

PTS, Inc.
Harris 150 Single AC/DC Power Supply Docking
Station (PSDS) Manual



PTS MODEL #: AS0150-HR-150

Includes: 1 PTS-H-0003J Audio Jumper Cable, 1 AC 10-foot Power Cable, 1 Filter Pack, 1 Protective Transit Case, 1 User Manual

Compatible with AN/PRC-150 (RT-1694D (P)(C)/U)

Document PTS-HR-150-2021-3-26

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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 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-150 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-150 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, text and 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 AN/PRC-150 while reducing Military power requirements, service member workload and logistical support needs.

The PSDS provides the optimum solution for combat support operations requiring continuous, uninterruptible, reliable communication when AC/DC power is available.

Specifications

Features

- Docking positions for 1 AN/PRC-150
- 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%
- Illuminating LED "Power-On" rocker switch
- Illuminating "Active Network" green LED indicator
- Illuminating amber LED lights indicating DC power operation
- Ten-foot AC power cord- U.S. (worldwide power cords available)
- High fidelity integral speaker (4 inches)
- Volume control knob for speaker
- Supports one remote LS-671 speaker
- Rugged, self-contained system packaged in mil-spec transit case
- 24/7/365 radio operations

Physical Dimensions

(d) 11.4" x (h) 8.3" x (w) 11.5"
(d) 29cm x (h) 21cm x (w) 29cm
PSDS weight: 9.2lbs, 4.1kg
PSDS + case: 25lbs, 11.3kg

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 have completed the Harris Operators Course. The user should have a thorough understanding of Harris operations and a basic understanding of the AN/PRC-150 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 before installing or connecting radios. Failure to do so may result in electrical shock.

Basic PSDS Set-Up

Radio Installation

Facing the PSDS slide and fully connect the rear of the AN/PRC-150 onto the J10 and J6 connectors utilizing the two guide pins to ensure alignment. Lock the AN/PRC-150 onto the PSDS by securing the pre-positioned locking tabs.

Antenna & Handset Installation, Radio Configuration

To ensure proper operation an antenna (not the manpack antenna) must be connected to the radio or you will experience excessive noise. Connect the antenna connector to the installed radio. The user needs to place the antenna 100 feet away from the PSDS using LMR-400 antenna cable. Attach the appropriate handset to the PSDS mic connector. Inspect the AC or DC 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 or DC power source (grid, generator power, worldwide, or DC power source). Attach the enclosed audio jumper cable (PTS-H-0003J cable) to the radio connector on the PSDS and the mic connector on the radio. 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 or DC 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” switch mounted on the front enclosure. Turn the switch to the on position (LED light will illuminate). The AN/PRC-150 is now powered and ready for normal operation.

Once the radio has completed self-test the user may program the radio for frequency, COMSEC configuration, power mode, etc. per the AN/PRC-150 manual. Under normal conditions the radio will operate using an individual frequency providing the user with one radio network (NET).

The system is now ready to operate. There is a volume control knob for the radio power supply docking station (PSDS).

Turn the volume control counterclockwise to the stop. Adjust the volume knob to midrange. **The radio (AN/PRC-150) volume impacts the PSDS speaker volume.** The user will need to ensure the radio volume is adequate to drive the PSDS audio circuitry for proper operation. PTS recommends the volume be midrange on the radio. The user can adjust volume on the PSDS. 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 for the radio to receive and for the sound to be broadcast from the internal speaker (you must attach the enclosed PTS-H-0003J audio jumper cable to the radio connector on the PSDS and the mic connector on the radio for the internal speaker to work). The system is designed using high fidelity components providing very high-quality sound. The user can control the volume for the radio independently allowing for the net to be broadcast though the speaker. 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 or DC power to operate the AS0150-HR-150 communications system.

PSDS Operational Inputs and Accessories

SAFETY NOTICE: Power down the radios and disconnect (unplug) the PSDS power from the AC and/or DC power source prior to connecting or configuring any of the following operational 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. Any DC source 22-32 volts can be used to operate the system.

Located on the front panel is a DC voltage LED. This amber LED illuminates if the AC power is lost and the PSDS switches to DC power (when the unit is connected to a DC power source). At the same time the DC power light illuminates, there is an audible warning to notify the operator of the power switch. If the power oscillates on and off, the audible alarm will only sound once. The PSDS will revert to AC power when available. This switching is performed automatically and seamlessly. Radios, power amplifiers, LS-671 speakers, TDR's, etc. will not see any spikes or dropouts in the voltage as the system changes input power back and forth from AC to DC.

LS-671 External Speaker Operation

The PSDS provides for the use of an external LS-671 speaker. There is a 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 or DC 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. Additional filters are included with your original purchase. 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 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 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), radios, power amplifiers, etc. when returning the PSDS.

Label the package/case as follows:

Perkins Technical Services, Inc.

Attention: Repairs

RMA # (contact PTS for RMA assignment)

1318-B Putman Drive

Huntsville, AL 35816

Warranty

PTS warrants 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