



CanMap® Rail

User Manual
Version 2010.1

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About DMTI Spatial

DMTI Spatial™ Inc. is Canada's leading Location Intelligence provider. We enable users to understand their customers, optimize resources, realize opportunities, maximize profitability and make more informed decisions through accurate products and innovative thinking.

DMTI Spatial publishes precision built street map, rail and routing data (CanMap®), a detailed water layer, and innovative geocoding and address management software (GeoPinpoint™). In addition, DMTI Spatial publishes a full range of positionally accurate geospatial data products including: enhanced points of interest (EPOI), census data and boundaries, postal geography, topographic maps, and US mapping data. As part of a complete business geographic solution, DMTI Spatial™ offers a wide range of GIS services, consulting, and software training.

Established in 1994, DMTI Spatial is committed to setting the standard within the GIS industry for precision built geo-spatial data and address management services.

At DMTI Spatial, we believe that our true strength comes from working closely with our customers and providing innovative solutions to meet their strategic business objectives. As Canada's premier spatial solutions provider we pride ourselves with having worked with North America's leading organizations to support their mission critical applications.

DMTI Spatial works with large and small organizations representative of a wide variety of industries:

- Agriculture
- Banking/Finance
- Consulting
- Education
- Emergency Services
- Engineering
- Environmental
- Forestry
- Government
- Health
- High Technology
- Insurance
- Manufacturing
- Media
- Mining
- Real Estate
- Retail
- Telecommunications
- Transportation
- Utilities

We are a member of the ESRI Canada Business Partner Program, and winner of the 2001 ESRI Worldwide New Business Partner of the Year Award and the 2005 ESRI Foundation Partner of the Year Award. We are the winner of the Markham Board of Trade 2000 Award for Entrepreneurship and Innovation. Recipient of The Association of Canadian Map Libraries and Archives (ACMLA) 2002 Certificate of Appreciation.



Really Smart Spatial Solutions™

Through the application of its products and services, DMTI Spatial™ has been involved with projects such as: location-based services, logistics planning, emergency dispatch, facilities management, data management, customer care, address management, land base development in support of network planning, and marketing/demographic analysis applications.

DMTI Spatial™ can provide all of the components necessary for the acquisition, implementation, operation and maintenance of a successful GIS system within companies of all sizes. Through its product and service offering, DMTI Spatial™ can provide users with 5 key components:

1. Accurate, detailed, and compatible data
2. Comprehensive maintenance program
3. GIS software
4. Consulting and services
5. Software training

DMTI Spatial™ Product & Service Portfolio

DMTI Spatial's product & service offering includes:

CanMap® - Digital Map Data for Canada

- CanMap® Streetfiles
- CanMap® RouteLogistics
- CanMap® Rail
- CanMap® Major Roads and Highways
- CanMap® Parks & Recreation
- CanMap® Water

Satellite Imagery

- Satellite StreetView™

Municipal Amalgamations

- CanMap® Municipality Amalgamation File (MAF)

Business & Recreational Points of Interest

- Enhanced Points Of Interest (EPOI)

GeoPinpoint™ Suite

- Canada's Geocoding Solution
- Modular Architecture
- Windows Standalone Desktop Version
- UNIX, Java Wrapper, ActiveX (DLL Version)

Topographic Data and Base Maps

- Canadian Atlas Map Bundle (CAMB)
- Populated Placenames
- National Topographic Data Base (NTDB)
- 30 & 90m Digital Elevation Models (DEM)
- Clutter Data

Postal Geography – Platinum Postal Code^{OM} Suite

- Six-Digit Postal Code File (LDU Boundary)
- Enhanced Postal Code File (MEP)
- Forward Sortation Areas (FSA) Boundary

1996 Census Boundaries & Demographic Data

- Enumeration Area (EA)
- Census Subdivision (CSD)
- Census Division (CD)
- Census Metropolitan Area/Census Agglomeration (CMA/CA)
- Census Tract (CT)
- Federal Electoral Districts (FED)

2001/6 Census Boundaries

- Dissemination Area (DA)
- Census Subdivision (CSD)
- Census Division (CD)
- Census Metropolitan Area/Census Agglomeration (CMA/CA)
- Census Tract (CT)
- Federal Electoral Districts (FED)

GIS Software

- Contour Modeling and Display
- Demographic Profiling and Lifestyle Targeting
- Geocoding and Mapping Software
- Routing and Logistics

Consulting and Services

- Address Management Solutions
- Application Development
- Database Marketing
- Data Conversion and Creation
- Database Scrubbing
- Geocoding Services
- GIS Consulting
- Technical Support

* Postal Code is an official mark of Canada Post Corporation

Technical Support, Error Reporting & Product Enhancement Services

DMTI Spatial is committed to building the best products possible for our customers. By using our data every day in your mission critical application you are our best source for product refinement. Please let us know if you have an enhancement request or found an error in any of our products so that we can make the correction for the next release.

This is your opportunity to provide feedback directly to the DMTI Spatial Product Development Team. Please be as specific as possible so that we can improve our products quickly and accurately. To submit an error or request technical assistance please visit: <http://www.dmtispatial.com/en/Resources/TechSupport.aspx>

If you have an idea for a new product, or an enhancement request for an existing product, please e-mail: pm@dmtdispatial.com

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Product Enhancement Requests: pm@dmtdispatial.com
Technical Support: <http://www.dmtispatial.com/helpdesk/index.aspx>

Trademarks and Notices

© 2010 DMTI Spatial Inc. CanMap is a registered trademark of DMTI Spatial Inc. DMTI Spatial, Really Smart Spatial Solutions, Because Where Is What Matters and GeoPinpoint are trademarks of DMTI Spatial Inc. All rights reserved. Other products and company names mentioned herein may be trademarks of their respective companies. Mention of third-party products is for informational purposes only and constitutes neither a recommendation nor an endorsement.

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About CanMap® Rail V2010.1

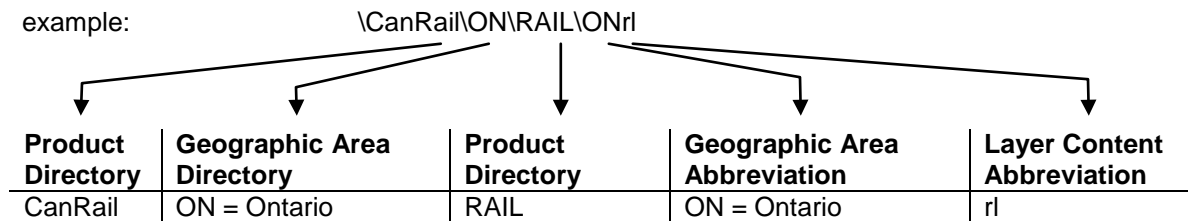
Layer Properties

Property	Description
Coverage	National
Currency	February 15, 2010
Level of Accuracy	Ranging from the National Topographic Data Base (NTDB) standard to sub-meter accuracy
Projection	All layers are displayed as unprojected Longitude-Latitude
Datum	All layers are in WGS84 datum
Format	ESRI and MapInfo ¹

Layer Naming Conventions and Directory Structure

CanMap Rail is organized into the following directory structure and uses the following directory and file naming conventions:

example:



The geographic area directory area indicates the geographic coverage of the layer, for example ON = Ontario.

The Geographic Area Name indicates the geographic extent of the file. DMTI Spatial's standard geographic coverage areas include all Provinces and Territories as well the coverage areas found in the CANtop file included with Bonus Canada Directory.

¹ Custom formats available upon request. Refer to Canada Directory Manual [Appendix A: ESRI File Extensions](#) and [Appendix B: MapInfo File Extensions](#) for more information regarding file extensions.

About CanMap® Rail V2010.1(cont'd)

Layer Contents

The CanMap Rail is comprised of the following layers:

Layer Name	Feature Description	Feature Type
<i>AREArI</i> ²	Railway and Transit Lines	Line/Polyline
<i>AREAttr</i> ²	Transportation Stops	Point

For more information regarding these layers refer to the [Data Dictionary](#) of this CanMap Rail manual.

The Canada Directory is included with the CanMap Rail product. The Canada Directory consists of Capital Cities, Area Code Boundaries, Time Zone boundaries, Provincial/Territorial boundaries, Regional Municipality Boundaries, Urban Boundaries, generalized national water bodies and 1996 Census Subdivision (CSD) boundaries and data. For more information regarding the Canada Directory refer to the Canada Directory manual included with the CanMap Rail User Manual.

² Where *AREA* refers to a DMTI Spatial Standard Geographic Areas

Using CanMap® Rail V2010.1

Viewing DMTI Spatial Products

Packaged with DMTI Spatial products are several custom viewing files for MapInfo® Professional and ESRI® ArcGIS®.

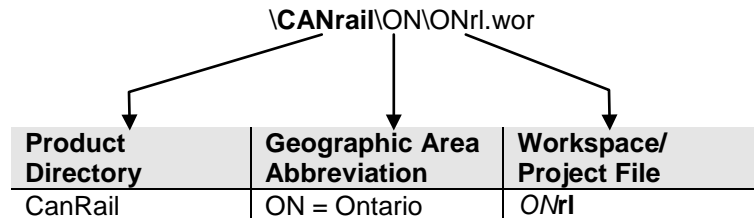
Software	Extension	Version Support
MapInfo Professional	*.wor	Version 7.5 and higher
ESRI ArcGIS	*.mxd	Version 9.2 and higher

Located in the product directory, these viewing files have been provided to maximize the ease of use of DMTI Spatial products by intelligently layering various data layers and displaying them based on appropriate viewing scales.

Viewing CanMap Rail

CanMap Rail workspaces or project files are found in the product directory:

example:



If you wish to view the CanMap Rail with the provided workspaces or project files, the displayed layers include:

Layer Name	Description
CANcap	Capital Cities derived from CANmap Populated Placenames
CANprv	Provincial/Territorial Boundaries
AREAr1	Railway and Transit Lines
AREAts	Transportation Stops
CANwat	National Water

Layers that are not displayed as part of the CanMap Rail workspace or project file include:

Layer Name	Description
CANacb	Area Code Boundaries
CANrmn	Regional Municipality Boundaries
CANtop	Topographic Coverage Areas
CANTzd	Time Zones (Daylight Savings Time)
CANTzs	Time Zones (Standard Time)

Using CanMap Rail® V2010.1 (cont'd)

Suggested Layering for CanMap Rail

If you wish to view CanMap Rail layers without the provided workspaces or project files, DMTI Spatial recommends using the following layering system to properly view CanMap Rail.

Layer Name	Description
CANcap	Capital Cities derived from CANmap Populated Placenames
AREAttr	Transportation Stops
AREAr	Railway and Transit Lines
CANwat	National Water
CANprv	Provincial/Territorial Boundaries

For example, when viewing DMTI Spatial boundary layers, the national water layer should be placed above any DMTI boundary layer.

Data Dictionary

Railway and Transit Lines (rl)



Layer Location

\\RAIL\\AREArI

Layer Structure

Field Name	Type	Size	Description
OWNER	Char	15	Railway Owner/Operator (Abbreviation)*
CARTO	Decimal	3,0	Cartographic Rail Classification
ACCESS1	Char	15	Alternate Railway Owner/Operator (Abbreviation)*
ACCESS2	Char	15	Alternate Railway Owner/Operator (Abbreviation)*
ACCESS3	Char	15	Alternate Railway Owner/Operator (Abbreviation)*
TRS_RTE	Char	68	Transit Route
RTE_TYPE	Char	3	Route Type
PROV	Char	2	Province
US_RAILCO	Char	15	American owner/operator of connecting US railway line
US_STP	Char	50	American railway station of entry on connecting US railway line
US_STATE	Char	2	American State the connecting US railway line enters
CR	Decimal	1,0	Transit: Commuter Rail Flag
LRT	Decimal	1,0	Transit: Light Rail Flag
RT	Decimal	1,0	Transit: Rapid Transit Flag
CODE	Decimal	4,0	Classification Code
FEATURE	Char	30	Railway Feature Type
RL_ID	Decimal	9,0	Railway unique identifier (Unique ID)

* See Appendix B : Rail Owners/Operators list for full and abbreviated names of the Rail operators.

- ❖ Rail Transit lines have been integrated with the Railway lines. The TRS_TYPE and RTE_TYPE fields have been added to the Railway lines in order to accommodate the transit data. Three flag fields CR, LRT and RT have been included so that Rail Transit lines can be queried out to create a separate transit layer. In cases where a transit line has shared access with a railway line, the OWNER field will contain the railway data and the transit data will be contained in one of the ACCESS fields.
- ❖ The FEATURE field represents the main field for Rail classification. It combines technical characteristics of the rail features from both CARTO and CODE fields. See Appendix A: Cartographic Road and Rail Classifications for CARTO descriptions.

Layer Content

FEATURE	CARTO Equivalence	CODE Equivalence
MAIN LINE	10	962
MAIN LINE – BRIDGE	10	91
MAIN LINE – TUNNEL	10	1376
SIDETRACK	11	963
SIDETRACK – BRIDGE	11	91
SIDETRACK – TUNNEL	11	1376
TRANSIT LINE	13	961
TRANSIT LINE – BRIDGE	13	91
TRANSIT LINE – TUNNEL	13	1376
ABANDONED LINE	12	935
ABANDONED LINE – BRIDGE	12	91
ABANDONED LINE – TUNNEL	12	1376

CODE	CODE Explanation
91	BRIDGE
935	RAILWAY: ABANDONED
961	RAILWAY: SPECIAL, OTHER, OPERATIONAL, SINGLE
962	RAILWAY: OPERATIONAL
963	RAILWAY: OPERATIONAL, SIDETRACK
1376	TUNNEL

Transit Definitions

Commuter rail (CR) is a transit railway within urbanized areas, or between urbanized areas and outlying suburbs and regions within commuting distance. These transit lines are often shared with Railway lines.

Rapid Transit (RT) (metro, subway) is a high speed transit railway at ground level or below within urbanized areas.

Light rail (LRT) (streetcar, tramway, automated guideway transit) is a transit railway that operates on a loop within the central business district of a city or connecting the business district to its suburbs.

Data Dictionary (cont'd)

Transportation Stops (trs)



Layer Location

\\POI\AREAts

Layer Structure

Field Name	Type	Size	Description
NAME	Char	150	Transportation Stop name
CITY	Char	68	City or municipality
PROV	Char	2	Provincial/Territorial Abbreviation
TRS_TYPE	Char	25	Transportation Stop classification (if available)
OWNER	Char	68	Transportation Stop owner/operator
ROUTE	Char	100	Transportation Stop Route
TRS_NUM	Char	8	Transportation Stop number (if available)
CODE	Decimal	4,0	Classification Code
FEATURE	Char	76	Transportation Stop Feature Type
PREC_CODE	Char	2	Precision Code
ATTRIB_CODE	Char	2	Attribute Code
POI_ID	Char	15	Transit Stop unique identifier (Unique ID)

- ❖ Bus and Rail Transit stops have been merged with the Railway Stops to create a Transportation Stops layer. Some fields were added and others changed name or type to accommodate the transit data. See table above for descriptions of each field.

Layer Content

CODE	FEATURE
150	BUS STOP
151	BUILDING: RAPID TRANSIT STATION
152	BUILDING: LIGHT RAIL TRANSIT STATION
154	BUILDING: COMMUTER RAIL STATION
155	BUILDING: RAILWAY STATION

Appendix A: Cartographic Road and Rail Classifications

Carto #	Carto Name	Description
1	Expressway	Expressways and 400 series highways, e.g. Highway 401, Don Valley Parkway
2	Primary Highway	Primary Highway, e.g. Highway 7, Highway 11
3	Secondary Highway	Secondary Highways
4	Major Road	Major road or Arterial road, e.g. Bayview Ave
5	Local Road	Subdivision road in a city or gravel road in a rural area
6	Trail	Trails
10	Main	Main Railway and Transit Lines (includes segments of rail that are shared with transit)
11	Sidetrack	Sidetrack of Main Railway Route
12	Abandoned	Abandoned sections of Main Railway Route
13	Transit	Transit lines that are not shared with Railway lines
20	Ferry Route	Approximate travel route of Ferry
21	Ferry Ramp	Ferry Ramp
22	Ice Road	Approximate travel route of Ice Road
23	Ice Ramp	Ice Ramp
24	Ferry Route/Ice Road	Approximate travel route of Ferry/Ice Road
25	Ferry/Ice Ramp	Ferry/Ice Ramp

Appendix B: Rail Owners/Operators list

OWNER/OPERATOR (Abbreviated)	OWNER/OPERATOR
AC	ALGOMA CENTRAL RAILWAY INC.
AMT	AGENCE MÉTROPOLITAINE DE TRANSPORT
AP	ALBERTA PRAIRIE RAILWAY EXCURSION
ARNAUD	ARNAUD RAILWAY (WABUSH LAKE RAILWAY CO.)
BCRC	BRITISH COLUMBIA RAILWAY COMPANY
BCRY	BARRIE-COLLINGWOOD RAILWAY
BG	BELLGAZ
BNML	BURLINGTON NORTHERN (MANITOBA) LTD.
BNSF	BURLINGTON NORTHERN SANTA FE
CT	CALGARY TRANSIT
CASO	Joint CPR,CN operations
CBC	CHEMIN DE FER BAIE DES CHALEURS INC. (SCFQ)
CBNS	CAP BRETON & CENTRAL NOVA SCOTIA RAILWAY
CCFG	CORPORATION DES CHEMINS DE FER DE LA GASPÉSIE (SCFQ)
CDAC	CANADIAN AMERICAN RAILWAY CO. (IRON ROAD)
CFC	CHEMIN DE FER CHARLEVOIX INC. (SCFQ)
CFM	CHEMIN DE FER DE LA MATAPÉDIA (SCFQ)
CGT	CANADA & GULF TERMINAL RAILWAY COMPANY
CN	CANADIAN NATIONAL RAILWAY
CPR	CANADIAN PACIFIC RAILWAY
CRC	CARTIER RAILWAY
CSXT	CSX TRANSPORTATION
CTRW	CARLTON TRAIL RAILWAY (OMNITRAX)
CWRL	RAILINK CENTRAL WESTERN
DVR	CAPE BRETON DEVELOPMENT CORPORATION (DEVCO)
ETS	EDMONTON TRANSIT SYSTEM
EN	ESQUIMALT AND NANAIMO RAILWAY COMPANY
ETL	ESSEX TERMINAL RAILWAY COMPANY
GEXR	GODERICH-EXETER RAILWAY CO. LTD. (RAILTEX INC.)
GO	GO TRANSIT SYSTEM
GPGC	GRAND PRAIRIE GRAND CACHE RAILWAY
GWWD	GREATER WINNIPEG WATER DISTRICT RAILWAY
HBRY	HUDSON BAY RAILWAY (OMNITRAX)
HCRY	HURON CENTRAL RAILWAY INC. (GENESEE RAIL-ONE)
NBEC	NEW BRUNSWICK EAST COAST RAILWAY (SCFQ)
NBSR	NEW BRUNSWICK SOUTHERN RAILWAY CO. LTD
NS	NORFOLK SOUTHERN RAILWAY COMPANY
OCRR	OTTAWA CENTRAL RAILWAY (SCFQ)
OKAN	OKANAGAN VALLEY RAILWAY
OLOR	ONTARIO L'ORIGINAL RAILWAY INC. (RAILTEX INC.)
ONT	ONTARIO NORTHLAND TRANSPORTATION COMMISSION
OSR	ONTARIO SOUTHLAND RAILWAY INC.
POM	PORT OF MONTREAL (RAILWAY OPERATIONS)
QGRY	QUÉBEC GATINEAU RAILWAY INC. (GENESEE RAIL-ONE)
QNSL	QUÉBEC NORTH SHORE & LABRADOR RAILWAY CO.
QSR	QUÉBEC SOUTHERN RAILWAY (IRON ROAD)
RL&W	RAILINK LAKELAND & WATERWAYS
RLFO	RAILINK SOUTHERN ONTARIO
RLMN	RAILINK MACKENZIE NORTHERN
ROV	RAILINK OTTAWA VALLEY
RS	ROBERVAL & SAGUENAY RAILWAY COMPANY
SLR	ST. LAWRENCE & RAQUETTE RIVER RAILROAD
STM	SOCIÉTÉ DE TRANSPORT DE MONTRÉAL
SRC	SOUTHERN RAILS COOPERATIVE LIMITED
SRV	SOUTHERN RAILWAY OF BRITISH COLUMBIA LTD.
SSR	SOUTH SIMCOE RAILWAY
STER	ST. THOMAS & EASTERN RAILWAY CO. (TRILLIUM)
TLST	TRANSLINK SKYTRAIN
TLWCE	TRANSLINK WEST COAST EXPRESS
TOT	TRANSITWAY O-TRAIN
TTC	TORONTO TRANSIT COMMISSION
VIA	VIA RAIL CANADA INC.
W&H	WINDSOR & HANTSPOUR RAILWAY (IRON ROAD)
WLR	WABUSH LAKE RAILWAY CO.
WPY	WHITE PASS AND YUKON ROUTE
WSJR	WATERLOO ST. JACOBS RAILWAY CO. LTD.

Appendix C: ISO 19115:2003 Compliant Metadata

Metadata Notification

As of May 15th 2005, DMTI Spatial data products have metadata that are ISO 19115:2003 compliant.

This product now includes structured metadata files as provided in XML and/or HTM format. These metadata files reside with the graphic or database files to which they are associated. It is recommended that users review and customize the metadata as per their specific needs.

This latest addition to the CanMap[®] line of products is another enhancement that will benefit our users and increase overall product satisfaction.



About DMTI Spatial:

DMTI has been providing industry leading enterprise Location Intelligence solutions for more than a decade to Global 2000 companies and government agencies. DMTI's world-class Location Hub® platform uniquely identifies, validates and maintains a universe of location-based data. DMTI is the creator of market leading Mapping Solutions and maintains the gold standard for GIS location-based data in Canada.

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