



**READ ME FIRST!!**

**IP-DSU**

**INTERNET PROTOCOL**

**DATA SERVICE UNIT**

**PRODUCT / RELEASE NOTES**

**RELEASE 21.x**

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## Important Safety Instructions



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

When installing, operating, or maintaining this equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- Read and understand all instructions.
- Follow all warnings and instructions marked on this product.
- For information on proper mounting instructions, consult the User's Manual provided with this product.
- The telecommunications interface should not leave the building premises unless connected to telecommunication devices providing primary and secondary protection.
- This product should only be operated from the type of power source indicated in the User's Manual.
- This unit is intended to be powered from either –48 V DC or AC voltage sources. See User's Manual before connecting to the power source.
- The –48 V DC input terminals are only provided for installations in Restricted Access Areas locations.
- Do not use this product near water, for example, in a wet basement.
- Never touch uninsulated wiring or terminals carrying direct current or leave this wiring exposed. Protect and tape wiring and terminals to avoid risk of fire, electric shock, and injury to service personnel.
- To reduce the risk of electrical shock, do not disassemble this product. Service should be performed by trained personnel only. Opening or removing covers and/or circuit boards may expose you to dangerous voltages or other risks. Incorrect re-assembly can cause electric shock when the unit is subsequently used.
- For a unit intended to be powered from –48 V DC voltage sources, read and understand the following:
  - This equipment must be provided with a readily accessible disconnect device as part of the building installation.
  - Ensure that there is no exposed wire when the input power cables are connected to the unit.
  - Installation must include an independent frame ground drop to building ground. Refer to User's Manual.



This symbol is marked on the IP-DSU, adjacent to the ground (earth) area for the connection of the ground (earth) conductor.

- This Equipment is to be Installed Only in Restricted Access Areas on Business and Customer Premises Applications in Accordance with Articles 110-16, 110-17, and 110-18 of the National Electrical Code, ANSI/NFPA No. 70. Other Installations Exempt from the Enforcement of the National Electrical Code May Be Engineered According to the Accepted Practices of the Local Telecommunications Utility.
- For a unit equipped with an AC Wall Plug-In Unit, read and understand the following:
  - Use only the K'TRON, Model KA-52A Wall Plug-In Unit shipped with this product.
  - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
  - Do not staple or otherwise attach the power supply cord to the building surfaces.
  - Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
  - The socket outlet shall be installed near the equipment and shall be readily accessible.
  - The Wall Plug-In unit may be equipped with a three-wire grounding type plug, a plug having a third (grounding) pin. This plug is intended to fit only into a grounding type power outlet. Do not defeat the safety purpose of the grounding type plug.
- Do not allow anything to rest on the power cord. Do not locate this product where the cord may be abused by persons walking on it.
- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - a) When the power supply cord or plug is damaged or frayed.
  - b) If liquid has been spilled into the product.
  - c) If the product has been exposed to rain or water.
  - d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by qualified technician to restore the product to normal operation.
  - e) If the product has been dropped or the cabinet has been damaged.
  - f) If the product exhibits a distinct change in performance.

## Save These Instructions

## IMPORTANT !!

USER DOCUMENTATION IS AVAILABLE AT OUR WEB SITE.

Documentation:	<a href="http://www.trdcusa.com">http://www.trdcusa.com</a>
Sales:	<a href="mailto:sales@trdcusa.com">sales@trdcusa.com</a>

The IP-DSU is factory configured for 115V AC usage. 48V DC Operation requires a different jumper setting on the IP-DSU system board. Refer to the latest IP-DSU User's Manual at <http://www.trdcusa.com> for instructions on changing this factory setting.

## 1 INTRODUCTION

These release notes highlight the product features, modifications, known caveats and any special considerations for the **IP-DSU** product. For detailed information on this product, reference the IP-DSU User's Manual.

## 2 PRODUCT FEATURES

The **IP-DSU** allows your router network to carry both it's original IP traffic, and BNS trunk traffic simultaneously. The **IP-DSU** replaces an existing, conventional DSU on each end of the circuit and eliminates the interconnecting dedicated facility. The **IP-DSU** acts like a conventional DSU to the BNS entity, which can be a node, a multi-purpose concentrator, or a SAM. On the facilities side, the **IP-DSU** connects to a LAN, which is part of the provider's Internet/Intranet network.

### 3 RELEASE CHANGES

#### 3.1 RELEASE 21.1 ERRATA

- Support for TACACS+ RADIUS servers is added. Two servers are supported, a primary and a secondary. Non-standard TCP ports are fully supported. Each server may be individually enabled. The syntax is as follows:

**Syntax: tac < PRI | SEC > [ ipaddr=<IP Address> ]  
[ port=<TCP Port> ]  
[ key="Encryption Key" | NONE ]  
[ ENABLE ]  
[ DISABLE ]**

- A BANNER page has been updated with up to 24 lines of 80 characters each. The syntax is changed as follows:

**Syntax: banner [clear] [L#="Line # Message"]**

- A correction is implemented to the TCP that prevents the potential for some additional packets, and a possible deadlock, at connection teardown.
- The SNMP agent has been updated to include protections from malicious attack. It should also be noted that access to the the SNMP agent can be restricted by closed user groups.

#### 3.2 RELEASE 20.1 ERRATA

- The firmware internal architecture was updated to be consistent with the other products and the generation tools set was updated. The new architecture results in a 20% to 25% performance improvements in situations where the IP-DSU itself was the limiting factor when using UDP, and a near 100% improvement when using TCP.
- This release requires the standard installation and registration procedures of all the other products. Consult the IP-DSU User's manual for the exact procedure.
- This release automatically converts the internal database from Release 17. An IP-DSU using release 16 or earlier should first upgrade to build 17 and make at least one OA&M change (of anything). The Database conversion is not reversable.
- This release corrects a problem where the non-volatile memory could have become corrupted during an OA&M Operation.
- This release corrects undersized buffers where a large TRK-PQ frame could have been discarded. This would have resulted in many unnecessary URP errors requiring retransmission. This error would only impact a TRK-PQ application.
- This release corrects an error with the selection of NRZI Mark encoding on the generic HDLC interface.
- This release corrects a deficiency in the SNMP implementation that is a potential "hacker" attack. These were identified by CERN.

- This release corrects the IP SNMP MIB where the number of Transmitted ethernet packets and the number of potential ethernet discards were not always correct.
- The SNMP TCP MIB and the SNMP UDP MIB have been updated.
- This release corrects the situation where an SNMP TRAP was sent as a broadcast. Some routers have trouble with that form of addressing as their internal screens are applied. The IP-DSU shall now ARP for the next hop before sending any TRAP. The ARP data is cached for subsequent use.
- The Telnet console has been changed to 1023 to make it consistent with the rest of the product line. Note that upgrades from release 17 to this release should use “-t23” on the **upgrade** command line. Further upgrades from this build to another will then use “-t1023” on the **upgrade** command line.
- This release corrects a problem where the telnet console, closed twice in rapid succession, would then become unavailable.
- Issues with TCP transport found in Release 17 have been addressed. Future releases will make changes to the TCP interface to be compatible with the normal port processing of the other products in the family.
- This release preserves bandwidth on the IP infrastructure on TCP keep alive probe operations by eliminating unnecessary acknowledgements.
- This release now generated TCP keep alive probes if the connection is idle. No probe is generated if the connection is not idle.
- Various TCP implementation errors have been corrected.

### 3.3 RELEASE 17 ERRATA

- TCP changed to operate properly in certain customer networks that contain Nortel Routers & Lexmark Printers. This change is only necessary if the data transport option is set to TCP and the network has these misbehaving devices.
- Implemented KA probe handling for AIX implementations. This problem only occurs if an AIX host calls the Telnet Console, and no traffic occurs for over 2 hours. The AIX host without this change closes the console.
- Port loopback command shall now always asserts the EIA leads. A customer was doing loopbacks without connecting to the Peer. The EIA leads did not assert because the peer was not connected. The Datakit Control Computer then failed the test.
- Corrected the missing space between alarm severity and “REPORT” in the alarm report.

### 3.4 RELEASE 16 ERRATA

- Improved TCP performance for large frames.
- Verify Configuration (VC) now displays the device EIA lead state.
- The Password may now be reset if lost or forgotten.

- New command to set a console Inactivity timer.
- Corrected error where the network keepalive was not incrementing the “Request Messages Sent” measurement.

## 4 INSTALLATION ADDENDUM

### 4.1 OBTAINING INFORMATION FROM TELECOMP R&D

Load modules for all the TeleComp R&D products are obtained by sending email to [support@trdcusa.com](mailto:support@trdcusa.com). All other documentation, including release notes, user manuals, “white-papers”, etc. can be accessed on the TeleComp R&D web site and downloaded for your use.

To insure that the correct version of the binary load modules have been retrieved and has not been corrupted during the transmission process, the UNIX® **sum** command can be used.

On some hosts, the “-s” flag must be used with the **sum** command. On X86 linux hosts, the **-sysv** flag must be used with the **sum** command.

Key-in **sum** < name of load module file>.

The values returned must match the numbers shown below:

For example:

Key-in: **sum -sysv ipdsu.21.1**

Response: **8642 686 ipdsu.21.1**

### 4.2 DATABASE CONVERSIONS

When moving from one release or version to the next, the database is usually automatically converted. Therefore, **do not attempt** to perform a **backup** on an earlier release/version and then do a **reload** on the new release/version. The database structures may not be the same. For safety reasons, do a **backup** on the earlier release/version in case you need to revert back to this release/version. Then upgrade to the new release/version, and do a backup again which will now be the converted database for use with this release/version. Backups and restores should only be used with the same release/version, not across releases or versions.

### 4.3 SOFTWARE REGISTRATION

The **IP-DSU** must be registered when it is upgraded with new software. The **IP-DSU** will continue to operate without registration, but **various OA&M functions, including placing the module into service, will not operate until registration is complete.** See the **IP-DSU** User’s Manual for the registration procedure.

### 4.4 UTILITIES

The current version of the upgrade, backup, and reload utilities are 19.1 respectively. The **getinfo**, **devrep**, and **setreg** utilities have a current version of 2.1. All of the utilities are available by contacting [support@trdcusa.com](mailto:support@trdcusa.com). Please note that the TCP port for the console is 1023.

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## **5 DOCUMENTATION**

The current version of the IP-DSU Internet Protocol Data Service Unit User manual, and this release letter, may be downloaded from the support area of <http://www.trdcusa.com>.

## **6 HARDWARE WARRANTY**

The warranty period for hardware shall be ninety (90) days from the date of shipment from TeleComp R&D or a designated manufacturer. Replacements and repairs are guaranteed for the longer of the remaining original warranty period or 30 days.

## **7 END-USER LICENSE AGREEMENT FOR SOFTWARE**

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### **7.4 EXPORT RESTRICTIONS**

You agree that you will not export or re-export the SOFTWARE to any country, person, or entity subject to U.S. export restrictions. You specifically agree not to export or re-export the SOFTWARE: (i) to any country to which the U.S. has embargoed or restricted the export of goods or services, which as of March 1998 include, but are not necessarily limited to Cuba, Iran, Iraq, Libya, North Korea, Sudan and Syria, or to any national of any such country, wherever located, who intends to transmit or transport the products back to such country; (ii) to any person or entity who you know or have reason to know will utilize the SOFTWARE or portion thereof in the design, development or production of nuclear, chemical or biological weapons; or (iii) to any person or entity who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government.

### **7.5 LIMITED WARRANTY**

Manufacturer warrants that (a) the SOFTWARE will perform substantially in accordance with the accompanying written materials for a period of ninety (90) days from the date of shipment from TeleComp R&D or a designated manufacturer. Software support is limited to the hours of 9 AM to 5 PM ET Monday through Friday excluding TeleComp R&D observed holidays. Other coverage and extended warranty may be purchased at additional cost. Any implied warranties on the SOFTWARE are limited to ninety (90) days. Some states/jurisdictions do not allow limitations on duration of an implied warranty, so the above limitation may not apply to you.

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