

**PTS, Inc.**  
**Harris 117F AC/DC Power Supply Docking  
Station (PSDS) Manual**



**MODEL #: AS0117-HR-117F**

**Includes 1 PTS-H-0003J Cable  
Compatible with 1 AN/PRC-117F**

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**PTS**  
Expeditionary Communications

**WARNING:** TO PREVENT PERSONAL INJURY, DEATH OR EQUIPMENT DAMAGE DO NOT SHORT-CIRCUIT, DAMAGE, BY-PASS INTERNAL FUSES OR HANDLE INAPPROPRIATELY THE EXPOSED HARRIS HIGH VOLTAGE POWER CONNECTORS.

## **SAFETY INSTRUCTIONS**

Warning and important safety instructions appearing in this manual are not designed to cover all possible conditions and situations that may occur. Common sense, caution and reasonable care must be exercised when installing, maintaining or operating the power supply docking station (PSDS).

When using the PSDS, Basic Safety Precautions should always be observed including the following:

Read all instructions prior to installation or use.

To protect against risk of electrical shock, **DO NOT** immerse the cord, plug or PSDS in water or other liquids.

To reduce the risk of electrical shock or fire, **DO NOT** disassemble the PSDS. Repairs or adjustments to the PSDS must be performed by a qualified technician of PTS.

**DO NOT** work on electrical equipment alone. Be sure another person qualified to administer first aid is present.

RF energy is present near the antenna during transmission. During low power operation maintain at least 30 inches between antenna and personnel during transmission. During power amplifier operations follow the standard practice of mounting the antenna well away from the users.

The PSDS is not designed to be operated in a vehicle.

Do not operate the PSDS with a damaged cord, plug or after the PSDS has been dropped or damaged in any manner. Return the PSDS to PTS for examination, repair and electrical or mechanical adjustment as required. Call PTS toll free at 1-877-737-5832 or email [info@pts-inc.com](mailto:info@pts-inc.com) for additional instructions or guidance.

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## **Power Supply Docking Station (PSDS) Description**

Perkins Technical Services, Inc. (PTS) has developed a rugged, lightweight, user-friendly Power Supply Docking Station (PSDS) for tactical radios. The PSDS provides the capability to operate an AN/PRC-117F radio in a continuous and efficient safe manner.

The PSDS's unique, lightweight slide-in, slide-out design allows for easy use and installation. The PSDS has been developed to provide increased flexibility in the use of AN/PRC 117F and to reduce operation costs resulting from the use of expensive batteries and/or other power sources. The PSDS worldwide applications include Tactical Operation Centers, command posts, range operations, field and garrison operation centers, maintenance facilities, training sites, deployment and staging checkpoints, remote control operations and forward operation bases.

The PSDS provides the user the capability to use AN/PRC 117F while reducing ARMY power requirements, soldier workload and logistical support needs.

The PSDS provides the Optimum Solution for combat support operations requiring continuous, uninterruptible, reliable communication when AC or DC power is available.

## Specifications

### Features

Docking positions for 1 AN/PRC-117F  
3 terminal lugs  
On/off for external amplifier  
Worldwide frequency input 47 to 440 Hz  
Worldwide AC voltage input 85 to 260 VAC  
DC voltage input 22 to 32 VDC  
Fully automatic voltage and frequency selection worldwide, no manual change required  
Built-in voltage surge protection  
Environmental operating range:  
    Temperature: -30°C to 50°C  
    Relative Humidity: 5% to 95%  
LED "Power-On" rocker switch  
"Active Network" green LED indicator  
Ten-foot AC power cord- U.S. (worldwide power cords available)  
High fidelity integral speaker (4 inches)  
Volume control knob  
Supports one remote LS-671 speaker  
Rugged, self-contained system packaged in mil-spec transit case  
24/7/365 radio operations

### Physical Dimensions

(d) 13.3" x (h) 9.9" x (w) 15"  
(d) 34cm x (h) 25cm x (w) 38cm  
PSDS weight: 15.1lbs, 6.8kg  
PSDS + case: 35.1lbs, 15.9kg

### Operational Benefits

Enhanced command and control  
Increased flexibility  
Increased training opportunities  
Reduced logistical burden and costs

## User Educational Requirements

Prior to use of the PSDS, the user should be a qualified Radio Operator. The user should have a thorough understanding of Harris operations and a basic understanding of the AN/PRC 117F set-up and configurations.

## Operation of PSDS with Harris Radios

**SAFETY NOTICE:** Power down the radios and ensure the PSDS power switch is in the off position prior to installing or connecting radios. Failure to do so may result in electrical shock or damage to the unit.

## Basic PSDS Set-Up

### Amplifier / Radio Assembly Installation

Facing the PSDS take one RF-300M-\*\*\* and insert onto the PSDS. Begin by looking down from the top to align the power amplifier's rear connector with the PSDS connector. Lock the amplifier in place by turning the knurled thumbscrew clockwise to seat the amplifier.

### Antenna & Handset Installation, Radio Configuration

To ensure proper operation an OE-254/GRC antenna (not the manpack antenna) must be connected to the amp or you will experience excessive noise. Connect the antenna connector to the installed amplifier. The user needs to place the antenna 100 feet away from the PSDS using LMR-400 antenna cable. Attach the appropriate handset. Inspect the AC power cable for cuts, frays or other damage. If damaged, replace the power cable. Plug the appropriate power cable into the back of the PSDS and into the AC power source (grid or generator power, worldwide). You are now ready to perform radio operations.

Note: The PSDS provides worldwide auto switching power adjustment. As long as the proper power cable is used for the AC power source, the PSDS will automatically adjust to the provided input. If the power is "dirty" and experiencing fluctuations, the PSDS will continually adjust for these changes.

## PSDS Operation

Facing the PSDS you will see one “POWER ON-OFF” rocker switch mounted on the front enclosure. Turn the switch to the on position (it will illuminate) and then turn on the Harris radio.

Once the radio has completed self-test the user may program the radio for frequency, COMSEC configuration, power mode, etc. per the AN/PRC 117F manual. Under normal conditions the radio would operate using an individual frequency providing the user with an individual radio network (NET).

The system is now ready to operate. There is an individual volume control for the radio network.

Turn the volume control counterclockwise to the stop. Adjust the volume knob to midrange. The radio handset volume affects speaker volume. The user will need to ensure the radio volume is adequate to drive the PSDS audio circuitry for proper operation. The user may now turn up the radio. The user will note that there is an ACTIVE NET LED for the NET. When transmitting or receiving, the LED for the ACTIVE NET will illuminate green.

The LED provides the user with a visual cue indicating NET activity if the volume is turned down or if multiple PSDS's are deployed in a system rack. The LED will allow the user to see which NET is active.

The audio circuitry is designed to allow the radio to receive and for the sound to be broadcast from the internal speaker. The system is designed using high fidelity components providing very high quality sound. The user can control the volume for the radio independently. The user can turn down the NET when required using the volume knob.

The user is now ready to experience full radio capability using AC power to operate the AS0117-HR-117F communications system.

## PSDS Operational Inputs and Accessories

**SAFETY NOTICE:** Power down the radios and disconnect (unplug) the PSDS power from the AC power source prior to connecting or configuring any of the following optional inputs or accessories.

## **DC POWER OPERATION**

The PSDS will also operate using DC power. DC power is provided to the system via the one standard DC power connectors labeled “DC Input Power” located on the rear of the PSDS. This connector uses the standard SINCGARS power cable (example: CX-13303). Any DC source 22-32 volts can be used to operate the system. There is one connector if the user chooses to use a standard radio battery (BT-5590). It will also operate using the PTS Expeditionary Power System with Batteries (PTS part # PUR.PWR.101).

## **LS-671 External Speaker Operation**

The PSDS provides for the use of an external LS-671 for the radio net. There is 1 connector labeled LS-671 on the back of the PSDS. This connector allows the user to use a standard CX-13292 cable and LS-671 speaker. The user plugs the cable into the PSDS and the LS-671 speaker. One end is marked for the speaker; therefore, care should be taken to ensure the cable is connected correctly.

## **Periodic Maintenance**

### **Maintenance Safety Notice**

Power down the radios and disconnect (unplug) the PSDS power from any AC power source prior to the performance of any maintenance actions.

### **Air Filter Maintenance**

On the bottom of the system you will find two fan covers that have filters. Depending on the environment, these filters will need periodic cleaning. Included with the PSDS are several replacement filters. When replacing the filters, wash the filters removed from the PSDS in warm soapy water, rinse thoroughly and allow to air dry. Filters should last indefinitely. The PTS recommended filter cleaning interval is 14 days of continual operation.

### **Filter Removal Process**

- Turn the system onto its rear/back
- Snap the 2 covers holding the filter assemblies off from the bottom of the chassis
- Remove each filter assembly
- Snap out the filter retainer from the assembly to access the filter for cleaning or replacement
- After cleaning the dirty filter or replacing worn filters, insert the clean or new filter in the assembly and snap the retainer back into the filter frame
- Replace the assembly in the PSDS and snap the cover back in place
- It is recommended that the unit not be run without Filters to prevent internal damage



## Exterior Cleaning

The exterior of the PSDS may require cleaning. Disconnect the PSDS from all power sources. The exterior may be cleaned with a mild, warm water soapy solution. Wipe with a damp towel and dry with a clean towel. Do not use abrasives or oil-based cleaners. Particular care should be taken to keep soap, water and debris from getting into the connectors and power plugs. At no time should the PSDS be immersed in water or other solutions.

The PSDS connectors and cables should be kept clean and free of dirt, grime and miscellaneous debris. If required, clean connectors with a medium stiff bristle (nonmetallic) brush and wipe off dirt. Avoid allowing moisture to contact the pins and receptacles in the connectors. If moisture does get into the connectors, allow the system to dry thoroughly prior to use.

## System Repair or Return

If a PSDS malfunctions or becomes nonfunctional the user should notify PTS in Huntsville, Alabama. Call toll free 1-877-737-5832, commercial 256-539-6787 or contact via e-mail [support@pts-inc.com](mailto:support@pts-inc.com) to receive instructions for return and repair.

Be prepared to discuss and troubleshoot the problem. The PSDS should be available to facilitate actual troubleshooting. PTS will determine if the PSDS needs to be returned for repair/replacement.

If PTS determines the PSDS requires return for repair, PTS will assign a Return Material Authorization (RMA) number. The RMA number should be clearly posted on the outside of the transit case as well as documented on a note inside the case detailing the specific problem or malfunction, username, email, phone number and complete return address of the sender. Please do not include manuals, filters, cables (unless specifically requested), or radios, power amplifiers, etc. when returning the PSDS.

Label the package/case as follows:

Perkins Technical Services, Inc.  
RMA # (contact PTS for RMA assignment)  
1318-B Putman Drive  
Huntsville, AL 35816  
Attention: Repairs

## Warranty

PTS warranties all power supply docking stations and transit cases furnished under contract to be free from defects in material and workmanship and will conform to all requirements of the contract. The PTS warranty shall be for a period of twelve (12) months from the date of receipt by the user.

Any PSDS repaired under warranty shall be subject to the warranty of a new PSDS. This warranty shall be equal in duration to that set forth in the preceding paragraph and shall run from the date of receipt of the repaired or replaced PSDS by the user.

PTS shall not be obligated to repair or replace a PSDS or transit case if they become damaged through unauthorized maintenance or repair, incorrect operational set-up, abuse or neglect.

When a PSDS is returned to PTS within the warranty period set forth above, PTS shall bear the transportation costs to the PTS facility and return.

When a PSDS is returned to PTS after the warranty period set forth above, the user shall bear the transportation costs to the PTS facility. PTS will bear the return costs.

This warranty excludes all other warranties including the warranties of merchantability and fitness for a particular purpose.

Warranty repairs are normally accomplished within eight to ten business days of receipt of PSDS at the PTS facility.

## Administrative

Inquiries concerning this manual should be referred to the following address:

Perkins Technical Services, Inc.  
Attn: Support  
1318-B Putman Drive  
Huntsville, AL 35816

Technical difficulties or operational problems with the PTS PSDS may be resolved by contacting PTS using one of the following:

Toll Free 1-877-737-5832  
Commercial 256-539-6787  
E-mail [support@pts-inc.com](mailto:support@pts-inc.com)