



Release Note

MTSRD
for
SCO UNIX v3.2.4
and
SCO OpenServer 5.04

Installation and Configuration Instructions

5600033-12

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October 1998

1 Introduction

This document describes how to install and configure the MTSRD software for your JETSTREAM or LANSTREAM. This additional software supports the SCO UNIX 3.2.4 and SCO OpenServer 5 operating systems (both called 'SCO UNIX' in this release note). This version of MTSRD is release 1.0.

MTSRD allows you to use the serial ports on a JETSTREAM or LANSTREAM as if the same ports were standard serial ports connected directly to the SCO UNIX machine. A daemon process on the host simulates a TTY interface; and the remote port resembles a standard TTY device with `stty` and `ioctl` functionality supported.

In this release note:

the SCO UNIX/SCO Open Server machine is called 'SCO UNIX machine' or, simply, the 'host'.

the JETSTREAM or LANSTREAM is called 'JETSTREAM' or 'LANSTREAM' (with model numbers) or, simply, the 'unit'.

This release note should be used in conjunction with the user guides and other release notes provided with your JETSTREAM or LANSTREAM product. This other documentation may be on paper or on the Specialix CDROM and is as follows:

JETSTREAM 8500 Quick Start Guide

JETSTREAM 4000 Quick Start Guide

LANSTREAM 2000 Quick Start Guide

JETSTREAM 4000, 8500, LANSTREAM 2000, Installation Guide

JETSTREAM 4000, 8500, LANSTREAM 2000, Configuration Guide

JETSTREAM 6x series User's Guide.

JETSTREAM and LANSTREAM release notes (various)

2 Contents

1 Introduction

2 Contents

3 Installation

4 Configuration

5 Example

6 Troubleshooting

7 Technical Support

8 Appendix

3 Installation

The MTSRD software is supplied separately to the JETSTREAM or LANSTREAM product. Installation may be performed either from the CDROM supplied with the product, from floppy disk or from an image downloaded from another host. It may also be obtained from our World Wide Web site or via your local distributor.

3.1 Pre-requisites

There are two stages to the installation process:

You must install the MTSRD software onto your host machine and configure the software to emulate the required number of TTYs.

You must then configure your JETSTREAM or LANSTREAM units for the ports you wish to connect to the host.

Before starting check/note the following:

1. You will require root permissions on your SCO UNIX machine.
2. The JETSTREAM or LANSTREAM(s) should be configured for the LAN.(See Chapter 3 of the JETSTREAM 6x series User's Guide or Chapter 2 of the JETSTREAM 4000, 8500, LANSTREAM 2000 Installation Guide).
3. The JETSTREAM or LANSTREAM and SCO UNIX machine must be connected to a LAN with routing possible between the two, you should check that the host is able ping the unit.
4. The JETSTREAM 6x series the software version should be 4.03 or greater.

3.2 Installation Methods

The following sub-sections describe the methods available for installing the MTSRD software. The installation procedure itself is described in Section 3.3.

3.2.1 Installation from Floppy Disk

The software is installable from a floppy disk. You can create an installable floppy disk by copying the software from the CDROM or other media with the UNIX `dd` command. The supplied CDROM contains an image suitable for this purpose. A floppy disk created in this way contains a SCO "custom" format distribution.

When you select the installation medium, select the install from **Floppy Disk** option.

3.2.2 Installation from CDROM

The CDROM supplied with the product contain the software ready for installation. It is not necessary to copy the package from the CDROM media prior to installation. The CDROM contains a SCO “custom” format distribution.

You should mount the CDROM on the SCO UNIX machine filesystem. If the directory `/cdrom` does not exist in your root filesystem, then you should create it. The CDROM can then be mounted with the command:

```
# mount -r -f ISO9660,filemode=444 /dev/cd0 /cdrom
```

Note: You should NOT use the install from CDROM option in `custom`, this is intended for a different format CDROM.

When you select the installation medium, select the install from **Media Images** option. You will be required to type the pathname of the CDROM directory containing the software, the information accompanying your CDROM will tell you what this pathname should be.

3.2.3 Installation from a file

The software can be installed directly from a file copied onto the host system.. The file available from the Specialix World Wide Web site is a correctly formatted SCO “custom” format distribution.

When you select the installation medium, select the install from **Media Images** option. The software distribution is named `VOL.000.000` you must not rename this file or `custom` will not find it.

3.3 Installing MTSRD Software

Login to the SCO UNIX machine as the administrative “root” user and start either the text only `custom` utility or select the Software Manager utility from the desktop.

Select the **Install New** from the **Software** menu selection and select the installation media as above. If you are installing from **Media Images**, you will be prompted for the pathname of the directory containing the software.

Once the product has been installed you will be prompted to rebuild the kernel environment and re-link the kernel. **Answer yes to both questions.**

The MTSRD software installation is now complete. You should now go on to configure the system as described in the following section.

4 Configuration

After installing the MTSRD software you will need to:

1. Configure the MTSRD software for the number and type of TTYs required.
2. Configure JETSTREAM or LANSTREAM lines for use with the MTSRD software.

4.1 TTY Configuration

Using MTSRD, any port on a JETSTREAM/LANSTREAM can be accessed from the host as a UNIX TTY. MTSRD achieves this by using a unique TCP/IP port number for each TTY configured. These port numbers must be unique to the SCO host and by convention we use numbers starting at **10000**. MTSRD maintains a simple data-file `/etc/mtsrld/ports` which maps TTYs to TCP/IP port numbers. The supplied configuration utility operates on this file and on UNIX system files that need to be configured for TTYs.

The MTSRD configuration utility is provided to edit all of the required system files, this utility is installed in the `/etc/mtsrld/bin` directory. You can run this utility at any time to add or delete TTYs from the MTSRD configuration.

4.1.1 Files Modified by the Config Utility

The following files are modified during the

- `/etc/mtsrld/ports`
This file contains the mapping between TTYs and TCP/IP ports. Each line has an entry of the form:

```
    /dev/mtsmXXX      YYYYY
```

Where `XXX` is the TTY number and `YYYY` is the TCP/IP port number. There is one entry for each TTY, this file is used to start a MTSRD daemon for each required port.
- `/etc/inittab`
The configuration utility will add a `getty` entry for each TTY configured as a

login TTY in this file. These logins will then be started when you next reboot your host.

- `/etc/ttytype`
The configuration utility will add a terminal type for each login TTY in this file.
- `/etc/conf/node.d`
The configuration utility will add an entry for each TTY configured in this file. This file tells SCO UNIX which TTY devices have been configured.

4.1.2 TTY device naming convention

MTSRD creates TTY devices with the naming convention:

`/dev/ttys000` through `/dev/ttys999` for the non modem control type TTYs. These devices do not wait for carrier and are suitable for use with terminals and other devices not requiring modem signal control.

`/dev/ttyS000` through `/dev/ttyS999` for modem control type TTYs. These devices use modem signal control and are suitable for use with modems.

4.1.3 Running The Config Utility (`/etc/mtsrdbin/config`)

The configuration utility adds TTY devices to SCO UNIX and optionally adds login processes to these TTYs.

Log in as the Super user “root” and at the # prompt type:

```
cd /etc/mtsrdbin
./config
```

The following menu will be displayed:

```
Specialix MTSRD configuration Utility
1) Add logins (mtsrdb daemons and inittab terminals)
2) Add terminals to inittab
3) Add range of terminals to inittab
4) Delete terminals from inittab
5) Add mtsrdb daemons
6) Delete mtsrdb daemons
7) Cause the mts daemon to reload ports database
```

h) Help

q) Quit

Choose an option and press return:

4.1.3.1 Description of Menu Items

1. **Add logins (MTRSD daemons and inittab terminals)**
This option is used to add a range of MTRSD TTYs and optionally add login processes to these TTYs.
This option will perform the entire configuration task and is the recommended option for adding TTYs with or without logins. Section 5.1.5 contains a worked example.
 2. **Add terminals to inittab**
This option adds one TTY device and login process but does not start an additional MTRSD daemon. It is used when the `/etc/mtrsd/ports` file has been edited by hand (entries added) or after option 5.
 3. **Add range of terminals to inittab**
As above but adds multiple TTYs and login processes.
 4. **Delete terminals from inittab**
Deletes a TTY device and login process but does not stop any associated MTRSD daemon. It is used when the `/etc/mtrsd/ports` file has been edited by hand (entries deleted) or after option 6.
 5. **Add MTRSD daemons**
Add a single MTRSD daemon to `/etc/mtrsd/ports`.
 6. **Delete MTRSD daemons**
Delete a single MTRSD daemon from `/etc/mtrsd/ports`
 7. **Cause the MTRSD daemon to reload ports database**
Reread `/etc/mtrsd/ports` and enable connections. This is useful if the `/etc/mtrsd/ports` file has been modified by hand.
- q) **Quit**
Quit the config utility.

Note: Options 2-7 are provided as an expert mode for users familiar with adding entries to the system files by hand. We recommend that option 1 is for users unfamiliar with MTRSD.

4.1.4 Configuring the MTSRD Software

To configure TTYs in the MTSRD software:

1. Log in as the Super user “root” and at the # prompt type:

```
cd /etc/mtsrdbin
```

```
./config
```

2. Make a choice from the menu, by typing its number or letter and pressing return.
The **Add logins (MTSRD daemons and inittab terminals)** option will perform the entire configuration task and is the recommended option for adding TTYs with or without logins. Section 5.1.5 contains a worked example.
3. Configure the required TTY's.
4. After making configuration changes you will be instructed to reboot your SCO UNIX machine.

TTY configuration is then complete and you should configure your JETSTREAM or LANSTREAM unit(s), if you have not already done so.

4.2 JETSTREAM/LANSTREAM Configuration

The JETSTREAM or LANSTREAM unit configuration consists of two steps:

1. Adding the host to the unit.
2. Configuring the unit ports.

The ports can be configured into ‘Silent Raw’ or ‘Direct Raw’ modes. In Silent Raw mode the connection is established automatically, while in the Direct Raw mode the user has to explicitly start each connection.

4.2.1 The JETSTREAM/LANSTREAM Software

All versions of the JETSTREAM 8500, 4000 and LANSTREAM 2000 software support MTSRD operation. However, the JETSTREAM 6x series software version must be 4.03 or greater. Chapter 8 of the JETSTREAM 6x series manual gives full product configuration details.

4.2.2 Adding the Host

The host must be added to each JETSTREAM or LANSTREAM unit. This is performed using the 'add host' command, e.g.

```
add host scounix 192.152.247.61
```

This host is then configurable for a port.

4.2.3 Configuring the Unit Ports

The lines you will use to connect to the SCO UNIX machine must be set up as follows:

```
Host:           The name of the SCO UNIX host
Type/Service:*  SILENT RAW or DIRECT RAW
Host Port:      10000 for MTSRD port 1;
                10001 for MTSRD port 2;
                etc.
```

- * The operating mode of the port is called the 'Type' on the JETSTREAM 6x series and the 'Service' on the other JETSTREAM and LANSTREAM units.

To configure the unit, connect the ports on the unit to the TTY's specified in the `/etc/mtsrld/ports` file, see Section 4.1. It is recommended that the ports be configured sequentially, starting at TCP/IP port 10000 and that the ports are configured so that it is easy to tell which port is on which JETSTREAM.

Remember to use the `save` CLI command to save the configuration on each unit.

4.2.3.1 Example of Configuring the Unit Ports

In this example we will configure a 16 port JETSTREAM:6000 and a 24 port JETSTREAM 8500, with the ports configured in `silent raw` mode.

Configuring the first unit (16 port JETSTREAM 6000)...

```
$ telnet testjs0
Trying...
Connected to testjs0.specialix.co.uk.
Escape character is '^]'.
Local flow control off

Telnet connect to JetStream testjs0

Specialix JetStream 6000
version 6.04 i.2
```

```
Login: admin
Password:
# set line 1 type silent raw scounix 10000
# set line 2 type silent raw scounix 10001
# set line 3 type silent raw scounix 10002
...
# set line 16 type silent raw scounix 10015
# save
# logout
Connection closed by foreign host.
```

Note: The identity of the unit (Specialix JETSTREAM 6000), software version number (6.04 i.2) and the mode being called 'type'.

Configuring the second unit (24 port JETSTREAM 8500)...

```
$ telnet testjs2
Trying...
Connected to testjs2.specialix.co.uk.
Escape character is '^]'.

Telnet connect to JETSTREAM testjs2
```

```
Specialix JETSTREAM 8500
version 2.0.7
```

```
Login: admin
Password:
# set line 1 service silent raw scounix 10016
# set line 2 service silent raw scounix 10017
# set line 3 service silent raw scounix 10018
...
# set line 24 service silent raw scounix 10039
# save
# logout
Connection closed by foreign host.
$
```

Note: The identity of the unit (Specialix JETSTREAM 8500), the mode being called 'service' and the number of ports.

This will set the ports 1 to 40 to connect to the host `scounix` without user intervention. The connection will be made to TCP ports in the range 10000-10039, which should correspond to the TCP port numbers that you configured on your SCO UNIX machine

with the configuration utility.

4.2.3.2 Using Direct Raw Mode

If you require the user to explicitly start a connection, then you should define the mode as 'Direct Raw' using the CLI command:

```
set line 1 type direct raw scounix 10000
```

or

```
set line 1 service direct raw scounix 10000
```

on JETSTREAM 6x or 8500, respectively. This will cause the user to be prompted to press return before the connection is attempted.

5 Example

5.1 A quick configuration for a JETSTREAM 8500

(you can do a similar quick configuration on the LANSTREAM)

This was performed using the following equipment.

- JETSTREAM 8500 running version 2.0.7
- WYSE 60 configured at 9600, 8 bit, 1 Stop, No Parity, Xon/Xoff flow control
- SCO OpenServer 5

5.1.1 Attach the JETSTREAM 8500 to the network

Attach the JETSTREAM 8500 to the network and verify that it has an IP address, broadcast address and sub-net mask.

If not, using our values we added these using the following CLI commands while logged in as admin:

```
set server internet 195.49.144.4
```

```
set server broadcast 195.49.144.255
```

```
set server subnet 255.255.255.0
```

```
save
```

and then rebooted the JETSTREAM. The internet, broadcast and sub-net addresses should be replaced with those used on your network.

5.1.2 Install the MTSRD software

Mount the CDROM according to the instructions given in section 3. Install using custom, Software->Install New Do not reboot the SCO UNIX machine at this time, you will be doing this later.

5.1.3 Configure the JETSTREAM 8500 ports

Log in to the JETSTREAM 8500 as admin, and type `screen<cr>`.

Use 'network configuration', 'host table', 'add host' and enter the SCO UNIX host name and the TCP/IP address of this host to define the SCO UNIX host on the JETSTREAM.

Use 'line configuration', 'line settings' and select line 1

Set the service to `silent raw`, enter the HOSTNAME of the SCO UNIX machine in the hostname field and set host port to 10000

Set up further ports using host port 10001 for line 2, host port 10002 for line 3 and so on.

5.1.4 Set up MTSRD TTYs on the SCO UNIX machine

Use option 1 of the `/etc/mtsrdbin/config` utility to add a range of ports, If you just want TTY ports without login processes enabled, then answer **no** when you are asked if you want the ports enabled.

The `config` utility prompts are similar from choice to choice. Below is a sample configuration session showing the prompts for item 1.

```
Specialix MTSRD configuration Utility
```

- 1) Add logins (mtsrdbin daemons and inittab terminals)
- 2) Add terminals to inittab
- 3) Add range of terminals to inittab
- 4) Delete terminals from inittab
- 5) Add mtsrdbin daemons
- 6) Delete mtsrdbin daemons
- 7) Cause the mts daemon to reload ports database
- h) Help
- Quit

```
Choose an option and press return: 1
```

- Enter the starting terminal number [000-999] or q to quit: **000**

- Enter the ending terminal number [000-999] or q to quit: **006**
- Is this a full modem terminal (y/n) or q to quit: **n**
- Enter terminal type (return for ansi) or q to quit: **<return>**
- enter baud rate or q to quit: **19200**
- The following gettydefs tags match the given baud rate:
 - 1) 19200
 - 2) console5
 - 3) 19200H
 - 4) n

pick a line (1 - 4) or q to quit: 4

- Do you want these ports enabled? (return for n) (y/n) or q to quit: **y**

Note: If you don't want logins on these ports then answer n to the above]

- Enter the starting port number [0-65535] or q to quit: **10000**
 ... [progress messages] ...
 The kernel environment includes device node files and /etc/inittab.
 The new kernel may require changes to /etc/inittab or device nodes.
- Do you want the kernel environment rebuilt? (y/n) **y**
 The kernel has been successfully linked and installed.
 To activate it, reboot your system.
 Setting up new kernel environment

Quit the configuration utility and reboot your SCO UNIX machine.

6 Troubleshooting

6.1 Debug and Diagnostics

All diagnostic information generated by the MTSRD program is routed through the syslog daemon to the file `/var/adm/syslog` .. By default only messages at level greater than LOG_DEBUG will be sent to the log. However, if an additional argument "-d" is added to the command line for MTSRD (located in the file `/etc/inittab`) verbose messages about the program will be routed to the syslogd at level LOG_DEBUG e.g.

```
mtsd:23:respawn:/etc/mtsrdbin/mts_daemon -d
```

Warning! If this option is used your log files may become very large, quite rapidly - it is probably not a good idea to have this option permanently enabled. It should only be enabled after consulting your technical support representative.

6.2 Problems & Solutions

Symptoms: After rebooting your server, you get “respawning too rapidly” messages on the system console.

Problem: The MTSRD software has not made a successful connection to the JETSTREAM or LANSTREAM.

Solution: Check the mapping between ports on the host and on the JETSTREAM/LANSTREAM. Ensure that each TTY required has a port in the `/etc/mtsrdbin/ports` file and that the JETSTREAM/LANSTREAM has the silent or direct raw service enabled on the correct line with the correct host port number.

Symptoms: Unable to input/output data on any port OR no login prompt on screen.

Problem: MTSRD process has not connected with the unit.

Solution: Check that the SCO UNIX machine can access the unit over the network, the ping command can be used to achieve this. If you are unable to ping the unit then check its network configuration. If the unit and the host

machine are on separate networks, check that the host machine has a route to the unit. You may need to add a static route.

7 Technical Support

7.1 Introduction

If you bought your JETSTREAM or LANSTREAM from a registered Specialix supplier, you must contact their Technical Support department; they are qualified to deal with your problem.

If you are a registered Specialix supplier, and bought your product from Specialix, contact Specialix Technical Support at the offices listed below.

In addition to describing your problem, please have ready or send, as a minimum, your name, company, country, phone and fax numbers and the name of the Specialix product.

For information on repairs see Section 7.5.

7.2 Specialix Support Centres

7.2.1 Europe

United Kingdom

Specialix Europe Ltd.
3 Wintersells Road
Byfleet Surrey KT14 7LF
UK

Telephone: +44 (0) 1932 792592 (Main SwitchBoard)

Facsimile: +44 (0) 1932 792600

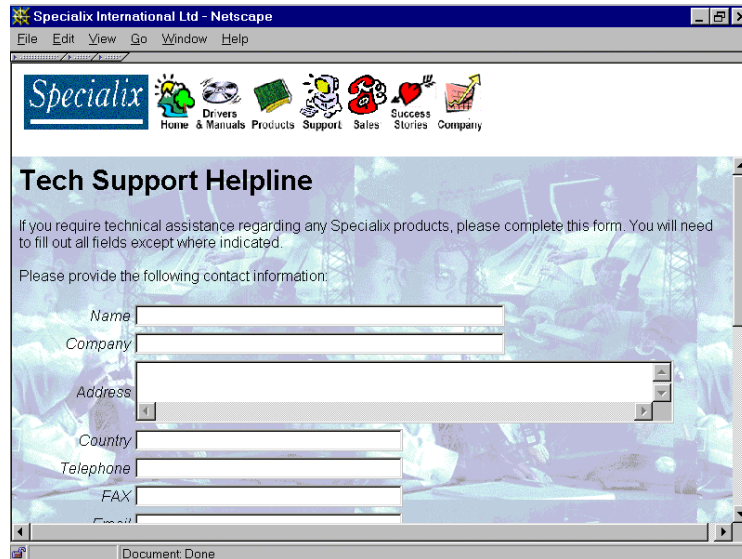
e-mail: support@specialix.co.uk

ftp site: <ftp:specialix.co.uk>. Use your e-mail address for your password.

web site: www.specialix.co.uk

If you have an internet connection please send details of your problem to Technical Support using the form shown below. You will find the form on the Specialix web site, in the 'Support' area.

Figure 1 Website Support form



France

Specialix Ltd.
13 Avenue Morane - Saulnier
78140 Velizy
FRANCE

Telephone: +33 (1) 34 63 0670
Facsimile: +33 (1) 34 65 38 60
e-mail, ftp and www contact details, as for UK.

7.3 USA

Specialix Inc.
745 Camden Avenue #129
Campbell
CA95008-4146
USA

Telephone: +1 (408) 378-7919
(Freephone): +1 (800) 423-5364 (USA only)
Facsimile: +1 (408) 378-0786

US support is open from 7am Pacific (10am Eastern) time until 5pm Pacific (8pm Eastern) time.

E-mail: support@specialix.com

World Wide Web: www.specialix.com

If you have an internet connection please send details of your problem to Technical Support using the form shown previously. You will find the form on the Specialix web site, in the 'Support' area.

7.4 Asia

7.4.1 China

Specialix Pte Ltd.
Suite A308, Long Bo Office Building
No 3 Nan Li Shi Road
Xi Cheng District
Beijing 100037
China

Telephone: +86 (0) 10 6802 4870

Facsimile: +86 (0) 10 6802 4869

Email: spx@public.bta.net.cn

7.4.2 Singapore

Specialix (Asia) Pte Ltd.
Yu Li Industrial Building
No 37 Lor 23 Sims Avenue #04-01/03
Singapore 388371

Telephone: +65 (0) 749 1700

Facsimile: +65 (0) 749 2003

Email: support@specialix.co.uk

7.5 Repairs

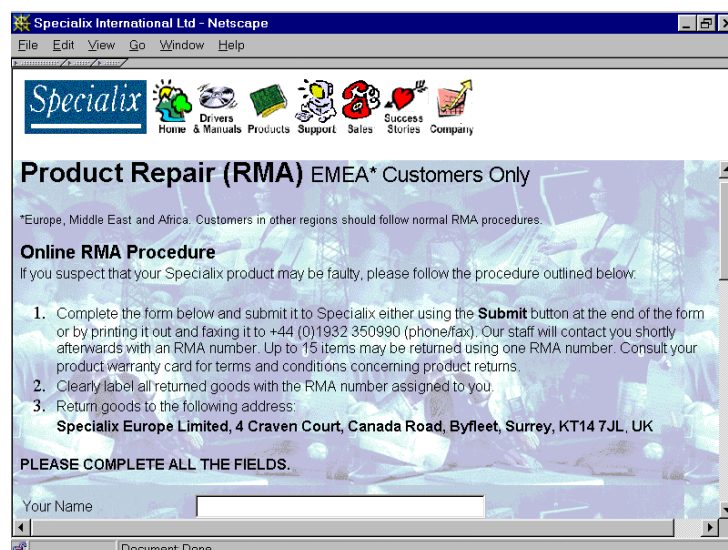
Before sending a unit for repair, you must contact your Specialix supplier. If, however, you bought your product directly from Specialix, contact Specialix at the numbers listed below.

In Europe, phone/fax: +44 1932 350990
 or e-mail: RMA@specialix.co.uk

Customers who are In Europe, Africa or Middle East can submit repair details via a website form; an example is shown in Figure 2. This form is on the Specialix website, <http://www.specialix.co.uk/> or <http://www.specialix.com/>, in the 'Support' area.

In USA and Asia contact the office shown in the Technical Support section.

Figure 2 Website RMA form



The image shows a screenshot of a Netscape browser window displaying the Specialix website's RMA form. The browser title is "Specialix International Ltd - Netscape". The page content includes the Specialix logo, a navigation menu with icons for Drivers, Home & Manuals, Products, Support, Sales, Success Stories, and Company, and a section titled "Product Repair (RMA) EMEA* Customers Only". A note specifies that the form is for Europe, Middle East, and Africa. The "Online RMA Procedure" section provides instructions and a list of steps: 1. Complete the form and submit it to Specialix either using the Submit button or by printing and faxing it to +44 (0)1932 350990. 2. Clearly label all returned goods with the RMA number. 3. Return goods to the address: Specialix Europe Limited, 4 Craven Court, Canada Road, Byfleet, Surrey, KT14 7JL, UK. Below the instructions, there is a prompt "PLEASE COMPLETE ALL THE FIELDS." and a text input field labeled "Your Name".

8 Appendix

A small amount of configuration of MTSRD daemons is sometimes required for specialist applications. We recommend that you start with the default parameters, they can be changed later if required.

8.1.1 Configurable Parameters

The parameters are contained in the file `/etc/mts/defaults`

The list of parameters and their default values is:

Parameter	Value	Function
<code>#PULLUP_TIMEOUT</code>	5000	<code>#Timeout: Delay before tx (uS)</code>
<code>#SENDBUF</code>	2048	<code>#TCP/IP Transmit buffer size (bytes)</code>
<code>#RCVBUF</code>	2048	<code>#TCP/IP Receive buffer size (bytes)</code>
<code>#DRAINPOLL_PERIOD</code>	500000	<code>#Time between Drain polls (uS)</code>
<code>#WINSIZE_PERIOD</code>	50000	<code>#Time between Window Size msgs (us)</code>
<code>#KEEPALIVE_PERIOD</code>	30000000	<code>#Timeout: check JETSTREAM alive (uS)</code>
<code>#KEEPALIVE_TIMEOUT</code>	30000000	<code>#Timeout: JETSTREAM is dead (uS)</code>
<code>#PORTNUM_TIMEOUT</code>	30000000	<code>#Timeout: JETSTREAM port number (uS)</code>
<code>#UDP_ACK_TIMEOUT</code>	250000	<code>#Timeout: UDP acknowledgement (uS)</code>
<code>#PACKETMODE_TIMEOUT</code>	30000000	<code>#Timeout: JETSTREAM mode switch (uS)</code>
<code>#MTS_VERSION</code>	JETSTREAM 8500 2.0.7	<code>#JETSTREAM version</code>
<code>#AMTS_VERSION</code>	JETSTREAM 8500 1.0.0	<code>#AJETSTREAM version</code>

Notes: 1. The default values may vary with different releases.

2. the word 'JETSTREAM' can also apply to 'LANSTREAM'; for example, 'JETSTREAM port number' read 'LANSTREAM port number'.

The following description details the three parameters that can be altered by the user. The remainder should only be changed after consulting your technical support contact.

In all cases you will need to remove the comment character “#” from the beginning of the line to enable the parameter and change the default.

8.1.2 PULLUP_TIMEOUT

The PULLUP_TIMEOUT line allows for an adjustment of the read/write delay injected by MTSRD. A value of 100000 will cause the MTSRD daemons to pause for 0.1 second each time they send characters to the JETSTREAM or LANSTREAM, to allow more efficient use of the network. If this pause results in a jerky response from terminals attached to the JETSTREAM or LANSTREAM reduce this value. A value below 1000 is effectively a no wait state.

8.1.3 MTS_VERSION and/or AMTS_VERSION

These parameters are provided for compatibility with other version of MTSRD and are ignored by the MTSRD software. If these parameters are enabled, two version numbers can be checked against JETSTREAM/LANSTREAM units attempting to connect to MTSRD. This is only useful for administrative purposes and has **NO EFFECT** on the operation of the software.

Add/Change a line to reflect the version of the JETSTREAM or LANSTREAM software that you are running, such as:

```
MTS_VERSION JetStream 6000 6.05 i.1 # JETSTREAM version
```

If you run the SNMP version of the JetStream 6000 software the line will be:

```
MTS_VERSION JetStream 6001 6.05 i.1 # JETSTREAM version
```

The version string may be derived from the JETSTREAM or LANSTREAM unit. It consists of a product name and a software version number. The product name is that shown in the banner presented at boot time and with the Login prompt (when the banner is enabled) e.g. 'JETSTREAM 8500' followed by the version string e.g. '1.0'. The version string is obtained from the JETSTREAM or LANSTREAM using the `version` command in the CLI, for example:

```
JS_8500# version
2.0.7
JS_8500#
```

Note: The string is case sensitive and should match exactly that generated by the JETSTREAM or LANSTREAM.

e.g. If you have a JETSTREAM 8500 running version 2.0.7 of firmware you should enter the syntax:

```
MTS_VERSION JETSTREAM 8500 2.0.7 # JETSTREAM version
```

This tells the MTSRD software what version to look for when establishing a connection from the JETSTREAM (or LANSTREAM). If the MTSRD software gets the wrong version back from the JETSTREAM (or LANSTREAM) it will warn that the versions do not match. To check which version MTSRD is expecting and what it is getting you can enable logging to the syslog daemon, this would look something like:

```
Sep 29 10:31:46 scounix MTSRD[2460]: MTSRD: Connected 10001.
```

```
Sep 29 10:31:46 scounix MTSRD[2460]: Wanted version [JETSTREAM 8500 2.0.7]
```

```
Sep 29 10:31:46 scounix MTSRD[2460]: found version [JetStream 6000 6.04 i.2]
```

It is only necessary for the JETSTREAM or LANSTREAM software version to match one of the parameters. This allows two devices with differing Versions/Product identifiers to be used without warnings e.g. having the configuration definition of:

```
MTS_VERSION    JetStream 6000 6.04 i.2    # JETSTREAM version
AMTS_VERSION   JETSTREAM 8500 2.0.7             # JETSTREAM version
```

This would allow a JETSTREAM 6000 running version 6.04 of code and a JETSTREAM 8500 running version 2.0.7 to connect to MTSRD ports without generating syslog warnings.

The same argument applies to the LANSTREAM.