



READ ME FIRST!!

DT-4000

MULTIPLE PROTOCOL

“ALL IN ONE”

INTEGRATED ACCESS DEVICE

PRODUCT / RELEASE NOTES

RELEASE 27.1

102 SW Orange Blossom
Lake City, Florida
32025-1613
Phone: 386-754-5700
email: sales@trdcusa.com
<http://www.trdcusa.com>

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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 DT-4000, 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:	http://www.trdcusa.com
Sales:	sales@trdcusa.com

The **DT-4000** is factory configured for 48VDC usage. Operation with an AC power adapter to 5VDC requires a different jumper setting on the **DT-4000** system board. Refer to the latest **DT-4000** 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 **DT-4000** product. For detailed information on this product, reference the **DT-4000** User's Manual.

2 PRODUCT FEATURES

The **DT-4000** is a Multiple Protocol Inter-Networking product, which can exist in both a BNS infrastructure and an IP infrastructure simultaneously. Neither infrastructure is required.

The **DT-4000** can be used as a SAM variant in any BNS network without an IP interconnection. Conversely, it can be used in an IP network as a device interface and IP-GATE¹ gateway without any BNS network connection.

Each user port of the sixteen available on the **DT-4000** may use either infrastructure as configuration is on a port-by-port basis. Closed User Groups (CUGS), Hunt groups, and Peer-to-Peer Socket Cryptography are supported on a port-by-port basis.

The **DT-4000** supports several DNS features including translation of simple mnemonic host names into IP address and TCP port number as well as the definition of an external DNS to be used for mnemonic names not in the host table.

The **DT-4000** has a built-in alarm relay unit and supports both simplex and duplex trunking to a BNS node.

Consult the **DT-4000** User's manual for a complete enumeration of the features..

¹ The IP-GATE is an intelligent gateway that allows IP traffic from a LAN segment to be transported across a WAN. Its principal application is for widely distributed high reliability or high security IP networking. It allows for the presence of an Ethernet segment where there is only a SAM, MPC or Node.

3 RELEASE CHANGES

3.1 RELEASE 27.1 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 added 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 console timeout has semantic changes where the number of units specified is now in minutes. This was formerly seconds. The valid range is 1 through 255 minutes, or approximately 4 hours and 15 minutes.
- 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.
- The DBRESET command has been changed to prompt for the password rather than accepting it on the command line. This makes the command consistent with the other products in the product line; and enhances the security of the command.

3.2 RELEASE 26.4 ERRATA

- Per an RBOC's request, the **vfy mod** command now outputs, when available, the Inventory Tag value (Known previously as the Lucent Serial Number shown on the paper tag on the back and/or bottom of the physical unit) and the company for which the DT-4000 is registered. The field is populated when the DT-4000 is registered for this or a higher build, and the key is installed that fully enables the software. The key utility, **dtsetreg**, must be used to install the key.

- The default database initialization was inconsistent. Ports were automatically configured as **prot=async** but enabled EORs at the end of a data sequence. This is legal but caused problems when an RBOC used a default port with protocol of async when the interface should have been defined as **prot=raw**. The EORs looked to the destination host as zeros. EOR's are no longer enabled for ports with **prot=async**.

3.3 RELEASE 26.3 ERRATA

- A customer found a problem in the DT-4000 that was also present in the DT-4180. After a **diag** command was executed on a user port, the port would not work until a value of any port parameter was changed and the port restored. This was a port initialization problem, and it has been corrected.

3.4 RELEASE 26.2 ERRATA

- Changed the **DBRESET** command to preserve the device key and feature package information.
- For network elements that cannot handle the minimum number of flags between frames, the SDLC protocol preserves the legacy interframe procedure. The HDLC protocol is still allowed to have a minimum number of flags. This is relevant to some IP-SLM connected NEs. The IP-SLM documentation will be changed to recommend the SDLC protocol on the attachment devices.

3.5 RELEASE 26.1 ERRATA

- Logic was added to allow a **DT-4000** to be configured as a “board” on a DT-SAM. A single command will automatically configure all 16 ports of a DT-4000 to act as SAM ports and place them in service:

Syntax: samext

The DT-4000 module must be in-service and all the ports out-of-service before the **samext** command is executed.

- The reset password command (**rstpass**) that was eliminated in build 24 has been reinstated:

Syntax: rstpass [key=<special password reset key>]

- Per customer request, a new option has been added to the **snmp** command that allows the setting of whether or not the SNMP agent “public” community is recognized. The syntax is as follows:

Syntax: snmp [public=< YES | NO >]

- The **display connection (dconn)** report now shows a connection for someone logged in as the telnet console.

```

<DT-4000> dconn all
M Display All Connections
Telnet Console: Connected to 192.128.1.25.
Serial Port 1: 'Out of Service'.
Serial Port 2: Receive 'Out of Service'.
Serial Port 3: Receive 'Out of Service'.
Etc.

```

- For the command **vfy mod**, the output has been modified to show the status of the "public" community, and the user specified community.
- The output of the **vfy port** now shows the parity settings when the protocol is defined as **ABSC (ASCII BiSync)**.

```

<DT-4000> vfy port 15
Current Configuration for Port 15:
Type ==> TCP Port 50015 w/Call Listen.
Service State ==> Out of Service.
Protocol ==> ASCII BiSync.
DXE ==> DCE (w/Normal Clocks).
Physical ==> RS-232.
Baud Rate ==> 9600 bps.
Line Encoding ==> NRZ.
Constant Carrier ==> Disabled.
Permanently Active ==> Disabled.
Peer to Peer Data Encryption ==> Disabled.
Parity ==> Odd.
Comment ==> ""

```

- For registration of the software, support has been added in this release for a mechanized key generation. This procedure will alleviate administrators of the tedious process of getting key generation for each device by running a command on that device after logging into it, and then having to go back later and enter the new key manually. This procedure requires a site to have a support host connected to the network that can connect to the individual devices over IP. The support host must use the Solaris, HPUNIX, or the Linux operating system.
- In generics prior to this one, the unit (*module*) could not be restored to service until the software key was installed. There was no such restriction on the ports. That is now the inverse and consistent with the DT-4000, DT-4180, DT-4280, DT-4284, and DT-9480. The DT-4000 *module* may be placed into service without regard to the state of the registration. However, the software must be registered (a key installed) before a *port* can be restored to service. Note that each release and each feature package used require their own unique key.
- The telnet console TCP default port has been changed from 23 to 1023. This is now consistent with most other migration products. It was kept at the value of 23 until Tollgrade could handle either 23 or 1023 with their LoopCare Application.
- The database reload operation using the **dtreload** utility prevents the following fields from being overwritten by the utility: **MAC** address, **local ipaddr** and **submask**, and **gateway ipaddr**.
- Logic was added to use the TCP probe method for keep-alives. If there is no response to a TCP probe from the distant end after an initial time-out period of 200 seconds, additional probes are

sent up to 8 times at 12-second intervals. If there is still no response during the probing period, then the connection is dropped with a RST+ACK.

- A problem was corrected where a **^s (control-s)** on the serial console would eventually create a trunk-fade if the console was left flow-controlled.
- Corrected the ATTENTION character processing when the DT-4000 is acting as an extension to a DT-SAM. The problem would cause the "board" to be "removed" alarm when an ATTENTION sequence was encountered.
- Should the telnet console be closed by the administrator issuing the **disc console** command two times consecutively, the telnet console would be removed from the active lists of sockets and not respond. This problem was corrected.
- When the **reboot** command is executed, the administrator will be prompted for a password unless a new software build has been installed in the staging area by running **dtupgrade**. This is consistent now with the other products.

3.6 RELEASES PRIOR TO 26.1

Contact support@trdcusa.com with specific questions on releases older than 26.1.

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. 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 dt_4000.27.1**

Response: **7967 1422 dt_4000.27.1**

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 **DT-4000** must be registered when it is upgraded with new software. The **DT-4000** will continue to operate without registration, but **user ports cannot be placed into service until registration is complete**. See the **DT-4000** User’s Manual for the registration procedure.

4.4 UTILITIES

The current version of the upgrade, backup, and reload utilities are 18.2 respectively. The getinfo, devrep, and setreg utilities have a current revision level of 1.2 respectively. All of the utilities are available by contacting support@trdcusa.com. Please note that the TCP port for the console is 1023.

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4.5 POWER

The **DT-4000** may be powered via -48VDC or 5VDC via an AC power adapter. Should a new unit not illuminate it's power LED, review that the power options are properly configured. Consult the **DT-4000** User's Manual for the location of the strap on the system board.

5 DOCUMENTATION

The current version of the **DT-4000** 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.

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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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9 AUTHOR

Comments and Questions regarding this document or the products covered within this document should be addressed to the author Angel Gomez via email at angel@trdcusa.com or via telephone at 386-754-5700.

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