



SPECTRA User Manual

Data Transfer Node

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Chapter 0 - About this document

This document is the user manual for the Data Transfer Node (DTN) of Concept Systems Limited's integrated navigation system designed for marine geophysical survey usage (SPECTRA). SPECTRA is a modular system, comprising various Nodes.

This manual describes how to use the DTN. [Chapter 1](#) introduces the Node and its use. [Chapter 2](#) explains the actions necessary to use RTS/CTS flow control with the DTN. [Chapter 3](#) describes the Node's configuration file.

For an overview of how SPECTRA works, see the *SPECTRA User Manual - Beginner's Guide*. For a glossary of terms, see the *SPECTRA User Manual - Glossary*. For brief descriptions of each Node, and the commands to start Nodes, see the *Spectra Software Installation and Set Up manual*.

Revision history

| Document Reference | Date | Notes |
|--------------------------|--------------------------------|--|
| SPCTRA_2.0/USER/DTN/1.0 | 12 th November 1996 | First issue. |
| SPCTRA_2.0/USER/DTN/2.9 | 27 th May 1997 | 9-way D-type cable diagram added. COMPOUND keyword removed from configuration file syntax. Example DTN file for slave vessel display added. |
| SPECTRA_7.6.1/USER/DTN/3 | 30 th April 1999 | Configuration file now common with GATOR. Old format remains in App A. |

Document cross-reference

| Document Reference | Title |
|-----------------------|---|
| SPCTRA_2.0/USER/BEGIN | <i>SPECTRA User Manual - Beginner's Guide</i> |
| SPCTRA_2.0/USER/GLOSS | <i>SPECTRA User Manual - Glossary</i> |
| SPCTRA_2.0/USER/ALGO | <i>SPECTRA User Manual - Algorithms</i> |
| SPCTRA_2.0/USER/DSN | <i>SPECTRA User Manual - Data Server Node</i> |
| SPECTRA_7.6.1/INSTAL | <i>Spectra Software Installation and Set Up</i> |

Conventions used in this document

The conventions used in this, and all other SPECTRA user manuals, are those defined in the *SPECTRA User Manual - Beginner's Guide*.

Getting started

This Node would normally be started via the Monitor Node. Details of the commands required to start this and other SPECTRA Nodes can be found in the *Spectra Software Installation and Set Up manual*.

Chapter 2 - RTS/CTS

This chapter describes how to enable RTS/CTS flow control for the DTN on various machines. It also gives an example RS232 cable diagram for RTS/CTS flow control with the DTN.

Enabling RTS/CTS flow control

AIX 4.1 systems

On these systems, the DTN does not switch on RTS/CTS flow control automatically on start-up – it must be explicitly enabled by the system administrator. If you plan to use the DTN on serial device `/dev/tty0`, for example, you can check whether it is enabled with the command:

```
lsattr -E -l tty0 -a flow_disp
```

which might produce the following output:

```
flow_disp xon FLOW CONTROL to be used True
```

In this example, `xon` indicates that the wrong kind of flow control is in use. Log in as `root` and issue the command:

```
chdev -l tty0 -a flow_disp=rts
```

which should respond with:

```
tty0 changed
```

If you use `lsattr -E -l tty0 -a flow_disp` again, it should now respond with:

```
flow_disp rts FLOW CONTROL to be used True
```

which is what is required.

You can now start up a DTN using `/dev/tty0`, and RTS/CTS flow control should be in effect at that end.

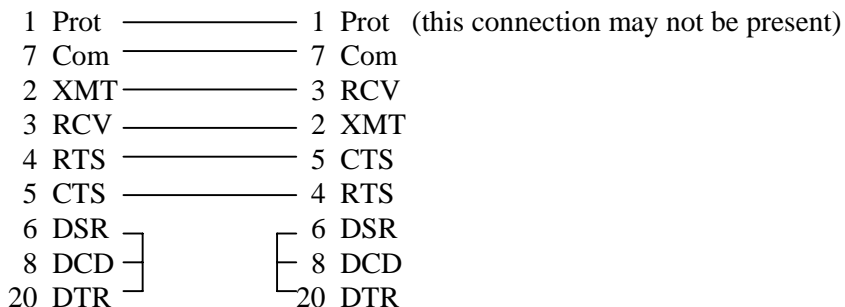
Solaris 1, Solaris 2, AIX 3.2 and HP-UX systems

The DTN will automatically use RTS/CTS flow control on these systems, and no further intervention is necessary.

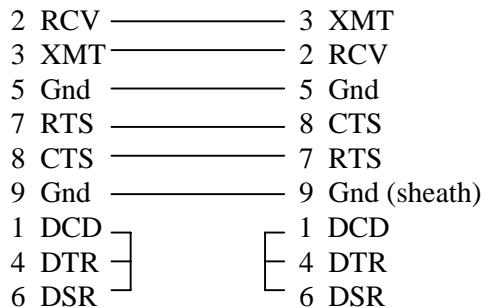
Example cable diagram

The following examples are of null modem cables with RTS/CTS.

25-way D-type



9-way D-type



Simple example

The following is an example configuration file:

```
#This is a comment
CLIENT
#MULTI @INTERFACE@
#SIMPLE @GPS@
MULTI @PSD@
SIMPLE @STD_PSD_NAME@
MULTI @SURVEY@
MULTI @OBSTACLE@
MULTI @STATION@
```

Note that in the above example the first MULTI and SIMPLE records are commented out.

Full example, for standard slave vessel display

```
#
# Lines starting with a # or a ; are treated as comments
#
# Not all dtn command line options can be configured from
# the .DTN file. Those that can are listed here:
#
# CLIENT          This dtn is a client
# SERVER          This dtn is a server
#
# SIMPLE itemname Use this to request a single item from the remote
#                 dtn. Examples:
#
#                 SIMPLE @PROJECT@
#                 SIMPLE @CURRENT@
#
# MULTI itemname  Use this to request a group of items from
#                 the remote dtn. Examples:
#
#                 MULTI @NETWORK@
#                 MULTI @NETSOLUTION@
#
#                 Note this will get all NETWORK's and
#                 all NETSOLUTIONS. If you only want say 2 of 4
#                 networks then you can use a SIMPLE for those
#                 of interest.
#
#                 SIMPLE @NETSOLUTION@main
#                 SIMPLE @NETSOLUTION@ncc
#
#-----#
# Minimum set of items required by a Display Node (DN) on a slave vessel #
#-----#

SIMPLE @CURRENT@
SIMPLE @STD_PSD_NAME@
MULTI @PSD@

SIMPLE @LINESTATUS@
SIMPLE @PRIMARY@

MULTI @OBSTACLE@
MULTI @STATION@
MULTI @SURVEY@

MULTI @SATELLITE@
MULTI @GUNARRAY@
MULTI @STREAMER@

MULTI @NETWORK@

SIMPLE @NETSOLUTION@vessels
SIMPLE @NETSOLUTION@main
```

```

SIMPLE @SHOTPOSITION@

#-----#
# Other items required to support features of the Display Node (DN) #
#-----#

#-----#
# If using bullseyes and SRI node #
#-----#

SIMPLE @NCC@
SIMPLE @BNCONF@
SIMPLE @SRICONF@

#-----#
# If using the TURN node, then to view details on slave request items #
#-----#

SIMPLE @CURRENT_TURN@
SIMPLE @TURNSTATUS@
MULTI @TURN@

#-----#
# If binning on slave then the following items would be needed #
#-----#

SIMPLE @BINNER@
SIMPLE @GUNDATA@

#-----#
# Any emergencies that develop on master can be shown on remote display #
#-----#

SIMPLE @EMERGENCY@

#-----#
# If no local rtnu, the GPS on the master can be used? #
#-----#

SIMPLE @GPS@

#-----#
# To allow a QCLN, QCN to operate on the remote, it depends on what data #
# is to be logged. The following can be specified in addition to a basic #
# display node as shown above #
#-----#

SIMPLE @PROJECT@
MULTI @ECHOSOUNDER@
MULTI @VESSEL@
MULTI @FILTER@
SIMPLE @OBSKO@
SIMPLE @SHOTNOW@
MULTI @GYRO@
MULTI @RAW@
MULTI @INTERFACE@
    
```