

# USER'S GUIDE

FOR THE

# AC POWER SUPPLY DOCKING STATION

FOR

# SINGGARS RADIOS



## Model # AS0004-SR-4

Perkins Technical Services, Inc. (PTS)  
1318-B Putman Drive  
Huntsville, AL 35816  
[www.pts-inc.com](http://www.pts-inc.com)

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

## **SAFETY INSTRUCTIONS**

Warning and Important Safety Instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining or operating the Power Supply Docking Station.

When using the Docking Station, basic safety precautions should always be observed including:

1. Read all instructions.
2. Never put hands on any connector pins when the Docking Station is plugged in.
3. Avoid any contact with the Docking Station "Radio and RF Power Amplifier connector pins" when the Docking Station is in the "ON" mode.
4. To protect against risk of electrical shock, do not immerse the cord, plug or Docking Station in water or other liquids.
5. The Docking Station in its present configuration **"IS NOT"** designed to be used in a vehicle.
6. Do not operate the Docking Station with a damaged cord or plug, or after the Docking Station has been dropped or damaged in any manner. Return the Docking Station to PTS for examination, repair, and electrical or mechanical adjustment if required. Call PTS Toll Free: 1-877-737-5832, or e-mail [lhchilds@pts-inc.com](mailto:lhchilds@pts-inc.com) for any additional instructions or guidance.
7. To reduce the risk of electrical shock or fire, do not take apart. All repairs, if required, must be performed by PTS authorized personnel.
8. High Voltage exists at SINGGARS and Power Amplifier connectors. Turn power switch to OFF when sliding SINGGARS and / or Power Amplifier onto power connectors.
9. Do not work on electric equipment alone. Be sure another person who can give first aid is nearby.
10. RF energy is present near the antenna during transmission. Maintain at least 30 inches between antenna and personnel during transmission.

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## **1 DOCKING STATION DESCRIPTION**

1. 1. Perkins Technical Services, Inc. (PTS), through an innovative design, in cooperation with ITT, the manufacturer of SINCGARS radios, has developed a rugged, lightweight, easy to use SINCGARS AC Power Supply Docking Station for SINCGARS radios. This Docking Station provides the capability of CONVERTING AC power to DC power to operate all SINCGARS series RT-1523A thru F radios and the AM 7238B/VRC RFPA in a continuous, safe and cost efficient manner.
1. 2. The Docking Station's unique lightweight, slide-in, slide-out design allows for easy use. The Docking Station has been developed to provide increased flexibility in the use of SINCGARS and to reduce operational costs resulting from the use of expensive batteries and/or other power sources. The Docking Station's worldwide applications include tactical operations centers, combat operations centers, range operations, field & garrison operation centers, test and maintenance facilities, training sites, deployment and staging checkpoints, and remote control operations.
1. 3. Docking Stations provide units the capability of 24/7/365 SINCGARS use at a fraction of the cost, with reduced soldier and logistical workload.
1. 4. The Docking Stations provide the optimum solution for combat support operations requiring continuous un-interruptible communication when AC power is available.

## 2 SPECIFICATIONS

### 2. 1. Features

- Worldwide AC input from any AC source – 85 to 260 VAC
- Worldwide Frequency input – 47 to 440 HZ
- Fully automatic voltage / frequency selection, no manual change required
- Docking positions for 2 each SINGARS RT-1523 models – E or F
- Supports Sidehat with F model
- Docking Position for two each RFPA-AM-7238B/VRC
- Continuous 24/7/365 operation
- TOCNET compatible (two each)
- Rugged self-contained unit - no SINGARS cabling required
- Easy one step, slide in, slide out mounting interface
- Voltage surge protection
- Operating temperature range, -29°C to 50°C, relative humidity 5% to 95%
- Two illuminating power-on function switches
- Two illuminating active network green LED indicators
- 10 foot AC power cord - CONUS
- 2 wire access for remote control operation (two each)
- 4" High Fidelity integral speaker
- Two Volume controls for speaker
- Supports two remote LS-671 speaker

### 2. 2. Physical Description

- Lightweight, 19 lbs
- Compact size - (H) 12.0" x (W) 11.75" x (L) 17.5"

### 2. 3. Operational Benefits

- Enhanced Command and Control
- Increased Flexibility
- Increased SINGARS Training Opportunities
- Reduced Logistical Burden and Costs

### 3 OPERATION OF SINGARS RADIOS

3. 1. The Docking Station is designed to convert AC power to DC power in order to operate the R/T 1523 series SINGARS radios. The Docking Station is a rugged enclosure, which contains an internal power supply and several circuit card assemblies.

3. 2. Two illuminated "POWER ON-OFF" rocker switches are mounted on the front enclosure.



3. 3. Input power is provided via a commercial style AC jack on the back of the enclosure.

3. 4. The internal power supply is a self-detecting, self-switching 85-260VAC, 47/440 Hertz, single card unit.



3. 5. Two cooling fans, located on the back of the enclosure, with replaceable filtered input, provides for heat dissipation.



3. 6. Four rubber feet on the bottom provide for non-slip use in a desktop location.



3. 7. The four rubber feet are glued to the bottom of the enclosure. In order to mount the Power Docking Station in a 19 " rack, use template provided. Drill 4 holes, 1/4" diameter. Then remove 4 screws from the feet of the docking station. Place docking station over the 4 drilled holes in rack and reinsert the 4 screws through the rack and rubber feet.

## 4 OPERATION OF SINGARS RADIOS WITH POWER AMPLIFIER

4. 1. Operation of the Power Docking Station is a simple 6-step program:

High Voltage exists at SINGARS and Power Amplifier connectors. **“ALWAYS TURN POWER SWITCH TO OFF POSITION”** prior to sliding SINGARS and/or Power Amplifier onto power connectors.

A. Plug the appropriate Docking Station power cable into the back of the Docking Station and then plug the other end into any AC outlet worldwide.



B. Slide and fully connect rear of the one or two SINGARS onto the power connectors on the bottom shelf of the Docking Station



C. Slide and fully connect the rear of one or two Power Amplifiers onto the power connectors on the top rack of the Docking Station.



D. Lock the SINGARS and Power Amplifier onto their respective shelves of the Docking Station utilizing the pre-positioned locking tabs.



E. Connect the RFPA cables (2 each provided with each Docking Station) from the RFPA-J2 to the SINGARS antenna connector (located on the front panel of the SINGARS).

F. Turn the appropriate “POWER ON-OFF” rocker switch(es) to the “ON” position, the SINGARS is now powered and ready for normal operation.



## 5 PLACE THE SINGGARS IN THE PA MODE.

5. 1. Turn the "POWER ON-OFF" rocker switches to the "ON" position; the SINGGARS and RFPA are now powered and ready for normal operation.

### **"WARNING"**

The picture shown below is a VRC-92 configuration radio mounted on an AC SR-4 POWER DOCKING STATION with a speaker and in no way reflects a vehicle mount.

### **NOTE**

The SR-4 supports two SINGGARS A/SIP Radios RT-1523 E/F.  
Connect the RF cable W2 between the "A" RFPA - J2 connection and the J1 SINGGARS antenna connector for the A radio.  
Connect the RF cable W2 between the "B" RFPA - J2 connection and the J1 SINGGARS antenna connector for the B radio.



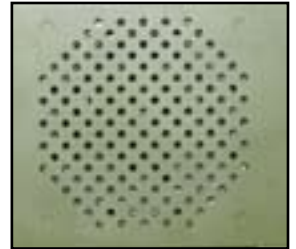
### **Warning**

SINGGARS radios must have separate / individual antenna systems.  
**Damage** can occur to the SINGGARS radios / power amplifiers by connecting two radios to one antenna.

This picture shows the operation of an AS0004-SR-4 with two ASIP radios and amplifiers

## 6 OPERATION-SPEAKER

6. 1. The Docking Station houses a 4" high fidelity integral speaker with a volume control.
6. 2. The two volume control knobs, located on the front of the Docking Station, are utilized to adjust speaker volume for the active network.
6. 3. Both networks broadcast on the speaker simultaneously.
6. 4. The operator should use the appropriate handset to communicate with each network.
6. 5. A connector, which allows the user to connect a remote LS-671 speaker, is located on the back of the docking station.



## 7 OPERATION-2-WIRE

7. 1. The Docking Station is designed to support remote operation of two R/T1523s via WD 2-wire connection lugs located on top of the Docking Station. The 2-wire lugs are standard WD lugs, which are operated by pushing down on the top of the lug and inserting the WD 2-wire into the exposed opening. Removing the 2-wire connection is accomplished in a reverse but similar manner.



7. 2. Caution should be used when utilizing the 2-wire remote capability during periods of lightning, as the exposed 2-wire has the potential to receive a lightning strike causing the internal 2-wire fail-safe circuit board to function (act as a fuse). The internal 2-wire circuit board (which is not covered under the Docking Station's warranty) is designed to protect both the integrity of the SINCGARS radios and Docking Station Station.

## 8 TOCNET

8. 1. On the back of the Docking Station there are two 9-pin DIN connectors (one for each radio.)

8. 2. The TOCNET connectors are covered with a removable cover.

8. 3. Remove the two screws from the back of the cover over the TOCNET connector(s) and remove cover.

8. 4. The TOCNET is connected to the nine pin DIN connector, thereby allowing the TOC personnel to control the radio via the computer.



## 9 9.0 MAINTENANCE CARE AND CLEANING

### **“SAFETY NOTE”**

**Ensure the AC Power Supply Docking Station is disconnected from the AC voltage source prior to cleaning.**

9. 1. The Docking Station’s exterior may be cleaned with a mild soapy solution and wiped completely dry. 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 Docking Station be immersed in water or other solutions.

9. 2. Keep docking station jacks, plugs and cables clean and free of dirt, grime and miscellaneous debris. Clean connectors with a medium stiff bristle brush and wipe off dirt. The air intake filters should be cleaned and or replaced as needed:

#### **Remove / Replace**

A. Remove and keep the four screws holding the filter assembly from the bottom of chassis.



B. Remove the filter assembly.

C. Snap out the filter retainer from the assembly to access the filter for cleaning or replacement.



D. After cleaning the old filter, or replacing it if it is too worn, insert the filter in the assembly and snap the retainer back into the filter frame.



E. Replace the assembly in the Docking Station using the four screws. Do not over tighten!

## 10 SUPPORT MAINTENANCE

10. 1. Should a Docking Station malfunction or become nonfunctional, the User should notify Dr. Lloyd W. Childs at PTS in Huntsville, AL, Toll Free 1-877-737-5832 or via email to [lchilds@pts-inc.com](mailto:lchilds@pts-inc.com).
10. 2. Be prepared to discuss / troubleshoot the problem. The Docking Station should be available to facilitate actual troubleshooting. PTS will determine if the docking station needs to be turned in for repair/replacement. Have your address ready, including street address and / or Post locator information. Also be prepared with a point of contact and phone number.
10. 3. If it is determined by PTS that the Docking Station needs to be returned for repair, place the Docking Station inside its transit case with a letter explaining the nature of the malfunction. Label the package/case as follows:

Perkins Technical Services, Inc.  
1318-B Putman Drive  
Huntsville, AL 35816  
ATTN: Dr. Lloyd W. Childs

## **11 WARRANTY**

11. 1. PTS warrants that all SINGARS AC Power Supply Docking Stations and transit cases furnished under this contract are free from defects in material and workmanship and will conform to all requirements of this contract. The PTS warranty shall be for a period of twelve (12) months from the date of receipt by the user.
11. 2. Any Docking Station or transit case repaired or furnished in replacement shall be subject to the warranty conditions of a new Docking Station. 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 Docking Station by the user.
11. 3. The Contractor shall not be obligated to repair or replace a Docking Station or transit case if they become damaged through unauthorized maintenance / repair, incorrect operational set-up, abuse, or neglect.
11. 4. When a Docking Station is returned to PTS, within the warranty period set above, PTS shall bear the transportation costs to the PTS plant and return.
11. 5. When a Docking Station is returned to PTS after the warranty period set above, the user shall bear the transportation costs to the PTS plant. PTS will bear the return costs.
11. 6. This Warranty excludes all other warranties including the warranties of merchantability and fitness for a particular purpose.
11. 7. Warranty repairs are normally accomplished within 8-10 business days of receipt of Docking Station at PTS plant.

## 12 ADMINISTRATIVE

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

Perkins Technical Services, Inc.  
1318-B Putman Drive  
Huntsville, AL 35816  
ATTN: Dr. Lloyd W. Childs  
Or e-mail: [lchilds@pts-inc.com](mailto:lchilds@pts-inc.com)

12. 2. Technical difficulties or operational problems with the SINCGARS AC Power Supply Docking Station may be resolved by calling Toll Free to the following number:  
1-877-737-5832.