

SpectrumSearch Lite PRISMS Lite Training Guide

A guide to searching the New Zealand radio spectrum downloadable database.

**Version 1.1
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Obtaining SpectrumSearch / PRISMS Lite

The downloadable PRISMS database and associated tools involve the installation of software and a database on your personal computer. These utilities are targeted at users who have information needs exceeding those provided by the Ministry's SpectrumOnLine facility at <http://spectrumOnLine.med.govt.nz> .

Downloadable software tools called **SpectrumSearch Lite** , **PRISMS Lite** and a recent copy of the PRISMS database are available for download at :-
www.med.govt.nz/rsm/publications/software.html

The files combine to provide powerful tools for the use of those planning, engineering, using or managing the radio spectrum in New Zealand. The graphical spectrum display in Spectrum Search Lite is supplemented with a resultant tabular set of the licences corresponding to the selected graphic and a map of New Zealand displaying the transmit locations.

These tools are for the use of radio engineers and other 'power' users of radio spectrum data. Installation instructions and Training Guides are provided.

Important Note. The database does not include records of agencies responsible for the security and protection of New Zealand.

Other tools for searching the register

The Ministry's Radio Spectrum Management licensing database is available on-line to anyone with a computer and an Internet connection. Most services are available free of charge.

The location is <http://SpectrumOnLine.med.govt.nz> . A Training Guide is available for download at <http://www.med.govt.nz/rsm/publications/software.html> which provides you with a checklist of computer system requirements and outlines our contact details should you require assistance.

Setting Up

PC Requirements

All you need to get started is:

- A modern computer 300 MHz MMX / 64 MB RAM and 80 MB free Hard Drive space.
- Microsoft Access for querying the installed database direct. MS Access is not required when using SpectrumSearch / PRISMS Lite to search the database.

- MS Windows Operating System. (Windows 98 or later)

Many RSM publications are available in Adobe PDF format only which requires Adobe Reader to view.

Software Installation

Step 1. Download the zipped files from www.med.govt.nz/rsm/publications/software.html and save in a temporary directory. Note that the files total approximately 30 MB in size and allowance should be made for network connection speed. Training Guides are also available for download.

Step 2. Unzip and double click the **Spectrum_Lite_Setup.exe** file to start the installation.

Step 3. Unzip PRISM.zip into the folder where the Spectrum_Lite_Setup was installed to.

Step 4. Delete files from temporary directory.

The programs use an MS Access database to store spectrum information. A new updated database is provided from the same website on a weekly basis for downloading. Information on using the database with MS Access is contained in the databasereadme.txt file located in the programme directory after installation.

Should you create MS Access Queries of your own and do not wish to lose them when updating databases, an option is to save the older database to a separate directory and export the query to the new database.

To run the program, select Start, Programs, SpectrumSearchLite, SpectrumSearchLite or PRISMS Lite. Alternatively, double click the **spectrum.exe** or **PRISMSLite.exe** file in the installation folder (by default C:\Program Files\Spectrum\).

You may be prompted to install MDAC (Microsoft Database Access Components) on certain operating systems (standard with Windows 2000 and XP). You are warned that this may impact on other data related software and it is advisable to discuss this issue with your system administrator.

Help

Instructions containing more detail on how to operate Spectrum Search / PRISMS Lite are available from the programme Help Menu.

Assistance

For further assistance, information or feedback:

- Website: www.rsm.govt.nz
- E-mail: info@rsm.govt.nz
- Phone: 0508 RSMINFO (0508 776463)

Or +64 3 9622603 for international or mobile callers

What can you do with SpectrumSearch Lite?

- Identify both occupied and vacant spectrum by visual means
- Obtain basic information on frequency, location and ownership for individual licence/s
- See where licences are located on a map of New Zealand
- Obtain information on the NZ Spectrum Band Plan
- Obtain information on the ITU Allocations for Region 3
- Print a grid of results

What can you do with PRISMS Lite?

- Obtain information to assist with interference analysis at a radio site
- Extract detailed information on Spectrum / Radio licences
- Obtain graphical representation of Unwanted Emission Limits and radiation patterns
- Undertake an Area Search of all transmitters within a nominated radius and frequency range
- Print or export file to PDF or MS Excel.
- MS SQL 2000 Network capable.
- View Licence conditions, Associated licences and MPIS levels.

What can you do with MS Access Queries?

- Access the database with MS Access
- Use any of the nine common queries preloaded for your use
- Create your own queries which can be exported into updated databases
- Create your own reports to analyse with MS Excel.
- Licence Search by frequency and any one of : -
 - Licence Number, Channel, Callsign, Management Right, Licensee name, Transmitter Location, Licence type, Licence conditions, Band manager, Management Right Number.
- Wildcard (*) Search on Callsign, Licensee name, Transmitter location and licence conditions.

What can you do at www.rsm.govt.nz? RSMG Home page

- Find out procedures to register a licence right
- Find out how to apply for a radio licence
- Find out what can be done to resolve interference to radiocommunications
- Find out what equipment standards apply in New Zealand
- Find out about spectrum auctions
- Find information on RSM policy and spectrum planning.

RSM Pamphlets

- A New Era in Radio Spectrum Management
- Electromagnetic Compatibility
- Table of Radio Spectrum Usage in New Zealand
- VHF and UHF Mobile Services in New Zealand
- Fixed Service Bands in New Zealand

See www.med.govt.nz/rsm/publications/pibs.html for electronic copies and other publications.

Spectrum Search Lite

Introduction

Using Computers to display radio spectrum allocation and usage.

Radio licensing data stored in computer databases may be used to create reports, which can display actual, licensed use of the radio spectrum. If additional planning data is also stored, similar reports can be used to display the planned use of the radio spectrum. The reports produced can only display actual usage, they cannot show spectrum, which has not been planned or used.

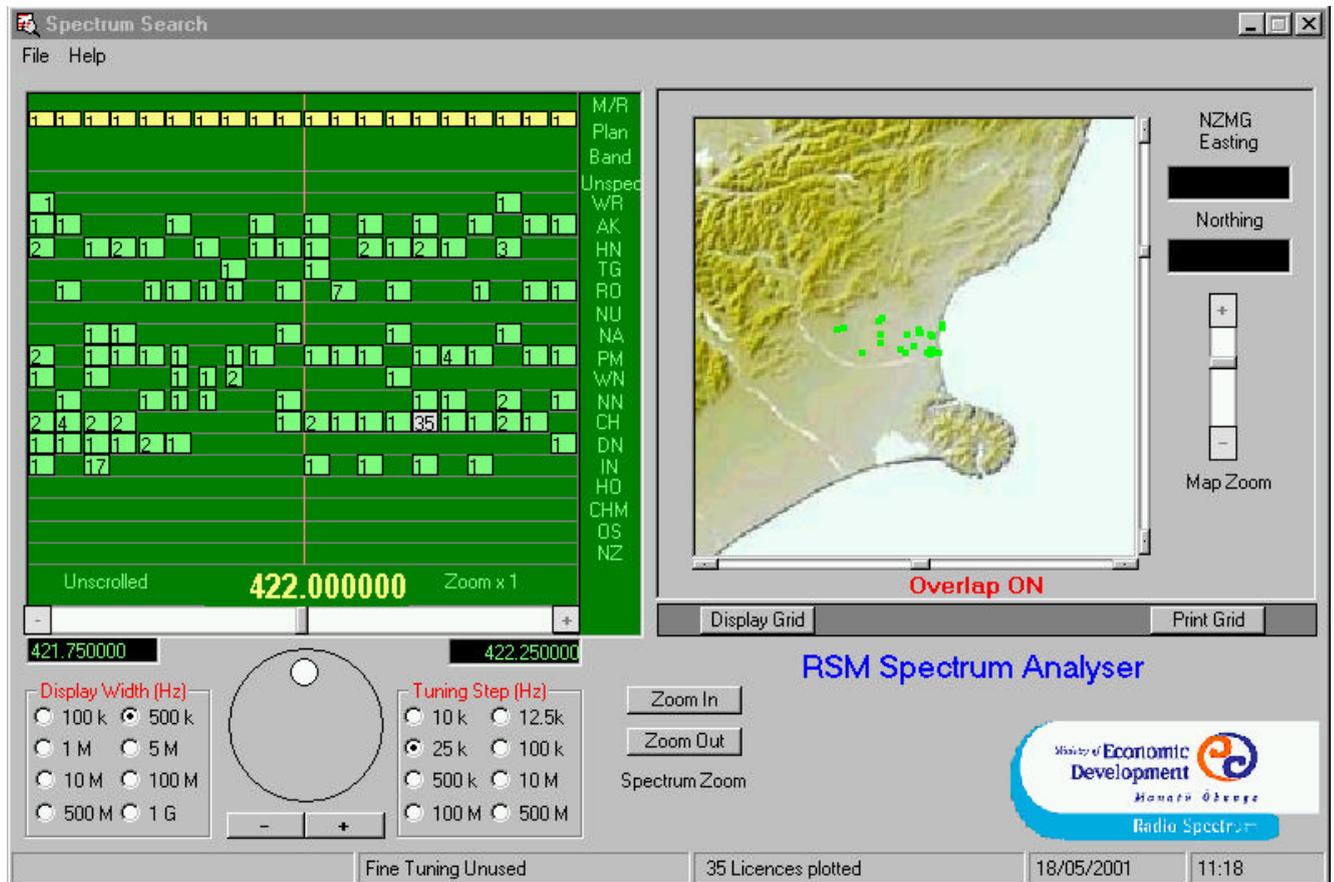
In addition to being able to create tabular or matrix reports from stored data the computer allows us to graphically display similar information. The maxim **'A picture saves a thousand words'** is very true when applied to the display of radio spectrum information. The data displayed printed charts creates a 'strip' of data having a total length, which is far wider than the width of the screen. To enable the viewing of a portion of the 'strip' the user needs a scrolling control.

Enabling a graphical display

The master table used to hold radio spectrum data in the PRISMS database is able to hold radio spectrum data related to licences of all types, Management Rights, planned frequencies, channels and bands. This has been made possible by determining, their common, spectrum related, attributes. The most obvious common attribute is that all planned or used spectrum occupies or is assigned a limiting bandwidth. This attribute is represented in the SPECTRUM table by the fields SPECTRUMLOW and SPECTRUMHIGH.

With all the spectrum data stored in one table it is possible to query that data to find all records which satisfy a query whose parameters are defined in radio spectrum terms eg 'between 89 and 92 MHz'. For radio engineering purposes, it is not sufficient to know only where the spectrum is currently used or licensed. Knowledge of the spectrum plans and unused spectrum is also required. The use of a graphical display enables all this information to be seen.

Graphical spectrum display implementation



The graphical spectrum display implementation mimics the functionality of a spectrum analyser having multiple y-axis inputs. This type of display is able to convey the maximum amount of information in the minimum space. The graphical spectrum display is supplemented with a tabular result set of licences corresponding to a selected graphic and a map of New Zealand displaying the transmit locations. To further enhance the usefulness of the utility, the user may print a copy of the displayed table.

Searching for Spectrum

The Spectrum Search Lite tool finds all current, planned and pending spectrum records within a range of frequencies. The range of spectrum returned is determined by the centre frequency and encompassed within the selected display width. All Spectrum records in PRISMS have a lower and upper limit frequency and the search finds all records having an upper limit frequency greater than the display low frequency and a lower limit frequency less than the display high frequency. A new search is initiated by:

When the program is started. Using initial centre frequency value of 1 MHz and a display width of 500 kHz.

Whenever a new centre frequency is entered.

When the centre frequency is clicked e.g. subsequent to using the Fine Tuning control.
When a new Display Width is selected.

When the + or – tuning button is pushed.

A single click moves the search frequencies up/down by the value of the Tuning Step selection.

Keeping the button depressed initiates new searches at approximately one second intervals until the button is released.

Depressing the button and moving off the control, initiates an autoscan with new searches at approximately one second intervals until either +/- button is pressed.

Note: There is a limit of 499 for the number of Spectrum records returned.



Spectrum Display Labels

This routine sets up the labels used to depict spectrum data within the Spectrum Display. The labels are displayed within different bands and have different background colours to assist identification. The width of the labels is proportional to the Display Width. The height of the Planned Spectrum labels is adjusted to allow for multiple overlapping bands. The label caption displays the number of licences in a district. The colour code is as follows:

Management Right - Red

Planned Spectrum - Yellow

PIB21 Plans - Blue

Currently licensed Spectrum - Green (changes to Light Grey when selected)

Pending Spectrum - Orange

Note: District labels change to a black background when selected.

Changing the Spectrum Display

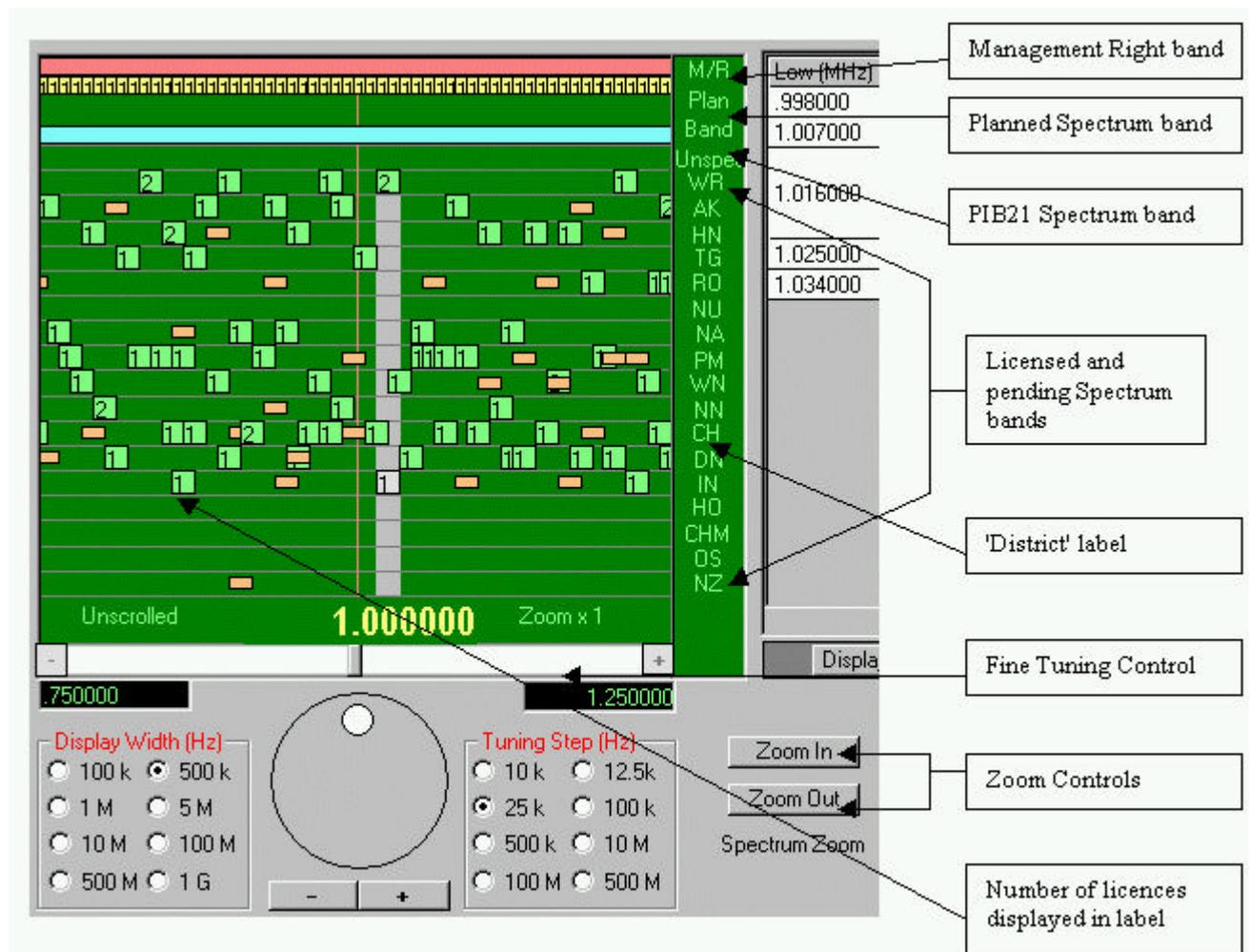
The Spectrum Display is a graphical representation of the planned and actual usage of the radio spectrum in New Zealand. The display uses frequency values for the X axis with the occurrences (labels) depicted within horizontal bands. The width of the individual labels is proportional to the Display width. The display can be altered by the use of:

The Fine Tuning control - adjust the display by up to plus/minus half the selected display width.

The Zoom In/Zoom Out Spectrum Zoom buttons - maximum zoom is 64x

Double click - a double click on a licensed/pending spectrum label may reveal hidden labels

Sample of the Spectrum Display showing spectrum centred on 1.01 MHz



Features of the Spectrum Display:

- The frequency indicated by the mouse pointer is displayed on the first panel of the Status Bar.

- The frequency and bandwidth of the label under the mouse pointer is displayed on the first panel of the Status Bar.
- The number of licences in a district is displayed on each label.
- Details of the spectrum use is obtained by pressing the left mouse button when the mouse pointer is positioned on a label.
- The details of Management Right, Planned Spectrum and PIB21 spectrum labels are displayed in a pop-up within the Spectrum Display.
- The details of the selected Licensed/Pending spectrum label are displayed in the Data Grid Display
- Details of the spectrum use is obtained by pressing the right mouse button when the mouse pointer is positioned on a label.
- The details of Management Right, Planned Spectrum and PIB21 spectrum labels are displayed in a pop-up within the Spectrum Display.
- Details of all Licensed/Pending spectrum labels having the same or overlapping spectrum limits are displayed in the Data Grid Display
- Details of the spectrum use within Licensed/Pending bands is obtained by pressing the left mouse button when the mouse pointer is positioned on a 'District' label.

The Data Grid Display

The Data Grid Display is a multi-function grid that will display licence-related data in a number of ways dependant on the function used and the area of the Spectrum Display that is selected. The events and a sample of the resulting grid for these events are:

| Low (MHz) | High (MHz) | Channel | Site Name | Dist | Licence | M/R | Licensee | ID |
|-----------|------------|---------|---------------|------|---------|-----|---------------------------------------|----|
| .998000 | 1.018000 | | PAENGAROA | TG | 1066 | 15 | THE RADIO NETWORK - NORTHERN LIMITED | 1 |
| 1.007000 | 1.027000 | AM155 | MARSHLAND | CH | 7692 | 15 | THE RADIO NETWORK OF NEW ZEALAND | 2 |
| 1.016000 | 1.036000 | | WAIPAPAKAURI | WR | 1061 | 15 | THE RADIO NETWORK - NORTHERN LIMITED | 3 |
| | | | OTAIKA | WR | 1062 | 15 | THE RADIO NETWORK - NORTHERN LIMITED | 4 |
| | | | TUSSOCK CREEK | IN | 7079 | 15 | RHEMA BROADCASTING GROUP INCORPORATED | 5 |
| 1.025000 | 1.045000 | | TITAHI BAY | WN | 1075 | 15 | THE RADIO NETWORK - CENTRAL LIMITED | 6 |
| 1.034000 | 1.054000 | | HIGHCLIFF | DN | 941 | 15 | THE RADIO NETWORK - SOUTHERN LIMITED | 7 |

- Right mouse button when pointer is centred on a spectrum label, on the Spectrum

The Data Grid Display is activated when the Display Grid button is pushed. The user is advised if there are no records to be displayed.

Map Display

The Map Display can be used as an alternative to the Grid Display. Select the Map Display by pushing the Map/Grid button, which will toggle between the map and grid displays.

The Map Display routine displays a map of New Zealand with superimposed 'dots' representing transmit locations associated with selected spectrum. The initial display is centred on the average value of the Eastings and Northings of the transmit locations. It is important to note that not all Spectrum records are associated with Location records having georeference data and only Locations having NZMG georeference data are found and plotted.

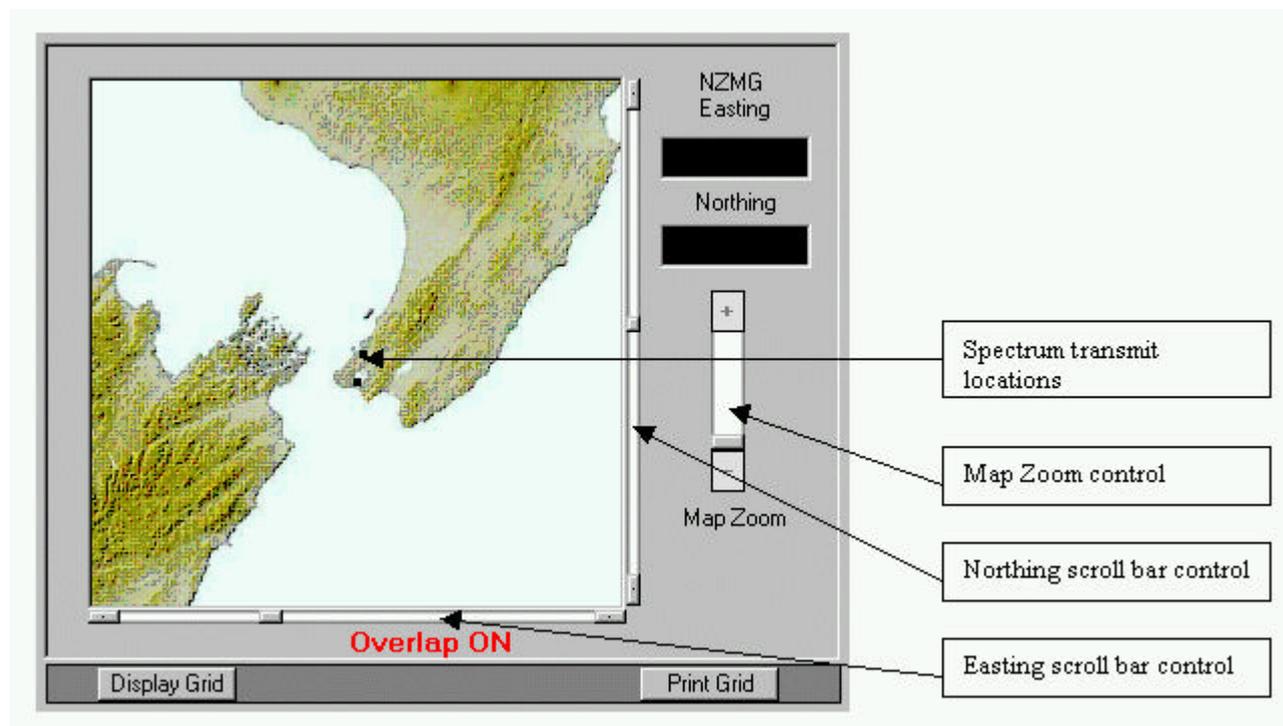
It is possible to alter the display by:

- Moving (panning) the displayed portion of the map by the use of:
 - Easting and Northing scroll bar controls.
 - Clicking on the map display and holding down the left mouse button - the icon changes to a panning hand.
- Zooming in/out by use of the Map Zoom control.

Information which can be obtained from the Map Display:

- The Easting and Northing indicated by the mouse pointer is displayed in the NZMG Easting and Northing text boxes.
- The transmit location site name, obtained by moving the pointer over the location dots, is displayed to the East and South of the dot.

Sample of the Map Display showing two locations near Wellington



PRISMS Lite Database Tool

Introduction

Prisms Lite is an interfaced stand-alone application connecting to a Microsoft Access database, the PRISMS Lite Database. This database is also utilised for the Spectrum Search Lite application. The PRISMS Lite application in essence is a search engine tool for the serious commercial and engineering user(s) within the industry. PRISMS Lite allows detailed searching for current Management Right(s) and Licence(s) information.

The Licensing and Management Right component of the PRISMS Lite system integrates the Client, Spectrum, Location and other minor components into Management Right(s) and into two major licence categories, Radio Licences and Spectrum Licences. Licence and Management Right information can be viewed in detail and printed as a report.

All uses of the radio spectrum are recorded in the same database so that the relationship between Management Rights, Spectrum Licences and Radio Licences can be understood.

PRISMS Lite also has optional connection to a local standalone PC or to Network server environment. See PRISMS Lite Help menu for server connection details.

Viewing a Search Result

The following labels show the functionality of the viewer within PRISMS Lite: -



Exporting your search results

Search results can be: -

Printed

Converted into a variety of formats including PDF, Crystal Reports, Excel, HTML, ODBC, RTF and MS Word.

Stored in a number of destinations including Disk, Exchange Folder and MS Mail.

Definitions Used In PRISMS Lite

What is Licence Type?

A Licence Type is the description used to link licences in PRISMS to the fees schedule in the Radiocommunications(Radio) Regulations. The licence type is made up of two parts, the Identifier, which may be up to 3 characters, and the Description which contains a more detailed description of the licence type.

Note that there may be a number of licence types in any particular service.

Also of note is licence types for the "Mobile" side of two frequency licences. This is a convention followed in PRISMS that allows the storage of the mobile transmit frequency for these services. They are not true licences and do not have a licence number or fee. The Licence Types used in PRISMS can be found in the programs Help menu.

Some licence types may have transmit locations, whereas others, such as Aircraft and Ships will not. This applies equally to receive locations, Frequency information and Callsigns.

What is Licence Category?

A Licence Category is a broad grouping of Licence Types that share a number of common features.

The valid Licence Categories in PRISMS are:

Radio Licence – These Licences are the equivalent of Radio Apparatus Licences issued under Part XIII of the Radiocommunications Act.

Spectrum Licence – These are Licences issued under Part VI of the Radiocommunications Act, pursuant to a Management Right.

Mobile Licence – These Licences are automatically generated by PRISMS, for two frequency repeater services and other services where the "return" frequency parameters do not vary. They record the "mobile side" of these services for use in Engineering Tools and to register their use of parts of the spectrum. They do not get

charged fees, cannot be modified or printed and are cancelled automatically if the Radio Licence associated with them is cancelled.

What is a Secured Licence?

Some licences that exist in the Register of Radio Frequencies have been withheld from the PRISMS Lite database. These records are called "secured licences" and are withheld under Section 28(3) of the Radiocommunications Act, usually on the basis of national security.

What is Spectrum Licence Class?

Spectrum Licences can be one of three classes:

Licence to Transmit Radio Waves and have No Interference – This is the “default” Licence Class for almost all Spectrum Licences and permits the Licensee to transmit radio waves under conditions specified in the Licence and to receive protection from interference.

Licence to Transmit Radio Waves – This is the Licence Class for Spectrum Licences of Licence Type “TUE”. It permits the Licensee to transmit emissions (to transmit radio waves), but gives no protection from interference.

Licence to Have No Interference – This is the Licence Class for Spectrum Licences of Licence Type “HNI”. It protects the Licensee from radio emissions exceeding a specified level over a specified range of frequencies.

What is Service Type?

A Service Type is a description of the purpose of the radio service being licensed. Examples are Paging, Mobile, Fixed, Broadcasting. A Licence Type is for a specific Service Type. Service types are also used to represent the allocation of frequency bands in Spectrum Search Lite.

What is Renewal Fee?

The Fee, or Renewal Fee, is the amount of money to be paid annual to keep the Licence valid. It can be one of two types:

Radio Licence Fee – For Radio Licences only, this is the annual licence fee

Secretary's Fee – For Spectrum Licences only, this is the annual Secretary's Fee payable.

What is Associated Licence?

PRISMS Lite displays Licences that are “associated” together where they have something in common. Examples where Licences may be associated are:

- Two Frequency Repeater Licence and its associated Mobile Licence
- The “Go” and “Return” Licences for a Fixed service
- A Broadcasting service and the Studio-Transmitter Link that provides its input program
- All the Fixed Services in a polling system.

In some case, a Licence may have many Associated Licences. In the case of a Mobile Licence, if the Radio Licence associated with is cancelled, the Mobile Licence will also be cancelled. However, in most cases, the cancellation or modification of one of the Associated Licences does not effect the other Licence(s) associated with it. A Spectrum Licence does not have an associated licence.

What is Horizontal Radiation Pattern?

The Radiation Pattern for a Licence specifies the maximum power that can be radiated in a certain direction by the licensed service.

This should not be confused with the Radiation Pattern Envelope (RPE) of the antenna, which is a physical characteristic of the antenna itself.

- **Horizontal** – This is the Radiation pattern in the horizontal direction, as observed from directly above the antenna, looking down, where:

-

Angle is the angle relative to North. Angle must be between 0 and 359.9 degrees.

Power is the maximum power (e.i.r.p.) that is permitted for the service to radiate in this direction (or sector). This must not be more than the maximum power (e.i.r.p.) for the Licence.

What is Reference Frequency?

A reference frequency is used to denote the actual frequency in a spectrum record that is carrying information. A spectrum record may have many reference frequencies where a complex radio signal is involved. For example, a television signal has a vision carrier, a sound carrier and a NICAM carrier. A spectrum record can only have one reference frequency of each frequency type.

Reference frequencies are used to record details of emissions, power and frequency tolerance.

Some spectrum records cannot have reference frequencies, for example Management Right spectrum.

What is Polarisation?

Polarisation is a description of the orientation of a radio antenna relative to the ground. Some services, such as land mobile, may have a default polarisation, whereas other services will not. Polarisation is an inherent characteristic of a radio installation and, as such, is a mandatory field.

Common examples of Polarisation are:

- **A** – Circular, anti-clockwise
- **C** – Circular, clockwise
- **H** – Horizontal
- **N** – Non-specific
- **O** – Other
- **S** – Slant
- **V** – Vertical

This list is not exhaustive.

Polarisation is defined in Article I of the ITU-R Radio Regulations

What is Power?

The maximum permitted power for the licence. Note: In PRISMS Lite, power is always recorded as dBW e.i.r.p. (Equivalent Isotropic Radiated Power).

What is Emission?

An Emission describes the nature of the radio frequency energy produced by a radio transmitter. It is recorded as Class of Emission (or an Emission Designator). The symbols used describe the bandwidth of the signal, the physical nature of the modulation method and the nature of the information be carried by the radio wave. Emissions are recorded on reference frequencies, not on the spectrum record itself. A reference frequency can have many emissions.

Examples of Emissions are: 6K00A3E, 16K0F3EJN, 2M00G9WWF

Emission is defined in Article IV of the IRU-R Radio Regulations.

What is Emission Limit?

An Emission Limit is a relationship between a frequency and a maximum power permitted at that frequency. A spectrum record may have many Emission Limits of many Emission Limit Types, depending on its Spectrum Type.

The three valid Emission Limit Types are:

- **Adjacent Frequency Emission Limit** (AFEL) – This emission limit is used only on a Management Right to limit the amount of power radiated outside the lower boundary (Spectrum Low) and the upper boundary (Spectrum High) of the Management Right.
- **Unwanted Emission Limit** (UEL) – This emission limit is used only on a Spectrum Licence to limit the amount of power radiated outside the lower boundary (Spectrum Low) and the upper boundary (Spectrum High) of the Spectrum Licence.
- **Protection Limit** (PL) – This emission limit is used on either a Management Right or a Spectrum Licence to limit the amount of interference received, within the lower boundary (Spectrum Low) and the upper boundary (Spectrum High), from another radio transmitter.
- **Power Floor** (PF) – The lower limit of power covered by a Management Right. Emissions transmitted below this power level are not covered by the Management Right. This level is usually – **50 dBW**

Emission limits allocated a Graph Point by the system to enable a graph of the limits to be drawn. Emission limits must always be entered in frequency order, from lowest to highest, otherwise an error message will be displayed.

Emission limits are not currently used for Radio Licences.

Screens in PRISMS Lite

PRISMS Lite is made up on a number of similar but different screen forms for searching and screens containing information on searched criteria.

The screen forms details are below in the following hyperlink headings:

Splash screen and Server set-up connection details
 Login screen (Note: only for network users)
 Management Right Search Screen
 Management Right Search Results Screen
 Management Right Search Results Print Preview Screen
 Management Right Details Screen
 Management Right Details Print Preview Screen
 Licence Search Results Screen
 Licence Search Results Print Preview Screen
 Licence Details Screen
 Licence Details Print Preview Screen
 Area Search Screen

Server Setup Connection Details

The initial screen is an introductory to the PRISM Lite application detailing the version number and the Ministry of Economic Development copyright information. PRISMS Lite application can be connected by two methods:

By Standalone database situated on the local drive, in the same folder as Spectrum search Lite or,

By Network server utilising MS SQL 2000 (if applicable).

Further information on configuring a server is available from the application Help menu.

Login screen (Note: only for network users)

The login screen comprises of textbox fields for User Name, Password, and Server.

OK button - Verifies that the username, password and server are valid and makes the connection to the Network database.

Cancel button - Closes the login form and exits back to the initial screen.

Management Right Search Screen

The “Management Right “ frame includes the following fields for the user to enter as searchable criteria:

Management Right No. – optional, and numeric in value for searching.

Note: If Management Right Number is entered and is valid, the Management Right Number will override all other entered search criteria as preference.

Client Name – optional, and alphanumeric in value for searching. Enter a ‘LIKE’ search string for a client name. An example search for “Vodafone” can be searched as ‘vod’ , ‘oda’ or ‘fone’. This is not case sensitive.

Licence Number – optional, and numeric in value for searching. Note: the Licence Number search will return the Management Right under which the licence was issued. The “Spectrum Search” frame includes the following details for the user to enter as searchable criteria:

Frequency (MHz) – optional, and numeric in value for searching.

Channel – optional, and alphanumeric in value for searching.

Note: Searching via Channel is for an exact match only. For example, searching for TV1 will return no valid information if the search criteria entered is “tv”. The value must be “tv1” for the search to be valid.

Frequency Range (MHz) From - *and* - To -

Frequency Range (MHz) From *and* To are both optional, and numeric in value for searching.

Note: Frequency range must have valid search criteria. The Frequency Range Criteria must have both valid entries in the Frequency From and the Frequency To. The frequency Range From must be lower in value than the Frequency Range To value. An error message will occur if this is not adhered to.

Management Right Search Results Screen

| MR No. | Band Manager | Lower Boundary (MHz) | Upper Boundary (MHz) | Commence Date | Expiry Date |
|--------|-------------------------------------|----------------------|----------------------|---------------|-------------|
| 2 | THE CROWN ACTING BY AND THROUGH THE | 646.000000 | 806.000000 | 03/12/1990 | 03/11/2010 |

Single click selection of a valid row in the Management Right search grid allows the information search on a particular Management Right to be listed in the Management Right Details screen.

Management Right Details Screen

Management Right | Adjacent Frequency Emission Limits | Protection Limits | Power Floor

Management Right Details:

Manager: THE CROWN ACTING BY AND THROUGH THE | Management Right Number: 2

Address: PO BOX 1473 | Commence Date: 12/03/1990

WELLINGTON | Expiry Date: 11/03/2010

Registration Date: 13/03/1990 14:33:06

Lower Frequency Boundary (MHz): 646.000000

Upper Frequency Boundary (MHz): 806.000000

Condition: The Manager shall not transfer the Manager's interest in this Management Right, or issue any licence, to any foreign government, or any party on behalf of any foreign government, without first obtaining the written approval of the Secretary of Commerce.

Close | Print...

Management Rights are displayed on a series of 4 tab pages on the Management Right Details form. These are Management Right, Adjacent Frequency Emission Limits, Protection Limits, Power Floor.

Note: If no Power Floor limits are shown on Power Floor tab page, then assume that the power level in e.i.r.p. is -50 dBW.

Note: Where a number of values are positioned close together on the graphical plot, the data-points can look misleading under some circumstances.

Licence Search Screen

The Licence Search screen is the primary form for searching for a Licence held within the PRISMS Lite database.

Note: If licence number is entered and is valid, the Licence Number will override all other search criteria preferences entered.

Client Name - optional, and as an alphanumeric value for searching. Enter a 'LIKE' search string for a Client name. An example search for "Vodafone" can be searched as 'vod', 'oda' or 'fone'. This is not case sensitive.

Licence Type- optional and selectable from the drop down list. This list includes the Note: the Management Right Number will only return Licence(s) that hold a valid Management Right Number.

Callsign – optional and alphanumeric in value for searching. Enter a 'LIKE' search string for a callsign.

Location – optional and alphanumeric in value for searching. Enter a 'LIKE' search string for a Location. An example search for Licences with "Auckland" can be searched as 'Auc', 'ckla' or 'land'. This is not case sensitive.

"Spectrum Search" frame includes the following details for the user to enter as searchable criteria:

Note: The search is for an exact match only

Note: Frequency range must have valid search criteria. The Frequency Range Criteria must have both valid entries in the Frequency From and the Frequency To. The frequency Range From must be lower in value than the Frequency Range To value. An error message will occur if this is not adhered to.

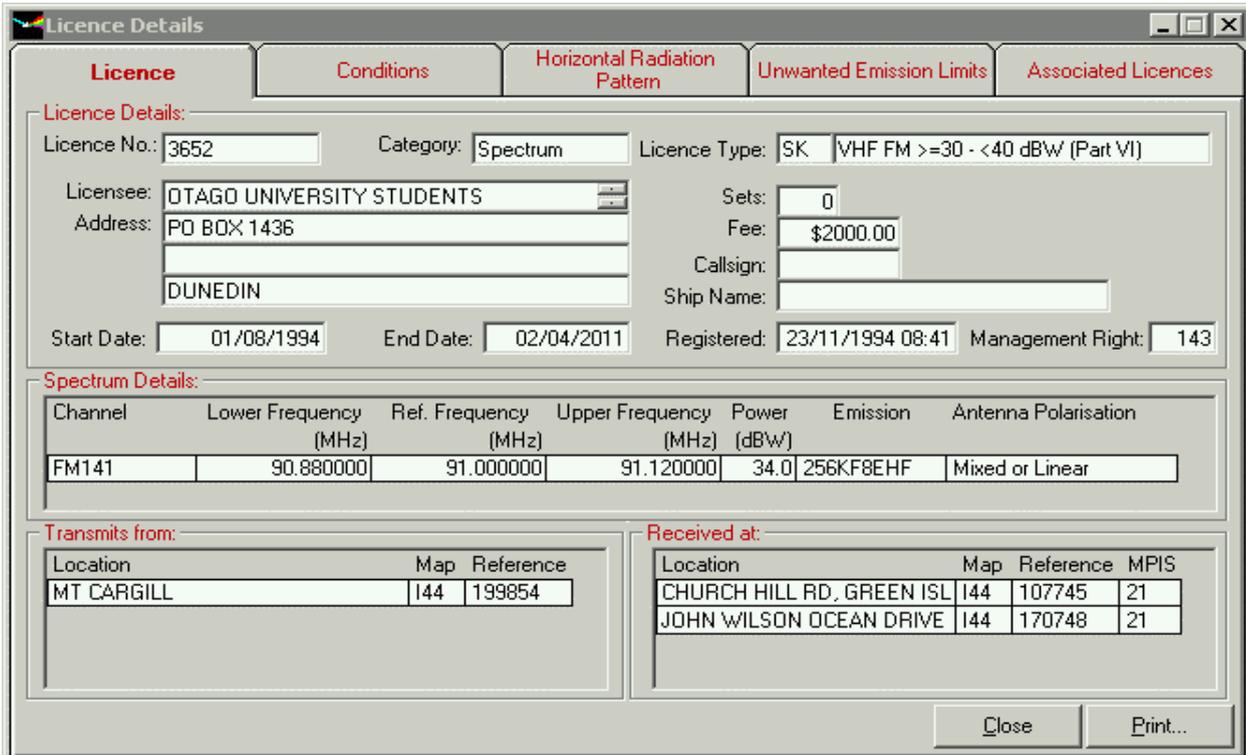
Licence Search Results Screen



| Licence Number | Channel | Frequency (MHz) | Licensee Name | Tx Location Name | NZMS 260 | Grid Ref. | MR No. | Callsign | Licence Code | Licence Category |
|----------------|---------|-----------------|---------------|------------------|----------|-----------|--------|----------|--------------|------------------|
| 1039 | FM139 | 90.900000 | THE RADIO | KAUKAU | R27 | 592954 | 143 | | SM | Spectrum |
| 3652 | FM141 | 91.000000 | OTAGO | MT CARGILL | I44 | 199854 | 143 | | SK | Spectrum |
| 7298 | FM141 | 91.000000 | THE RADIO | SKYTOWER | R11 | 675822 | 143 | | SM | Spectrum |
| 6483 | FM141 | 91.000000 | THE RADIO | KOPIKAIRUA | U14 | 956806 | 143 | | SI | Spectrum |
| 3153 | FM143 | 91.100000 | IAN | BLUE SPUR | H44 | 514738 | 143 | | SI | Spectrum |
| 444 | FM143 | 91.100000 | THE RADIO | GREYMOUTH | J31 | 627605 | 143 | | SH | Spectrum |
| 3838 | FM143 | 91.100000 | RADIOWORKS | PUKEPOTO | U16 | 036358 | 143 | | SK | Spectrum |
| 11651 | FM143 | 91.100000 | THE STEAM | WAIKANAE | R26 | 828333 | 143 | | SI | Spectrum |
| 7068 | FM143 | 91.100000 | RHEMA | CROMWELL | F41 | 096679 | 143 | | SG | Spectrum |
| 11234 | FM143 | 91.100000 | JOHN CAMPBELL | KARANGAHAPE | T18 | 533638 | 143 | | SI | Spectrum |
| 11306 | FM143 | 91.100000 | TE RUNANGA O | KAIKOURA | O31 | 661668 | 143 | | SI | Spectrum |
| 7040 | FM143 | 91.100000 | COROMANDEL | PUMPKIN HILL | T11 | 634656 | 143 | | SI | Spectrum |
| 11392 | FM143 | 91.100000 | THE RADIO | OTAHOUA | T26 | 418220 | 143 | | SK | Spectrum |
| 1020 | FM143 | 91.100000 | RADIO NEW | MT ERIN | V22 | 391557 | 143 | | SK | Spectrum |
| 11353 | | 97.700000 | EVERY PERSON | ALL NEW ZEALAND | | | 143 | | SG | Spectrum |

Single click selection of a valid row in the Licence Grid allows the information search on a particular licence to be listed in the Licence Details screen.

Licence Details Screen



Licence Details

Licence **Conditions** **Horizontal Radiation Pattern** **Unwanted Emission Limits** **Associated Licences**

Licence Details:

Licence No.: 3652 Category: Spectrum Licence Type: SK VHF FM >=30 - <40 dBW (Part VI)

Licensee: OTAGO UNIVERSITY STUDENTS Sets: 0

Address: PO BOX 1436 Fee: \$2000.00

DUNEDIN Callsign: Ship Name:

Start Date: 01/08/1994 End Date: 02/04/2011 Registered: 23/11/1994 08:41 Management Right: 143

Spectrum Details:

| Channel | Lower Frequency (MHz) | Ref. Frequency (MHz) | Upper Frequency (MHz) | Power (dBW) | Emission | Antenna Polarisation |
|---------|-----------------------|----------------------|-----------------------|-------------|-----------|----------------------|
| FM141 | 90.880000 | 91.000000 | 91.120000 | 34.0 | 256KF8EHF | Mixed or Linear |

Transmits from:

| Location | Map | Reference |
|------------|-----|-----------|
| MT CARGILL | I44 | 199854 |

Received at:

| Location | Map | Reference | MPIS |
|---------------------------|-----|-----------|------|
| CHURCH HILL RD, GREEN ISL | I44 | 107745 | 21 |
| JOHN WILSON OCEAN DRIVE | I44 | 170748 | 21 |

Licences are displayed on a series of 5 tab pages on the Licence Details form. These are Licence, Conditions, Horizontal Radiation Pattern, Unwanted Emission Limits, and Associated Licences.

Licence:

Note: Not all locations have a 260 series reference, e.g. Chatham Islands

Note: For a multi - point type location, only the reference for the first point is shown.

Note: Mobile licence numbers do not have a licence number. This is not a true licence per se, but a method of recording the mobile Transmit / Base Receive frequency.

Area Search Screen



The Area Search component enables the user to find a Licence by searching for transmit location criteria.

The Area Search component is displayed in the following 3 sequential steps:

1. Enter a location:

The first step includes the “Location Search Details” frame and contains the “Location” name to enter. This is a searchable “LIKE” statement string.

Once a search parameter has been entered, click the “binoculars” icon button to execute the search.

Note: Selecting “Close” button to end the search allows the user to close the screen and exit the Area Search.

2. Select a Location Name and the associated Easting and Northing:

Once a Location parameter string has been entered and the search “binoculars” icon button selected, the second step, “Location Details” frame is presented below the “Location” frame with all current list of Location Names matching the search.

The Grid list contains Location Name, Map (NZMS 260), Grid Ref(erence)., Height (above Sea Level), Easting and Northing.

The list is viewable using a vertical scroll bar. Selection of Location Name is executed by selecting a row from the “Location Details” Grid.

3. Enter a Radius (Km) within the selected Geographic Reference And/Or enter optional Frequency Range Criteria limit:

On selection of a row, the third step is initiated, where the Geographic Reference Criteria, and Frequency Range Criteria is viewable for narrowing the searching parameters. The Geographic Reference Criteria has Radius (Km), Easting and Northing.

Note: Radius (Km) is optional to the user and if not selected, will default to zero and limit the search to the Easting and Northing as a point. The maximum search radius for the area search is 200km nominally defined as practical for use within New Zealand’s geography. For greater distances use licence search for a particular frequency/channel.

An optional Frequency Range Criteria (MHz) is available to narrow the Licence search for the location. This includes Frequency From, and Frequency To criteria. Selecting “Find Licence” button will execute the Licence Search screen similar to Licence search.

To exit from the Area Search screen, select “Close” button. This will return to the main menu screen.

Note: Selection of Close will end the search and exit the Area Search.

To find Licence(s) from the selected area search criteria, select “Find Licences” button. Results of the search will be presented in the “Licence Search Results” form. From Licence Search Results a similar flow of events will occur in searching for licence results and licence details.

Assistance

For further assistance, information or feedback:

- Website: www.rsm.govt.nz
- E-mail: info@rsm.govt.nz
- Phone: 0508 RSMINFO (0508 776463)

Or +64 3 9622603 for international or mobile callers