCKING MECHANISM
- BEFORE OPENING EACH DRAWER, VISUALLY INSPECT FOR ANY EQUIPMENT THAT HAS SHIFTED OR BECOME UN-SECURED DURING TRANSIT
- REMOVE VELCRO STRAPS FROM E-TOOLS
- PRIOR TO THE INITIAL EMMC POWER UP, ENSURE ALL LAPTOPS ARE UNPLUGGED FROM THE DRAWER AC POWER OUTLETS, START EMMC, ALLOW TO RUN THROUGH START SEQUENCE, THEN PLUG IN THE LAPTOPS

Casters

Caster Lock
Down = Locked
Up = Unlocked
Note = Locks both the wheel and the swivel.



Quick Change Mounting Block
Depress tab to lock caster mounting plate, or foot mounting plate (shown) into place.

Caster Storage
Storage Bracket is located on the inside left wall of the chassis.
Note– Always lock casters when storing.

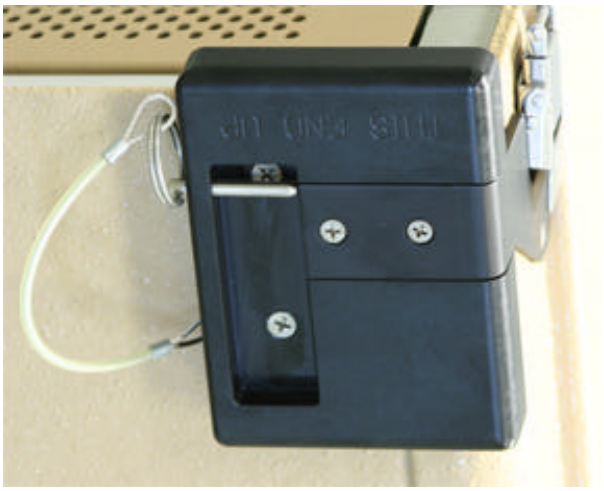
Quick Change Mounting Blocks (On bottom of chassis)
Insert caster mounting plates or foot mounting plates in direction of arrows.

Stacking Units

Before stacking chassis, remove the locking pins from four corners on top of the chassis.

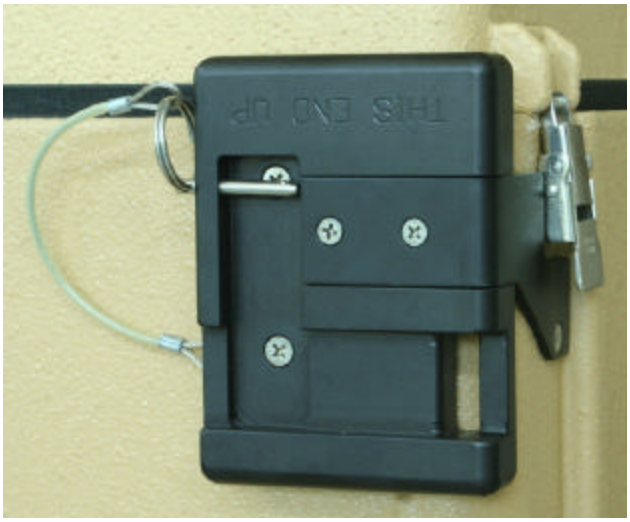
F21 cabinet shown

The F21 cabinet is designed for a Single pair of mounting straps that go over the top of the upper cabinet when two units are stacked.



F01 cabinet shown

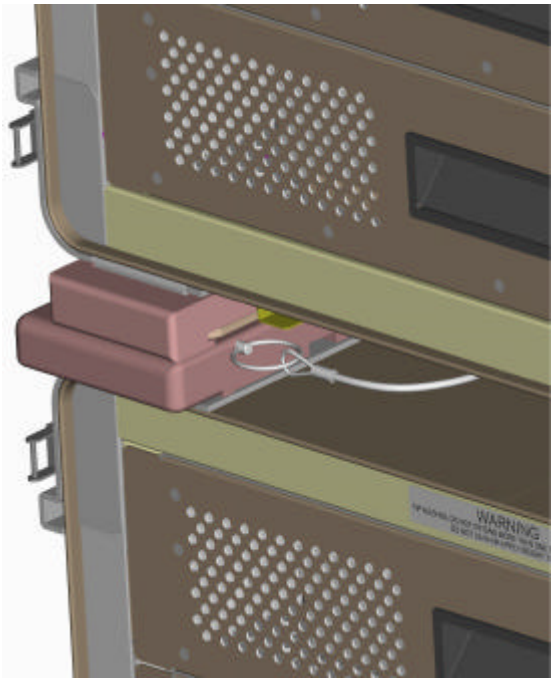
The F01 cabinet stacking blocks have a trench machined into the surface for a retaining strap. The lower cabinet can have an independent pair of straps that do not interfere with attaching the upper cabinet.



Insert Foot Mounting Plates into Quick Change Mounting Blocks on bottom of chassis. Lock casters in storage bracket in rear of chassis.

Stacking Units

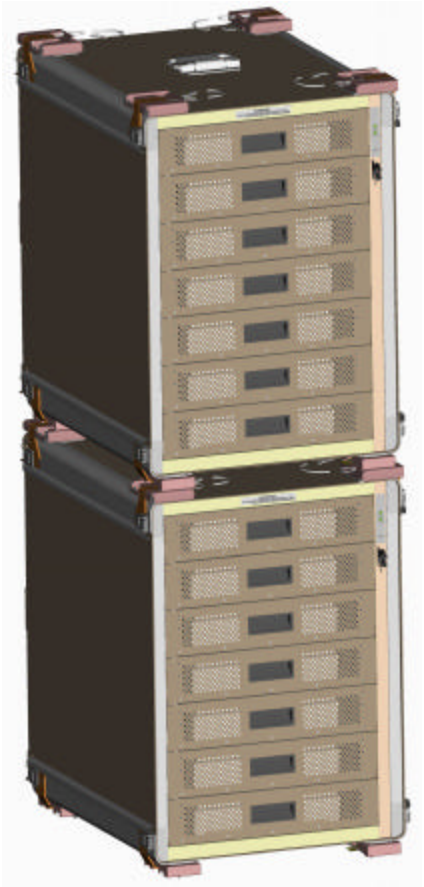
Once chassis are stacked, re-insert the locking pins on top of lower cabinet through the Foot Mounting Plates on the upper cabinet.



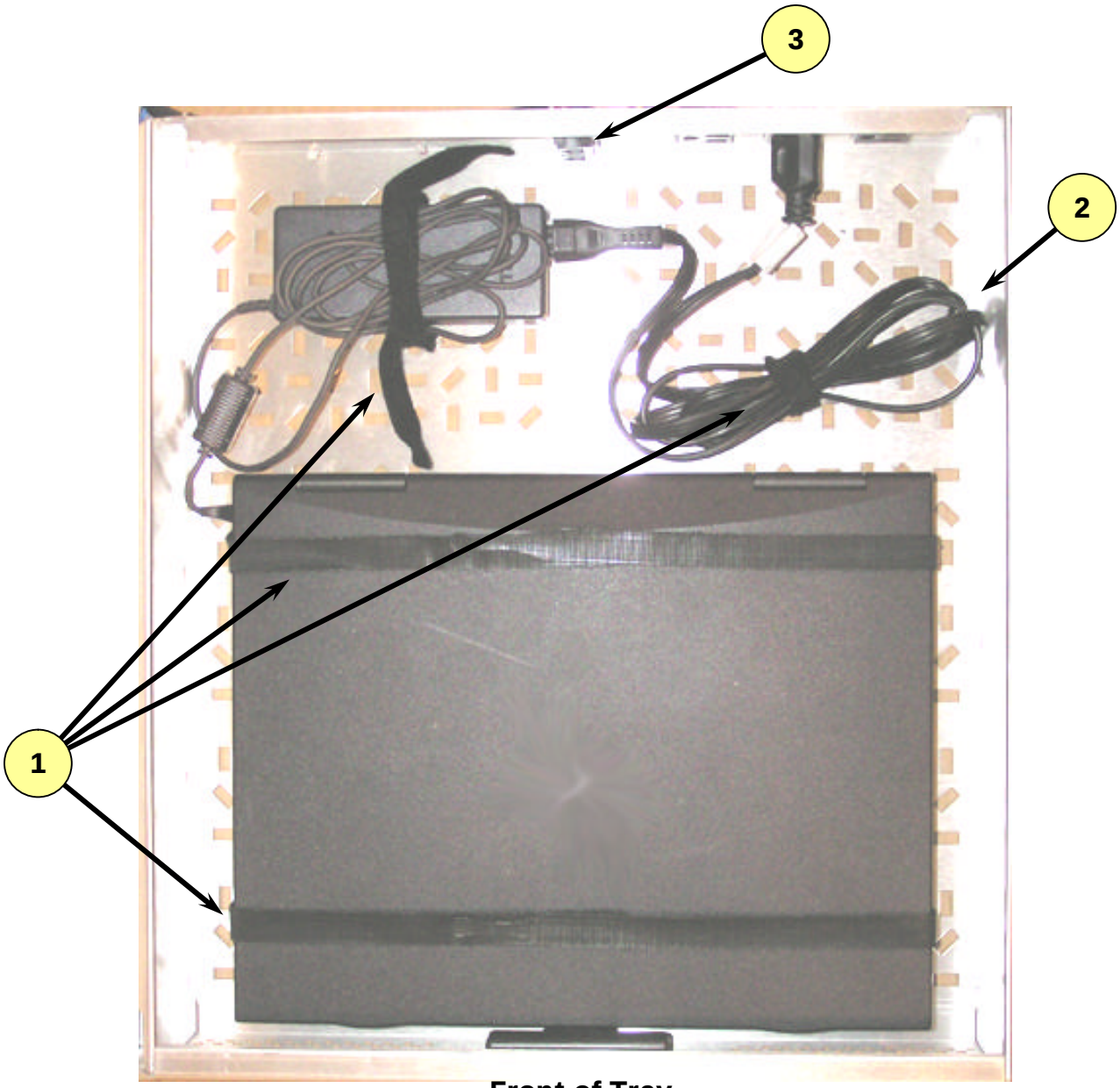
Cabinets can be stacked 2 high.
Notes:

Make sure licking pins are installed after stacking.

Make sure unused casters are locked in the rear storage area.



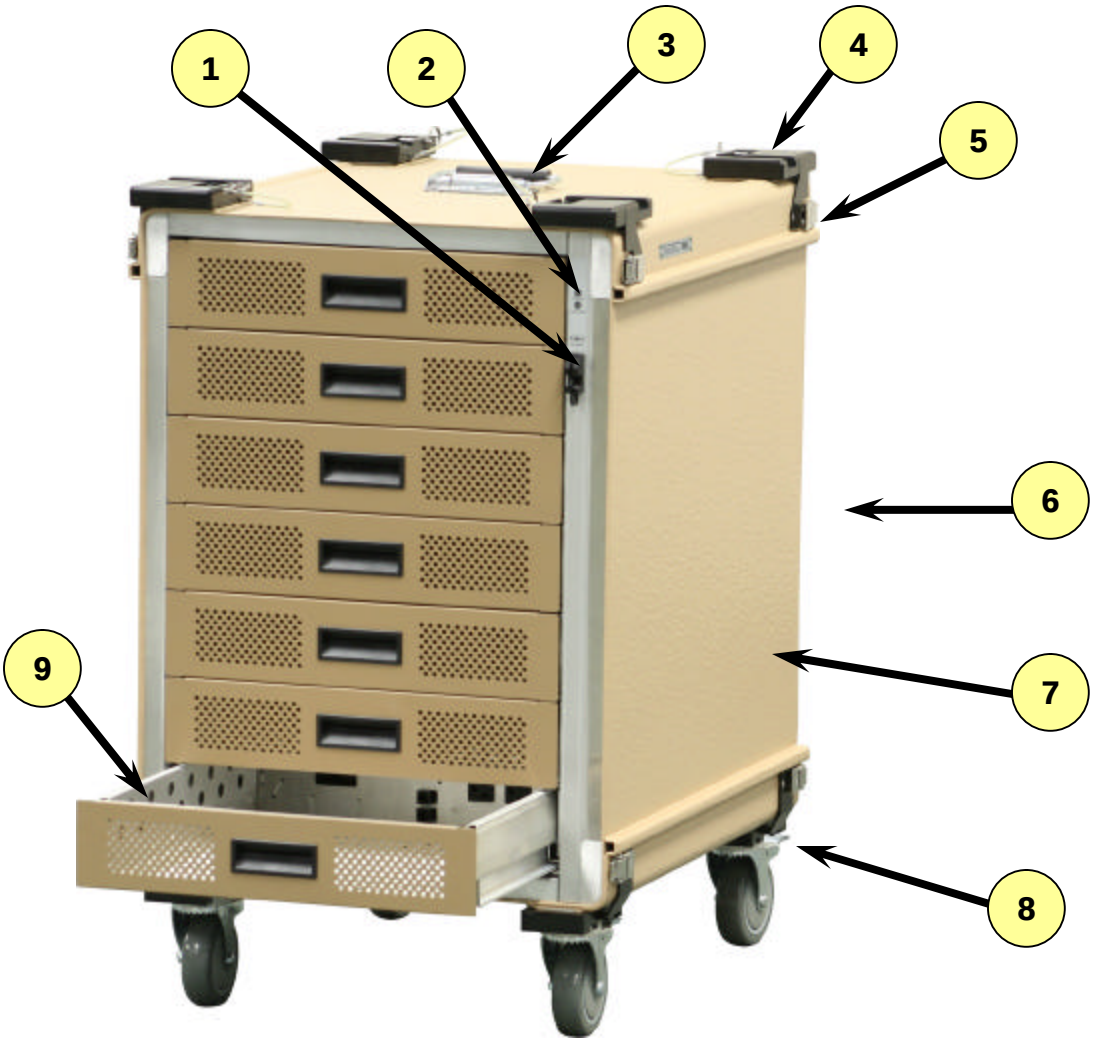
Drawer Diagram (Top Down with E-Tool Strapped In Place)



Front of Tray

1. **Velcro Straps**
2. **AC Line Cord Receptacle (3)**
3. **Network Connector (2)**

Unit Diagram View with Component Description (Front)



1. Single Point Locking Mechanism
2. LED Display
3. Lifting Handle, Top and Bottom
4. Stacking Inter-lock With Pins
5. Door Latch
6. Warning Labels, Rear Panel
7. Chassis
8. Quick Release Caster
9. E-Tool Drawer

Diagram of Status Indicators and Lock Block

Status Indicators Features:

Cooling status Light Emitting Diode (LED) on front of the chassis

- Green - Fans operating, ambient temp is in operational zone
- Amber Flashing - Fans operating below 50% of desired speed
- Amber - inlet temp is >40C 'warm'.
- Red Flashing - Fans operating below 25% of desired speed
- Red - Inlet temp is >50C.

Power status LED on front of the chassis

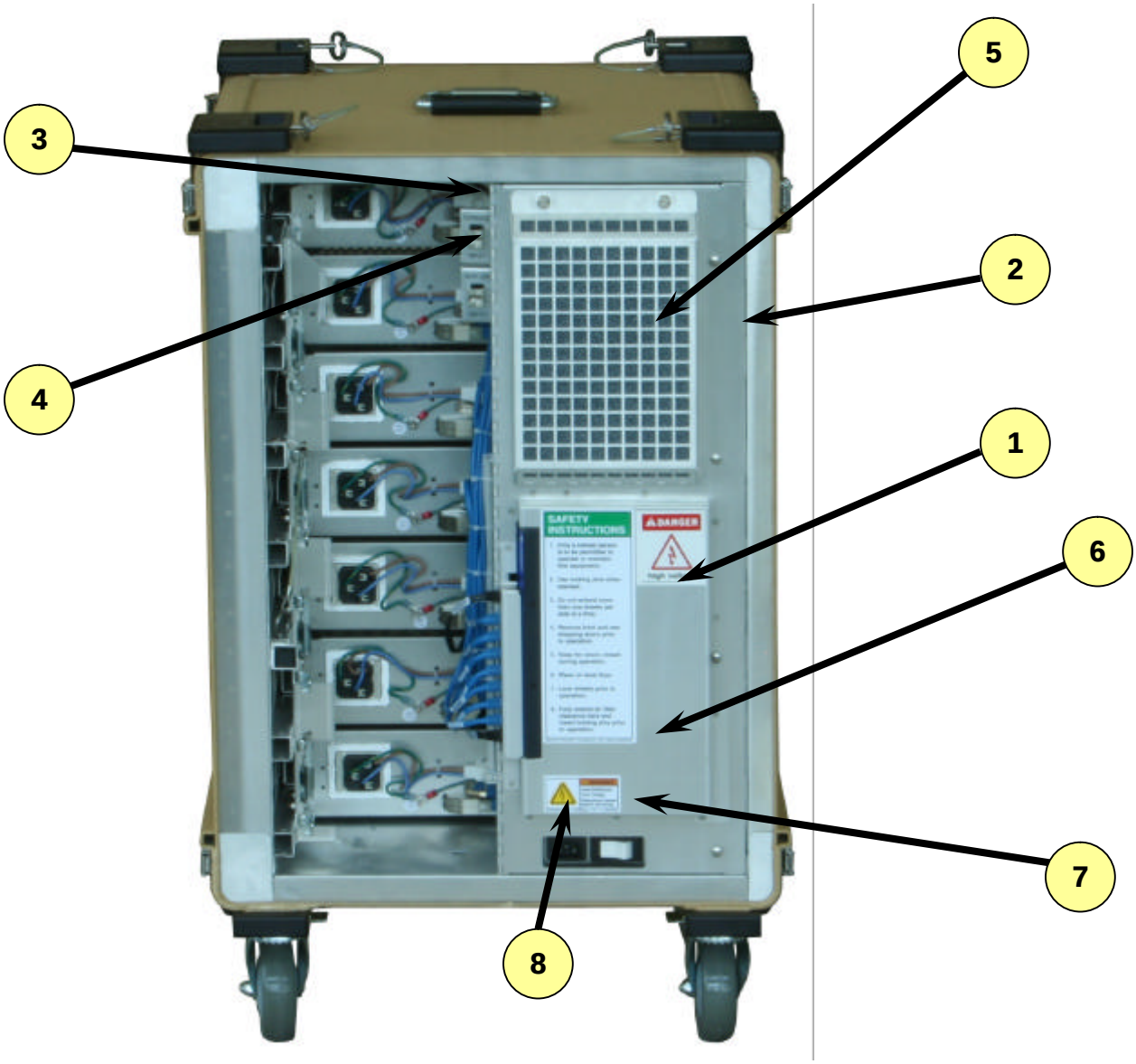
- Green – 12V Cooling Fan Power Supply OK
- Red - 12V Cooling Fan Power Supply Fail

(These are the two LEDs on the front of the chassis)

Lock Block

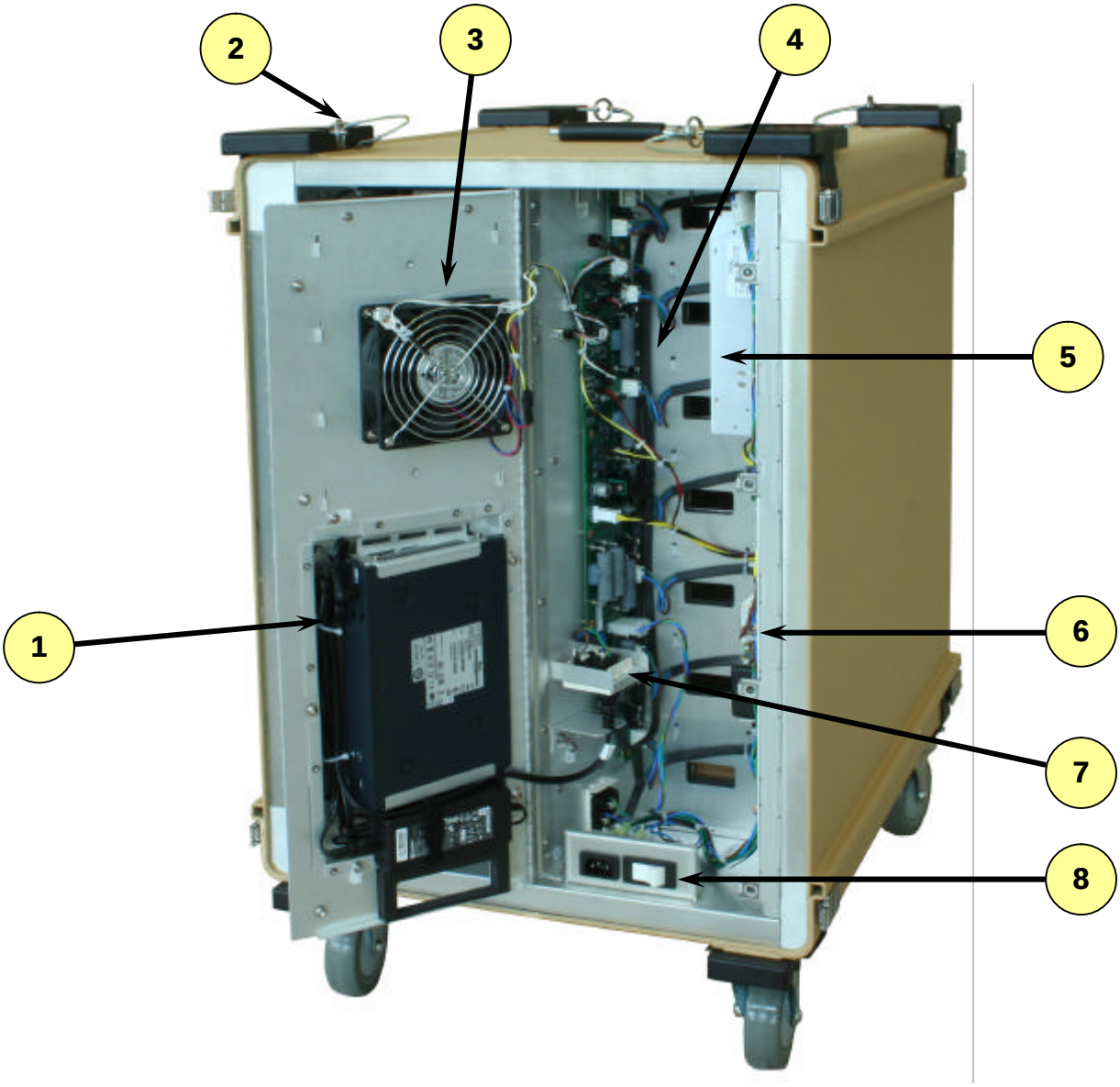
The Lock Block on the front of the chassis is designed for use with locks that have a 5/16" shackle diameter.

Unit Diagram View with Component Description (Rear, F21 Cabinet)



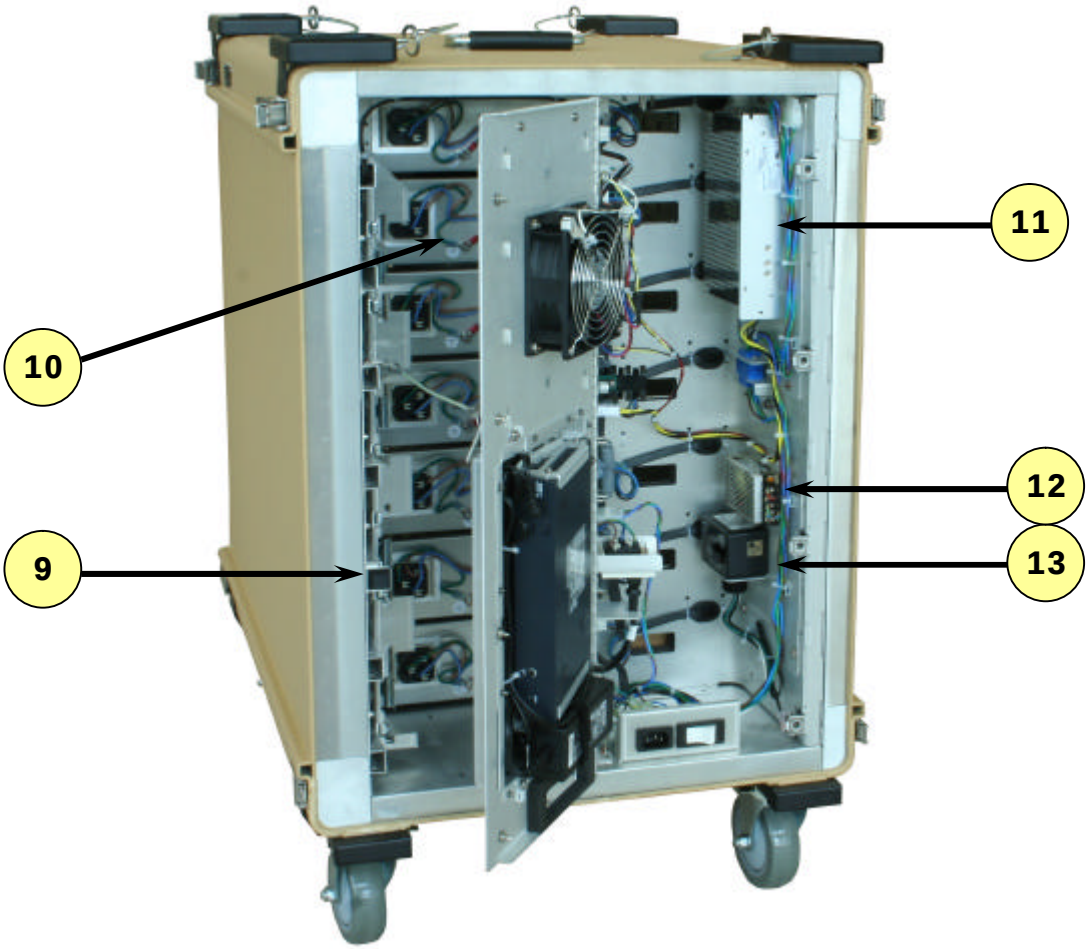
1. Ethernet Switch
2. Pressurized Air Plenum
3. Console Connection
4. Single Point LAN Connection
5. Fan Filter Cover
6. Manufacturer's Label With Mfg. S/N and Customer Ref S/N
7. Power On/Off Switch/Breaker
8. AC Power Cord Receptacle

Unit Diagram View with Component Description (Rear Door Open, F21 Cabinet)



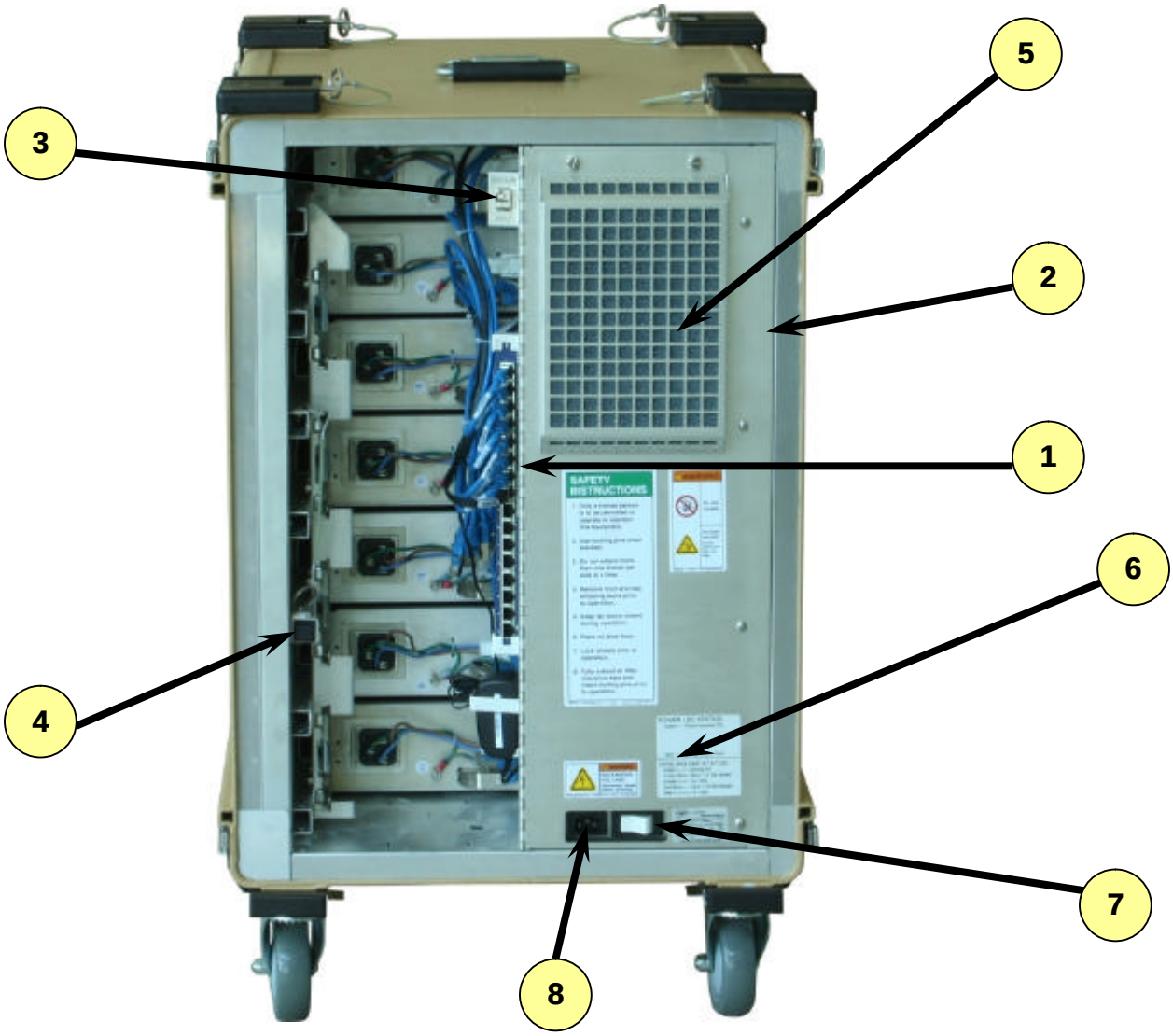
1. Juniper Network Switch
2. Locking Pin With Lanyard (4X)
3. Fan
4. AC Distribution PCB with SMM
5. Fan Power Supply
6. SMM Power Supply
7. Network Switch AC Outlet
8. Power On/Off Switch/Breaker

Unit Diagram View with Component Description (Rear Door Open, F21 Cabinet)



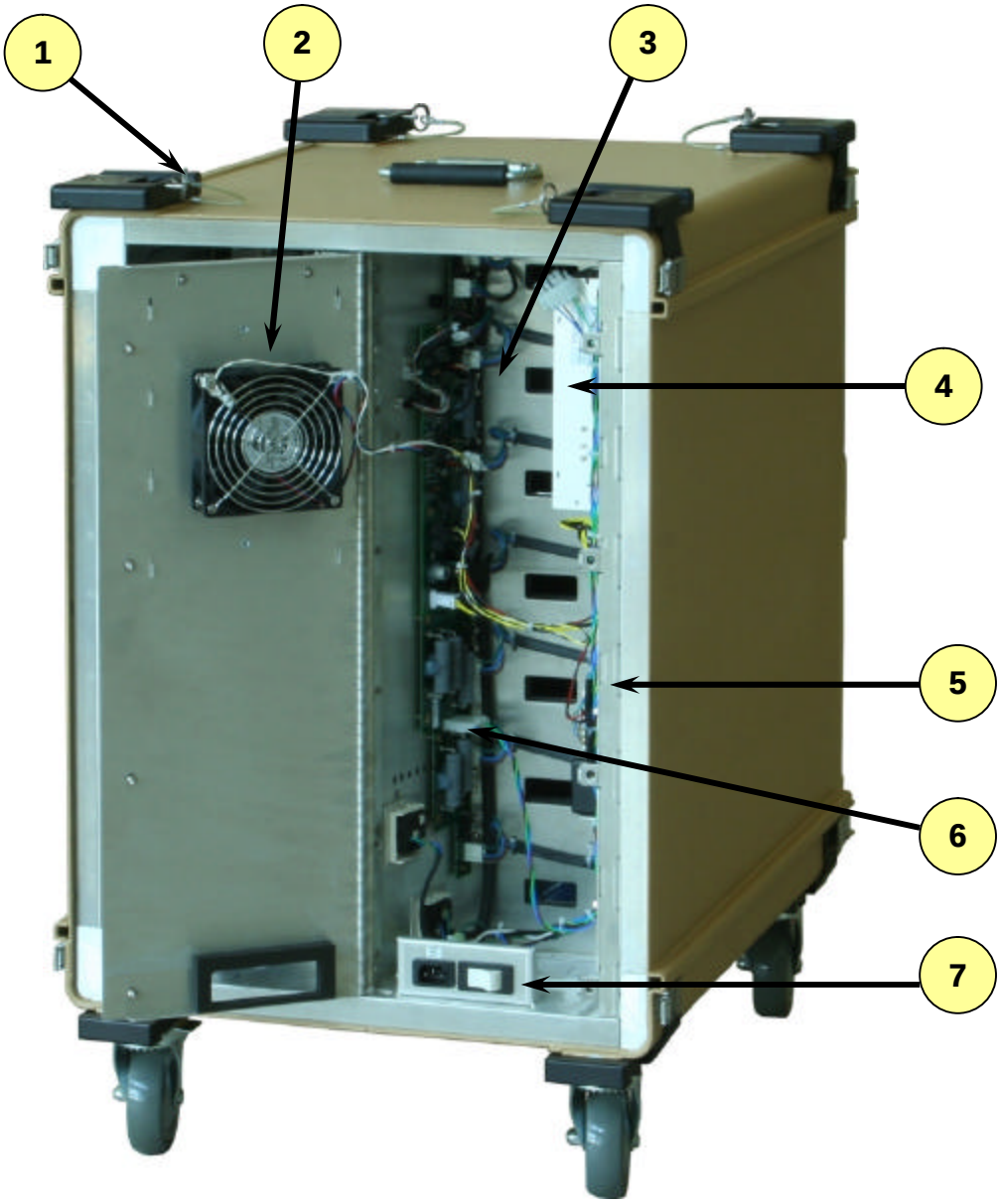
9. Wall Stand-off
10. Retractable Tray Harness
11. Fan Power Supply
12. System Monitor Power Supply
13. AC Power Transient Protection

Unit Diagram View with Component Description (Rear, F01 Cabinet)



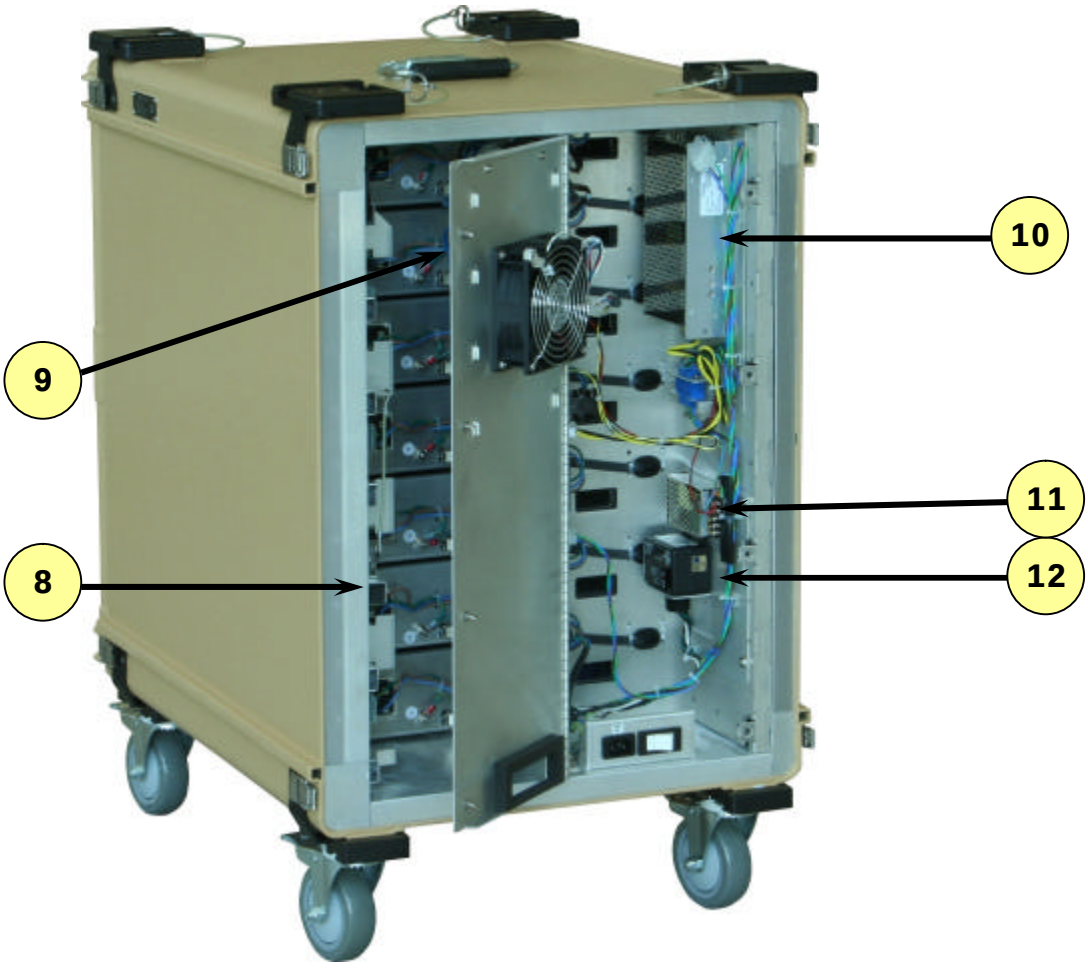
1. Ethernet Switch
2. Pressurized Air Plenum
3. Single Point LAN Connection
4. Wall Stand-off
5. Fan Filter Cover
6. Manufacturer's Label With Mfg. S/N and Customer Ref S/N
7. Power On/Off Switch/Breaker
8. AC Power Cord Receptacle

Unit Diagram View with Component Description (Rear Door Open, F01 Cabinet)



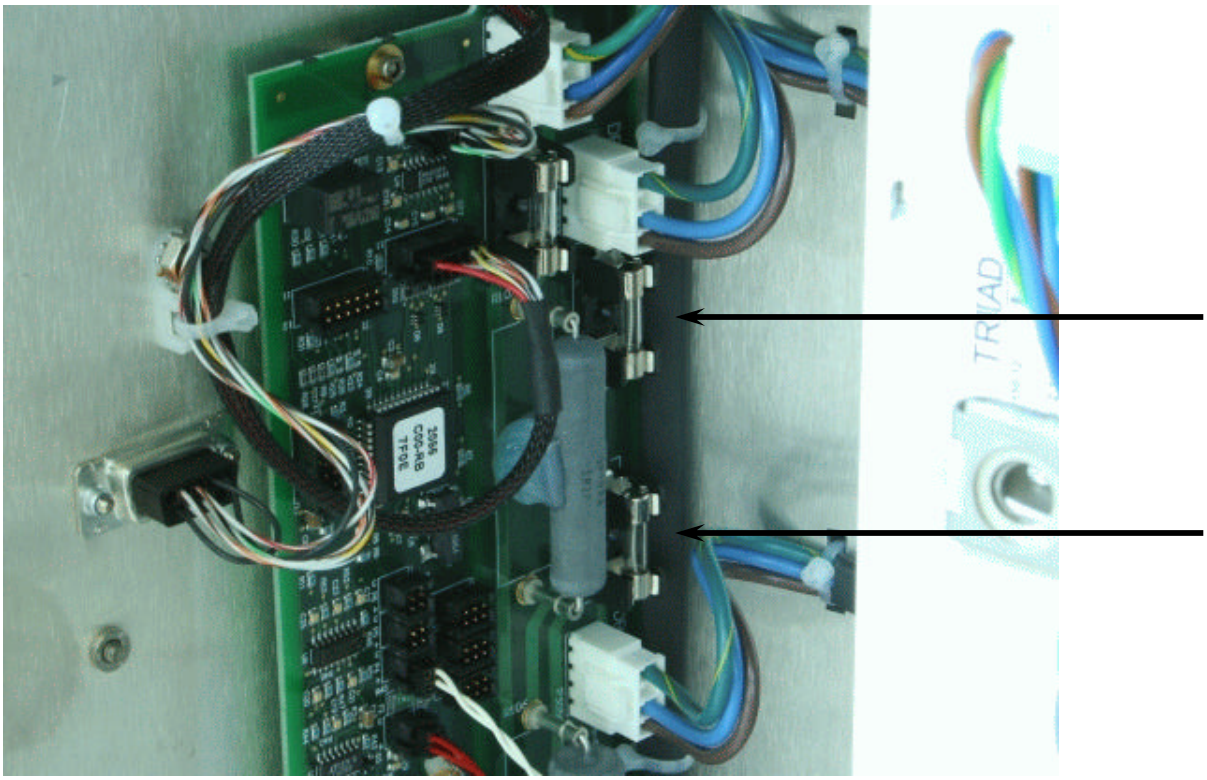
1. Locking Pin With Lanyard (4X)
2. Fan
3. AC Distribution PCB with SMM
4. Fan Power Supply
5. SMM Power Supply
6. Network Switch AC Outlet
7. Power On/Off Switch/Breaker

Unit Diagram View with Component Description (Rear Door Open, F01 Cabinet)



8. Wall Stand-off
9. Retractable Tray Harness
10. Fan Power Supply
11. System Monitor Power Supply
12. AC Power Transient Protection

Unit Diagram View with Component Description (Rear Door Open, 2 Individual Drawer Fuses shown)



Unit Operating Features

Power Features:

Universal AC input accepts worldwide, 97-265VAC, 47-63Hz, 15A Max, Single-phase
(Note: this applies only to the cabinet electronics. Laptop battery charger requirements will vary.)
IEC Filtered Inlet
15A Circuit Breaker/ Power Switch
Inrush Current Limiting and Transient Protection
Input Over Voltage Protection
External AC is distributed to the computing devices
1200W Continuous power available to the computing devices
<1800W Peak load power available to the computing devices
Each drawer is inrush current limited
Each drawer is protected with a 5 A fuse

Cooling Features:

Variable speed fan for chassis cooling
Fan-monitor and control circuitry
Pressurized and metered airflow to each drawer

System Manager:

Fan speed monitor
Fan power monitor
Temperature monitor

Network Access Features:

COTS 8-port, self-configuring, managed Juniper Ethernet switch (F21)
COTS 16-port, passive Netgear Ethernet switch (F01)
Single LAN connections available in each drawer
Single-point server connection

Status Indicators Features:

Cooling status LED on front of the chassis
- Green - Fans operating, ambient temp is in operational zone
- Amber Flashing - Fans operating below 50% of desired speed
- Amber - inlet temp is >40C 'warm'.
- Red Flashing - Fans operating below 25% of desired speed
- Red - Inlet temp is >50C.

Power status LED on front of the chassis
- Green – 12V Fan Power OK
- Red - 12V Fan Power Failure

Enhanced Status Accessible Features:

Serial port connector access to the System Monitor card

System Specifications:

Operating temperature: 0C + 50C
Dimensions without casters (H) 30” (W) 22” (D) 29.6” with casters (H) 35” (W) 22” (D) 29.6”
Spring loaded recessed handles
Weighs less than 135 lbs. when in the empty (no E-Tools) standard configuration.
Rugged abrasion & corrosive resistant polyurethane (TuffStuff ™) coating
Frame guides and safety pin-locks for stacking and anti-tipping.
Quick-change, removable casters/wheels for daily use that stow internally for shipping

Rack System:

7 Universal drawers with 1 LAN port and 1 120/240VAC Outlet
COTS Washable airflow filter
Lightweight corrugated, laser stitch welded frame

Common Rugged Docking Drawers (7):

Individually removable with an 11” normal operating clearance at stops
Dimensions: (D) 16.4” (W) 15.0” (H) 3.2”.
Single point locking mechanism simultaneously secures all drawers
Adjustable and secure strapping system supports multiple E-Tools platforms
Inrush current limiting and a 5 A fuse per drawer to isolate and protect E-Tools
Single universal AC outlet in each drawer

OPERATION SPECIFICATIONS

Electrical Operating Specifications:

Input Voltage Range: 97-265VAC
(Note: this applies only to the cabinet electronics. Laptop battery charger requirements will vary.)

Input Frequency Range: 47-63Hz

Surge Protection: A primary cause of computer device failures is electrical surges in the input power to the devices. With up to 7 devices in the chassis, prevention and limitation of surges is a major design concern.

Short Circuit Protection: The primary goal of the chassis is to provide fully charged and operational computer devices for field use, therefore, it is highly desirable to prevent a faulty computer device from incapacitating the remaining devices.

IEC Filtered AC Power Inlet

Circuit Breaker, ISA Thermal, Integrated Into the Chassis

Variable Speed Cooling Fan

8 Port, Managed Ethernet Switch (F21 only)
10/ 100 Megabit
No configuration required
EN55022 Class A
Full Duplex
Power Status LED
Link, Speed, Activity indicators built into each port

Drawer Interface
Single LAN connection
Single Universal AC power outlet
Power Outlets are current limited/fuse protected

Monitored Signals
Fan tach outputs (fan speed)
12V Fan power good
Inlet air temperature

Analysis of Signals Monitored:

Fan speed based on the inlet air temperature.

Inlet air temperature (40C) triggers alarm message, status LED (Amber) change. Temperature falls below 35C clears.

Inlet air temperature (50C) triggers alarm message, status LED (Red) change. Temperature falls below 45C clears to “Amber” state.

DC not OK signal from the 12V fan power supply triggers alarm message and status LED (red) change.

Chassis Fans speed drops below 50% of desired operating speed, triggers fan alarm message, status LED (Amber) change.

Chassis Fans speed drops below 25% of desired operating speed, triggers fan alarm message, status LED (Red) change.

Chassis Interfaces

- Status LED (LED able to generate GREEN, AMBER & RED).
- 10/100 network interface.

Example:

SERIAL COMMUNICATION COMMAND SET:
(Actual command set is customized based on final hardware and software design.)

The monitoring system may be accessed over the RS232 link. Voltage, temperature, and trip point statuses are read using the defined command set. Any monitored parameter having a trip point to indicate a fail status will also generate an autonomous status message to indicate the fault condition.

Terminal settings:

Baud rate: 9600
Data bits: 8

The communication terminal must be set to the following settings:

Parity: none
Stop bits: 1
Flow control: none

RS232 Command Syntax

Note: Commands are case sensitive. The terminal device will issue the following COMMANDS, the monitoring board will respond back with the RESPONSE, XXX will be the value of the measurement being reported back.

Temperature Measurement Commands:		
Command	**Response**	**Description**
TA	Transmit all Temperatures as listed below:	
T1	**T1: XXX**	**Transmit temperature sensor #1 value in degrees C**
T2	**T2: XXX**	**n/a**
T3	**T3: XXX**	**n/a**

RS232 Command Syntax: (Continued)

Voltage Measurement Commands:		
Command	**Response**	**Description**
VA	Transmit all voltages as listed below:	
V1	**V1:+X.XXX V**	**n/a**
V2	**V2:+X.XXX V**	**Transmit the voltage of the +5VDC power supply**
V3	**V3:+X.XXX V**	**Transmit the voltage of the +12VDC power supply**
V4	**V4:+X.XXX V**	**n/a**
V5	**V5:+X.XXX V**	**n/a**

Temperature Status Request:		
Command	**Response**	**Description**
SA	**SA:X**	**Transmit global status, X = OK or FAIL**
ST	Respond back with all temperatures statuses, defined below:	
	ST:T1: X	**Status of temperature sensor #1, X = OK or FAIL**
	ST:T2: X	**n/a**
	ST:T3: X	**n/a**

Voltage Status Request:		
Command	**Response**	**Description**
SV	Respond back with all voltage statuses, defined below:	
	SV:V1: X	**n/a**
	SV:V2: X	**Status of the 5VDC power supply, X= OK or FAIL**
	SV:V3: X	**Status of the +12VDC power supply, X= OK or FAIL**
	SV:V4: X	**n/a**
	SV:V5: X	**n/a**

Note: The status responses will be generated autonomously upon a state change from "OK" to "FAIL" for the measured parameters.

Mechanical Operating Specifications

Chassis

Strong and durable all-aluminum construction utilizes a corrugated design and laser welding for a precise, interlocking frame that provides a lightweight system that is rugged enough to withstand harsh handling while protecting contained E-Tools without system or E-Tool functionality loss. There is a single-point locking mechanism that locks all doors simultaneously for end of day security.

The total system weighs 135 lbs and its shipping configuration dimensions are (H) 30” (W) 22” (L) 29”.

Each E-Tool is secured through a system of adjustable straps and anchor points allowing for a wide variety of E-Tool package shapes and sizes.

Environmental

The system operates in all environments from 0C to 50C, using a filtered, pressurized, and metered airflow that maintains a constant airflow around contained E-Tools even when other drawers are opened.

The shipping configuration is completely weather tight with lightweight plastic honeycomb doors sealing against the aluminum chassis.

The chassis is polyurethane-coated (TuffStuff ™), making the system virtually impervious to abrasion and corrosion from materials, handling, and chemical exposure.

Handling

The system has quick-latch/change wheels that stow internally for shipment. The frame incorporates spring-loaded, recessed handles for a 2-person lift while loaded with E-Tools in the shipping configuration.

The system has interlocking frame guides and security pin that align and lock the systems for stacking two-high, preventing tipping during shipment and operation.

Maintenance

COTS components are designed into the system, including but not limited to, the air filter (user choice of filtering capability), Ethernet switch, power supply, inverter, and the generic hardware and wiring. Access to all major components is provided through quick release doors and latches to all components. The air filter is removable and washable.

Maintenance

NOTE: THE FOLLOWING ITEMS MUST BE INCORPORATED INTO A PREVENTIVE MAINTENANCE SCHEDULE

- **INSPECT CASTERS FOR OBSTRUCTIONS** - PRIOR TO INSTALLATION OR MOVEMENT
- **FILTERS** - CLEAN USING SOAP AND WATER, DRY THROUGHLY BEFORE REINSTALLING – **WEEKLY.** REPLACE AIR FILTER MEDIA **EVERY 18-24 MONTHS**
- **CABLES & WIRING** - INSPECT ALL CAT5 CABLING AND ELECTRICAL WIRING ASSEMBLIES FOR CHAFING - **QUARTERLY**
- **INSPECT E-TOOLS SECURING STRAP FOR WEAR - QUARTERLY**
- **INSPECT ALL LOCKING MECHANISMS** - **QUARTERLY**
- **INSPECT UNIT FOR CORROSION** (APPLICABLE IN SPECIFIED ENVIRONMENTS ONLY) **MONTHLY**
- **INSPECT FAN FOR BROKEN OR DAMAGED BLADES - SEMI ANNUALLY**

Troubleshooting

1. E-Tool within a drawer shows no power indication.

a. Verify that other drawers have AC power.
a. Verify that both ends of the E-Tool charger are plugged in.
b. Check the 5A fuse for the drawer.
c. Check E-Tool and charger for excess current draw. Each drawer is guaranteed to operate with up to a 2.1 A load.

2. Cooling failure is indicated by the status LEDs.

a. Verify that the fans are plugged in.
b. Verify that the FET mounted on the inside of the right hand door compartment when viewed from the rear of the docking station has its connector firmly attached.
c. Check the wiring connections at the fan and at the +12V power supply.

3. Docking station has no LED indicators lit, the fans aren't turning, and none of the drawers appears to have power.

a. Check the circuit breaker/switch on the back of the docking station. Cycle the switch through "OFF" to "ON".
b. Check the SMM power supply connections.

4. No power to the system.

a. Check to make sure the wall outlet has power.
b. Verify the power cord is plugged in and seated properly.
c. Turn the ON/OFF power switch off and then on again.

5. No power to a drawer.

a. Unplug the charger and the E-Tool from the drawer and turn ON/OFF switch off for two minutes and then turn the power back on. (If power returns to the drawer check to see if the charger is shorted)
b. Make sure the power cord on the charger is plugged into the drawer AC receptacle securely.
c. Make sure the power cord for the charger is plugged into the charger securely.

6. System shut off on it's own.

a. Check for over temperature.

7. General System Failure - Cooling and Power LEDs show solid red.

a. Turn off EMMC,
b. Unplug all laptops from drawer AC power outlets,
c. Turn on EMMC,
d. Plug in laptops,
e. Allow laptops to charge for at least two hours prior to shutting off EMMC

Note: Consult factory regarding any other issues.

Limited Warranty

The E-Tools Mobile Manager Cabinet (EMMC) is warranted for a period of 1 year from the ship date against defects in workmanship and component failure. For a list of Field Replaceable Parts (FRP's) consult this manual.

For replacement parts contact Tracewell Systems Repair Center.

Please have the manufacturing and customer reference serial numbers of the EMMC and the address of where you would like the replacement parts shipped before you call.

Replacement parts will be shipped from our plant within two working days and failed parts should be returned to Tracewell Systems Repair Center, 567 Enterprise Drive, Westerville, OH 43081 using the carton and packing material the replacement parts are shipped in.
An RMA (Return Material Authorization) number will be given to you when you call as well as a specified shipping method.

(Extended warranties are available; please contact the factory for specifics.)

Service:

For warranty and non-warranty service, contact Tracewell Systems Repair Center at:
1-614-846-6175
Fax us at 1-614-846-2903, or
Contact us via the web at **www.tracewellsystems.com** .

FRPs (Field Replaceable Parts)

Part Number	Description
110-5542-000-0C	CASTER FOOT PLATE/INTERLOCK
015-2063-000-0P	QUICK RELEASE CASTER
015-2157-000-0P	VELCRO STRAP 12”
015-2158-000-0P	VELCRO STRAP 6”
015-2159-000-0P	VELCRO STRAP 8”
015-2364-000-0P	AIR FILTER MEDIA
015-5069-000-0P	DOOR GASKET
017-4048-000-0P	LOCKING PIN WITH LANYARD
021-2450-000-0P	ETHERNET CONNECTOR
023-1401-000-0P	ON/OFF SWITCH
023-1828-000-0P	AC CORD RECEPTACLE
403-0209-000-WH	AC CORD
050-1258-000-PS	SMM POWER SUPPLY
050-1290-000-PS	FAN POWER SUPPLY
060-1187-K00-00	FAN KIT
076-0205-000-0P	ETHERNET SWITCH (F21 only)
076-0084-000-0P	ETHERNET SWITCH (F01 only)
110-5548-099-01	WALL STANDOFF
110-5571-099-01	CONSOLE INPUT BRACKET (F21 only)
110-5532-099-01	ETHERNET INPUT BRACKET
110-5550-129-00	COMPOSITE DOOR ASSEMBLY
403-0098-00-WH	ETHERNET CABLE FOR DRAWERS
	Note—Any Items Not Found On This List Are Not Considered To Be FRP’s And The EMMC Must Be Returned For Repair (See Warranty Section)

Chassis Dimensions