

TDPx

TiL TRANSCEIVER DATA PROGRAMMER

USER GUIDE

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Technisonic Industries Limited.

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Table of Contents

1 Introduction.....	4
1.1 Installing TDPx software.....	4
1.2 Radio Type Terminology.....	4
2 Basic Usage.....	5
2.1 Data transfer between TDPx and a Target radio.....	5
2.2 Specific radio characteristics.....	5
3 TDPx User Interface.....	6
3.1 Layout.....	6
3.2 Menu's.....	7
3.2.1 File Menu.....	7
3.2.2 Page Menu.....	8
3.2.3 Data Menu.....	9
3.2.4 Settings Menu.....	10
3.2.5 Help Menu.....	11
3.3 Grid.....	11
3.4 Grid Context Menu's.....	13
3.4.1 Grid Row Menu.....	13
3.4.2 Grid Column Menu.....	15
3.4.3 Grid Corner Menu.....	15
4 Using TDPx.....	16
4.1 Selecting the appropriate Target Radio.....	16
4.2 Reading data into TDPx.....	17
4.2.1 Opening a file.....	17
4.2.2 Importing a legacy format file.....	17
4.2.3 Importing a CSV format file.....	17
4.2.4 Importing a TDAM-1000 CSV format file.....	19
4.2.5 Read data from a radio.....	20
4.3 Editing Individual Memory Record Parameters.....	21
4.3.1 Data presentation by radio Type.....	21
4.3.2 Data validation.....	21
4.4 Writing data out of TDPx.....	22
4.4.1 Saving a file.....	23
4.4.2 Exporting a CSV format file.....	23
4.4.3 Write data to a radio.....	23
4.4.4 Send data to a Printer.....	24

Table of Figures

Figure 1: TDPx layout.....	6
Figure 2: TDPx File menu.....	7
Figure 3: TDPx Page menu.....	8
Figure 4: TDPx Data menu.....	9
Figure 5: TDPx Settings menu.....	10
Figure 6: TDPx Help menu.....	11
Figure 7: TDPx Grid Row menu for empty rows.....	13
Figure 8: TDPx Grid Row menu for rows with data.....	14
Figure 9: TDPx Grid Column menu showing marked rows.....	15
Figure 10: TDPx Grid Corner menu.....	15
Figure 11: Select Target Radio Dialog showing drop down options.....	16
Figure 12: Select Frequency Band Dialog showing TFM-530 options.....	16
Figure 13: Select File dialog - file type selector.....	17
Figure 14: The Read radio warning Dialog box.....	20
Figure 15: The Read radio data in progress Dialog box.....	20
Figure 16: Data validation: starting condition: TDFM-136 data.....	22
Figure 17: Data validation: highlights after change Target to TFM-138.....	22
Figure 18: Multiple discontinuous rows of data selected.....	23
Figure 19: Transferring selected data from TDPx to the radio.....	24

1 Introduction

The Technisonic Industries Ltd. (TiL) TDPx data programming software program is designed to support all of the currently available TiL radio transceivers.

Note: some transceivers may use third party modules that must be programmed using other software. See the manual that came with your radio for details.

The software supports legacy TiL transceivers as well as current transceivers and is designed to be flexible enough to be able to support future transceivers.

1.1 Installing TDPx software

For Windows: run the TDPx installer.

For Linux: run the TDPx.AppImage.

TDPx is not supported on Apple computers.

1.2 Radio Type Terminology

The TDPx software supports several generations of TiL radios, these products evolved over the years - in some cases significantly. In this document radio's and/or modules sharing significant characteristics are referred to as Types. These Types are defined here:

1. TLAF - Technisonic Legacy Analog FM radios. All 'TFM' radios (TFM-138, TFM-5xx etc.) and all the analog FM modules used in TDFM-7300 & TDFM-9xxx radios.
2. RP25 - Technisonic P25 radios based on Racal/Datron RF modules (TDFM-136 & 136A).
3. NP25 - Technisonic P25 radios based on Nexus RF modules (TDFM-136B), supports per memory noise squelch levels and up to 500 memories with V2xx software.
4. TFLX - Technisonic Flexible architecture modules (currently 'T6' module).
5. TLAM - Technisonic Legacy Analog AM radios (typically modules in TDFM-7xxx and 9xxx radios).
6. TIL90 - Technisonic Legacy Analog AM radio (a single product, different from all else).
7. TDAM - Technisonic Digital AM radio (currently the TDAM-1000).

2 Basic Usage

The TDPx software is designed to allow the user to:

1. **Read** channel data from a source, which may be:
 - a. Open a .tdpx file.
 - b. Import a legacy format file (.100, .550, .136 etc.)
 - c. Import a (correctly configured) .csv file.
 - d. Transfer data from a radio.
2. **Edit** channel data either create new data or manipulate existing channel data.

The TDPx editors allow the user to create or modify channel data. Each cell on the grid supports the appropriate editor for the column data type to edit data in the grid cell.
3. **Write** channel data to a destination, which may be:
 - a. Save data in a .tdpx file.
 - b. Export to a .csv file.
 - c. Transfer data to a radio.

Note: TDPx does not write data into any of the legacy file formats.

The user must select the appropriate target radio and band for the TDPx software to communicate with, or when importing channel data in any of the legacy file formats.

If the user is opening a data file that was saved in TDPx format (.tdpx) then the file has the necessary information to select the radio and band without user input required.

2.1 Data transfer between TDPx and a Target radio

The primary function of TDPx is to allow data transfer to and from a TiL radio. With the exception of the TDAM-1000 there must be a connection between the radio and the computer on which the TDPx program is running. See the manual that came with your radio for cable details.

In some cases the TiL radio will have to be put into communications mode, see the manual that came with each radio to determine how to get into communications mode for that radio. Be sure to have connected the radio to the PC with the correct cable, and select the correct communications port in TDPx.

2.2 Specific radio characteristics

This manual describes the function of TDPx, for specific information about a target radio refer to that radio's manual.

3 TDPx User Interface

The TDPx screen, shown in figure 1 below, presents the user with the channel data to be edited and transferred to or from a TiL radio, as well as the controls required to perform those tasks.

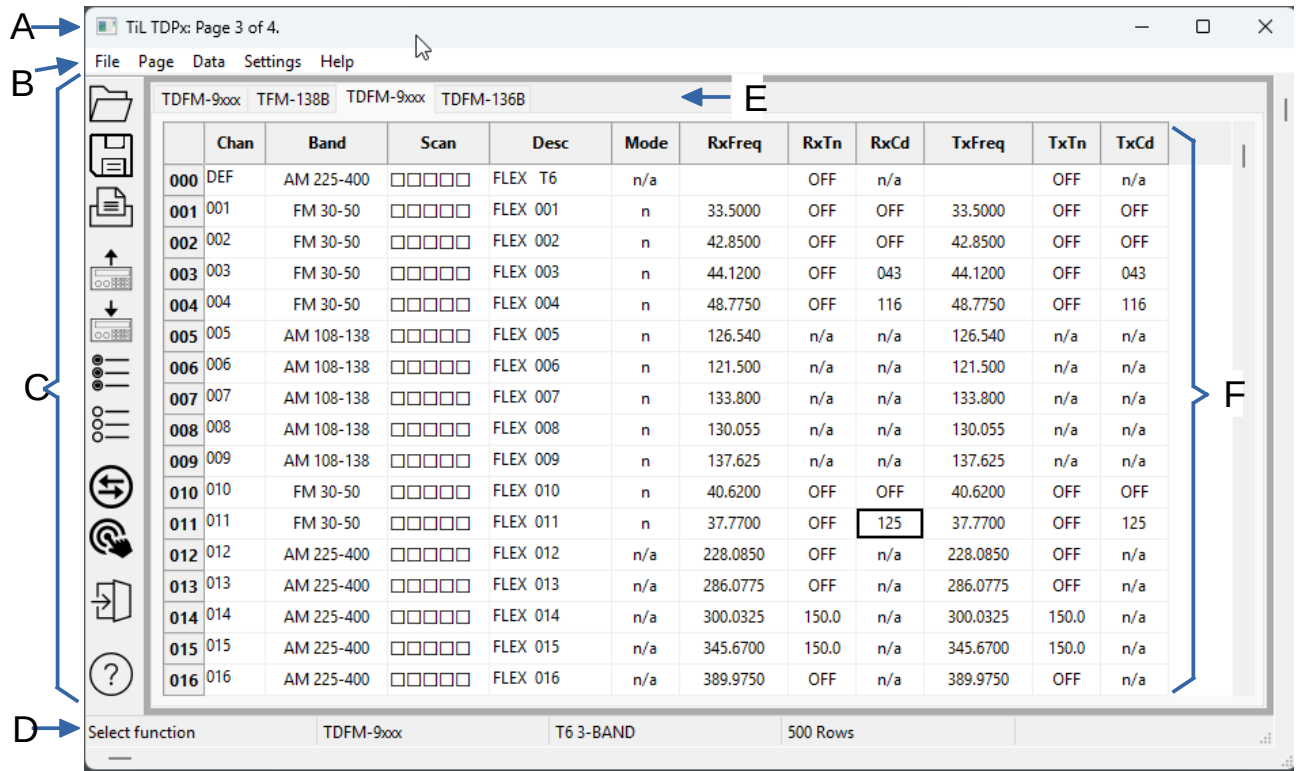


Figure 1: TDPx Layout.

3.1 Layout

Referring to figure 1 above, the TDPx user interface comprises the following components:

- The system Title bar, in addition to the standard window handling widgets, the Title bar indicates the page of data that is available to the user, and the total pages in use.
- The system Menu bar provides the user menus that allow access to the main operational functions supported by the system: file handling, page management, data handling, settings and help.
- The system Button bar provides convenient access to some of the most common functions that are found in the menu's.
- The system Status bar provides system status and data pertaining to the currently displayed data page including target radio, band, and number of rows supported in the file.

- E. The system **Notebook** allows the user to select the current working page, by tab, from any of the up to six (6) defined pages in the system.
- F. The **Record** data area (grid) is a row & column matrix that allows the user to both view and edit the radio data for the selected target radio and band.

Note: The number of columns changes depending on the radio selected for that page. See section 3.3 below.

The following sections describe these controls in more detail, where required, below.

3.2 Menu's

Drop down style menu's are available on a menu bar immediately below the window title bar. The menu items and operation are described below.

3.2.1 File Menu

The **File** menu allows the user to manipulate files including opening, saving and printing among other options. The File menu is shown in figure 2 below.

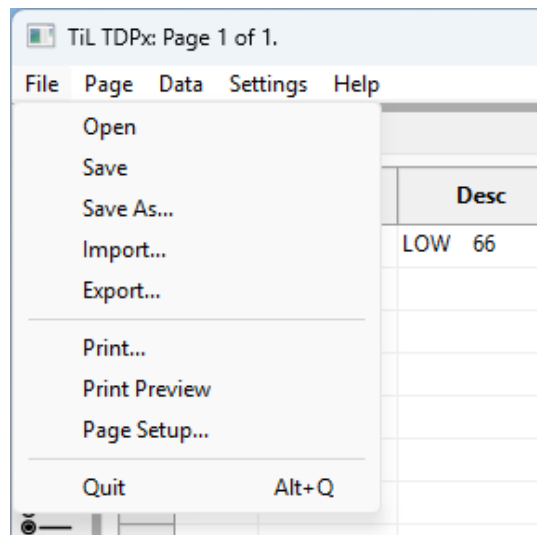




Figure 2: TDPx File menu.

The **Open menu item** allows the user to open channel data files created by TDPx, these files have the extension .tdpx these files are stored in a human readable XML format.

This function is also accessible by pressing the  button on the button bar on the left.

The **Save menu item** allows the user to save the contents of the currently displayed data as a .tdpx file, if the file was opened and modified it will be saved under the original name. If the file is newly created then it will open a dialog and give the user the option to select filename and destination.

The save function is also accessible by pressing the  button on the button bar on the left.

The **Save As... menu item** will open a dialog and give the user the option to select filename and destination. This allows you to change the filename, the file format is still .tdpx.


The **Import... menu item** allows the user to import files of different, older, formats. This includes files from Multi-TDP (ex. .100; .500; .700 etc), and files from TDP-136 (.136). These files may be edited and saved in .tdpx format only; TDPx will not export or save in older TDP formats. Import will also allow you to import comma separated variable format (.csv) files.

The **Export... menu item** allows the user to export the file in .csv format.

The **Print menu item** allows the user to send the contents of the current page to a .pdf file or to the selected printer.

The **Print Preview... menu item** will preview the current page data as it would appear on the page given the selections made in the Page Setup menu below.

The **Page Setup... menu item** allows the user to setup the printer page configuration including: paper size, orientation (portrait or landscape), and margins (top, bottom, left, right). These selections will be reflected in the Print Preview as well as at the printer.

The **Quit menu item** quits the program. This function is also available as the  button on the button bar and via the window close ('X') control.

3.2.2 Page Menu

The **Page menu** allows the user to add and delete pages, each page is configured to support the characteristics of one radio and band/module. The pages are accessible by selecting the page tab on the line directly below the menu bar. The pages are identified by the radio name on the page tab. The Page menu is shown in figure 3 below.

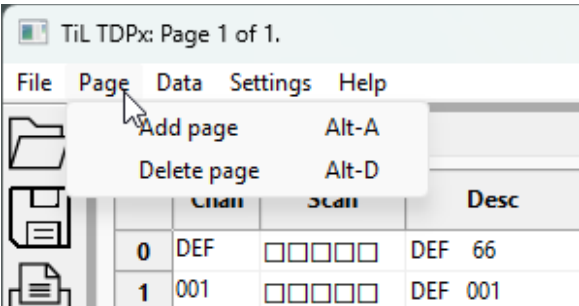


Figure 3: TDPx Page menu.

The **Add page menu item** allows the user to add another page to the screen. Pages are accessible via a tab at the top of the page. Currently the maximum number of pages supported is six.

The **Delete Page menu item** allows the user to delete a page from the screen.

Note: there must always be at least one page defined, thus you cannot delete the page if there is only one.

3.2.3 Data Menu

The **Data** menu allows the user to transfer radio channel data to and from a target radio, as well as to select records to send and to validate record data, the menu is shown in figure 4 below.

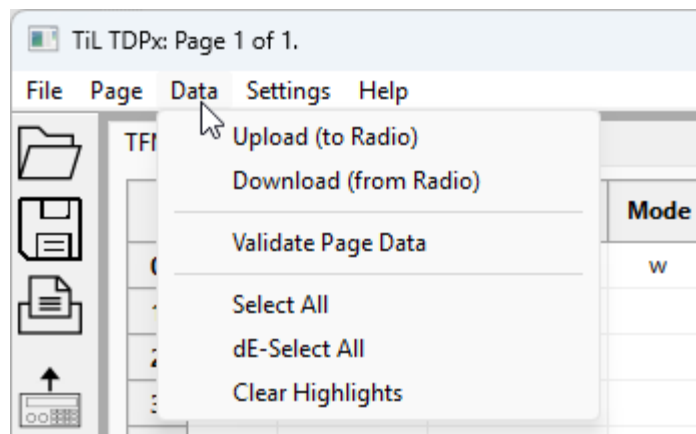




Figure 4: TDPx Data menu.

The **Upload (to Radio) menu item** allows the user to initiate a channel data transfer to a transceiver connected to the appropriate port on the computer.

This function is also accessible by pressing the  button on the button bar on the left.

The **Download (from Radio) menu item** allows the user to initiate a channel data transfer from a transceiver connected to the appropriate port on the computer.

This function is also accessible by pressing the  button on the button bar on the left.

Note: the correct procedure to put the associated (TiL) transceiver into communications mode is described in the manual for that transceiver.


The **Validate Page menu item** allows the user to run the validation routines for the Radio as determined by the page against the data on the page. This is useful to find any incorrect/corrupted data that may be on the page, either as a result of corrupted data from a radio, or incompatible data inserted after a paste

operation (from a page of a dissimilar radio), or an import of bad/dissimilar data. Any data that was considered bad is removed and replaced by the default data and that cell is highlighted to indicate the change to the user.


Note: this function is run automatically after opening or importing files and after copying/pasting data from one page to another.

Highlights may be removed by either entering new data in the affected cell or by use of the 'Clear Highlights' menu entry.

The **Select All menu item** allows the user to select all the data on the currently selected page. The function may also be selected by pressing the 'S' key while the Data menu is open.

This function is also accessible by pressing the  button on the button bar on the left.

The **dE-Select All menu item** allows the user to select all the data on the currently selected page. The function may also be selected by pressing the 'E' key while the Data menu is open.

This function is also accessible by pressing the  button on the button bar on the left.

The **Clear Highlights menu item** allows the user to clear the highlight from any cell that was marked as a result of use of the Validate Page function (orange highlights), or if the row was marked for Edit (blue highlights), see Grid Row Menu below.

3.2.4 Settings Menu

The **Settings** menu allows the user to set the target radio and band, as well as setting the active communications port for data transfer to and from the target radio, the menu is shown in figure 5 below.

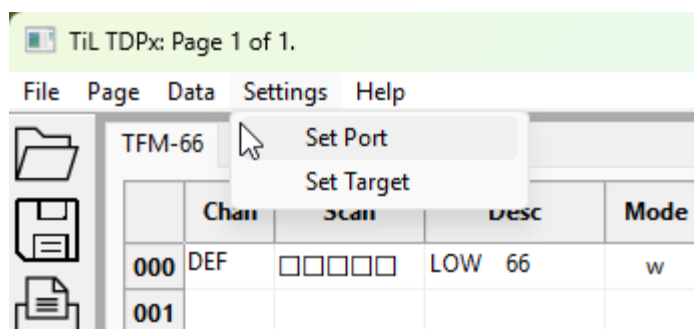



Figure 5: TDPx Settings menu.


The **Set Port menu item** allows the user to select the PC communications port for transfer of data to and from the target radio. The function may also be selected by pressing the 'P' key while the Settings menu is open.

This function is also accessible by pressing the  button on the button bar on the left.

Once selected, the data port in use is displayed on far right of the status bar.

Note: the port selected is global to the TDPx program, it is not defined on a page by page basis.

The **Set Target menu item** allows the user to select all the data on the current page. The function may also be selected by pressing the 'T' key while the Settings menu is open.

This function is also accessible by pressing the  button on the button bar on the left.

3.2.5 Help Menu

The **Help** menu allows the user to directly access this file as well as display basic information about the TDPx program, the menu is shown in figure 6 below.

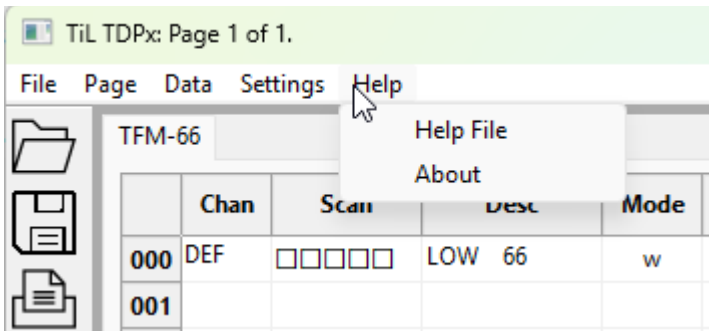


Figure 6: TDPx Help menu.

The **Help File menu item** opens this document.

The **About menu item** opens a dialog box that gives release and version information.

3.3 Grid

The radio memory / channel data grid is the area where the user can see and edit the data that will be loaded into a TiL radio. Up to six (6) tabs may be opened at any one time, each is an independent grid array and so can have data for any of the supported radio and band combinations.

Each grid supports the number of rows supported in the defined radio and the number of columns supported by the defined radio type.

For example: there are many different radios in the TLAf type, they all support the same data columns while having several different numbers of data rows supported.

Table 1 below shows the data types supported in the columns cross referenced to radio Type.

Columns Supported			Radio Type					
Num	Data	Title	TLAF	RP25	NP25	TFLX	TiL90	TLAM
1	Memory / Channel*	Mem/Chan	Y	Y	Y	Y	Y	Y
2	Shadow status	Shad						
3	Band	Band	-	-	-	Y	-	-
4	Scan status	Scan	Y	Y	Y	Y	-	Y
5	Zone used	Zone	-	Y	Y	-	-	-
6	Description	Desc	Y	Y	Y	Y	-	Y
7	Operating Mode	Mode	Y	Y	Y	Y	-	Y
8	Receive Frequency	RxFreq	Y	Y	Y	Y	Y	Y
9	Receive Squelch Mode	RxSq	-	Y	Y	-	-	-
10	Receive Noise Squelch Value	RxNSV	-	-	Y	-	-	-
11	Receive CTCSS Tone	RxTn	Y	Y	Y	Y	-	Y
12	Receive DCS Code	RxCd	Y	Y	Y	Y	-	-
13	Receive Talk Group	RxTG	-	Y	Y	-	-	-
14	Receive Network Access Code	RxNAC	-	Y	Y	-	-	-
15	Transmit Frequency	TxFrq	Y	Y	Y	Y	-	Y
16	Transmit Squelch Mode	TxSQL	-	Y	Y	-	-	-
17	Transmit CTCSS Tone	TxTON	Y	Y	Y	Y	-	Y
18	Transmit DCS Code	TxCOD	Y	Y	Y	Y	-	-
19	Transmit Talk Group	TxTGP	-	Y	Y	-	-	-
20	Transmit Network Access Code	TxNAC	-	Y	Y	-	-	-
21	Transmit ID Call	TxIDC	-	Y	Y	-	-	-

Table 1. Data Columns - Headings and usage by Radio Type.

* The RP25 & NP25 radios refer to each row as a 'memory' whereas other radio Types refer to each data row as a 'channel'. Each title is used where appropriate.

3.4 Grid Context Menu's

Note: *currently there is no 'undo' feature supported*, thus all actions (changes, deletions etc.) are final. To guard against unintended data loss it is recommended that you save a copy of the file before making any changes.

There are three areas for activating the grid context editor functions:

1. The fixed **row** labels at the left of the grid.
2. The fixed **column** labels at the top of the grid.
3. The empty **corner** box at the top left of the grid, above the row labels and left of the column labels.

3.4.1 Grid Row Menu

The Grid Row menu allows the user to manipulate row data in various ways, the menu options change depending if the row is empty or has data; the row menu for an empty row is shown in figure 7 below.

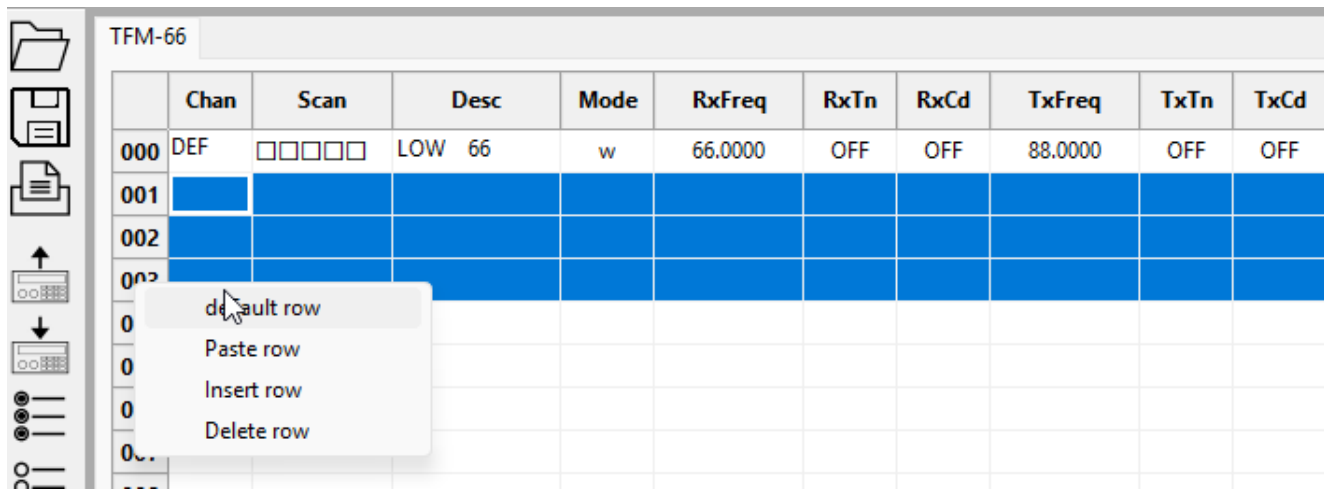


Figure 7: TDPx Grid Row menu for empty rows.

The grid row edit menu provides access to row focused functions, these will change depending on whether or not the row is empty or has data; for example the 'Copy Row' option is not available if the row is empty.

The **deFault Row** function will copy the data in the default row (DEF) at the top of the grid display, and will write that data into the selected row or rows. The function may also be selected by pressing the 'F' key while the row menu is open.

The **Paste Row** function operates on a single row only, this function only works if you have previously copied data from a filled row. The function may also be selected by pressing the 'P' key while the row menu is open.

The **Insert Row** function will insert a row *above* the currently selected row. If the entire grid has been filled then the data in the last non-guard row will be lost. The function may also be selected by pressing the 'I' key while the row menu is open.

The **Delete Row** function will delete the current line and move all other lines up. The function may also be selected by pressing the 'D' key while the row menu is open.

The row menu for a row that has data is shown in figure 8 below.

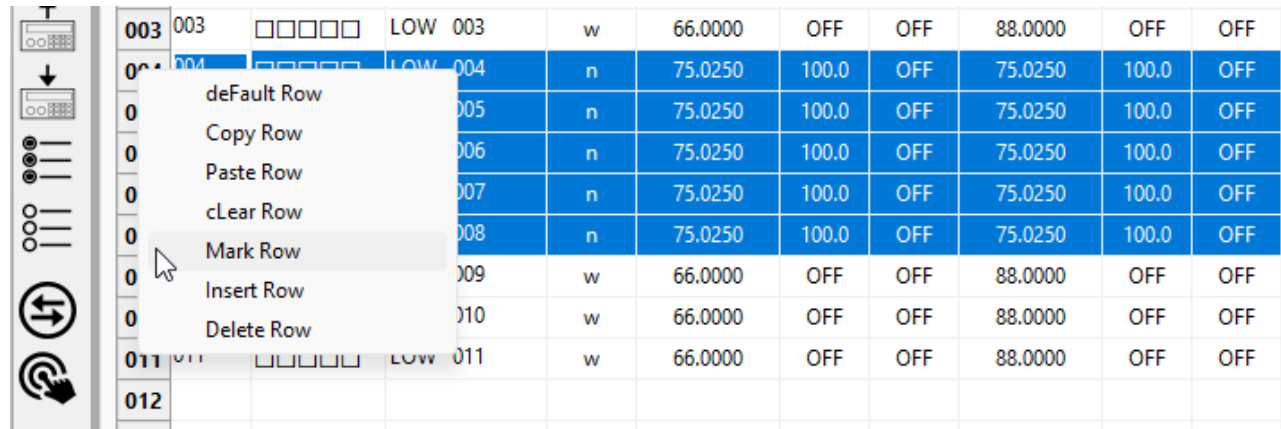


Figure 8: TDPx Grid Row menu for rows with data.

In addition to the deFault, Paste, Insert, and Delete row functions described above, the context menu for rows that currently have data includes:

The **Copy Row** function operate on a single row only, if multiple rows are selected when the user selects 'Copy' then only the *last* line in the selection is copied. The function may also be selected by pressing the 'C' key while the row menu is open.

The **cLear Row** function will delete all data in the row, but will not remove the row itself. The function may also be selected by pressing the 'L' key while the row menu is open.

The **Mark Row** function will mark (highlight) the selected rows. This functions allows Column menu option to default marked rows only with the selected column default data. See Column Menu description below. The function may also be selected by pressing the 'M' key while the row menu is open.

For TDFM-136 family radios the menu item **create Shadow** will be added to the row menu.

3.4.2 Grid Column Menu

The Grid Column menu allows the user to default data for the column, that is this will copy the data in the top default row (row 0, DEF). In addition, if the user has previously 'marked' a row for edit then the column menu will include the option to default Marked rows only. The column menu is shown in figure 9 below.

	Chan	Scan	Desc	Mode	P-Freq	P-Tx	P-Cd	TxFreq	TxTn
000	DEF	□□□□	LOW 66	n				88.0000	OFF
001	001	□□□□	LOW 001	w	66.0000	OFF	OFF	88.0000	OFF
002	002	□□□□	LOW 002	w	66.0000	OFF	OFF	88.0000	OFF
003	003	□□□□	LOW 003	w	66.0000	OFF	OFF	88.0000	OFF
004	004	□□□□	LOW 004	w	66.0000	OFF	OFF	88.0000	OFF

Figure 9: TDPx Grid Column menu showing marked rows.

For the 'Mem/Chan' column menu only, the command is not to copy the default value but to re-number the column.

3.4.3 Grid Corner Menu

The Grid Corner menu allows the user to default the entire file, that is this will copy the data in the top default row (row 0, DEF) to all rows in the grid, the menu is shown in figure 10 below.

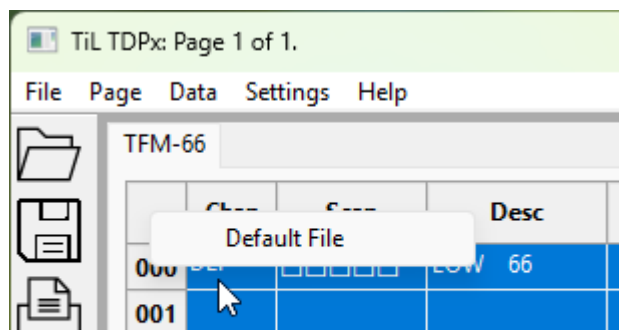



Figure 10: TDPx Grid Corner menu.

The grid corner menu allows the user to default the entire file. It works just like the deFault Row command in the grid row menu, but does not require the user to select all the rows first.

4 Using TDPx

This section describes how to use TDPx to Read, Edit and Write channel data. With the exception of opening a file previously saved by TDPx (filename.tdp_x), the user must select the appropriate Target radio and band for the data to be read.

4.1 Selecting the appropriate Target Radio

Before importing a file, or connecting to a target radio to transfer data, the user must tell TDPx what it will be communicating with, to do this use the **setTarget** option in the **Settings** menu, or the  button on the button bar. In either case you will get the **Select Target Radio** dialog, press the drop down control and you will see the options shown in figure 11 below.

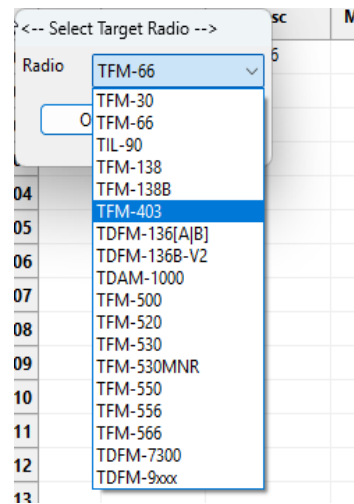


Figure 11: Select Target Radio Dialog showing drop down options.

If the user selects a multi-band target radio (TFM-5xx, TDFM-7300, or TDFM-9xxx) then the user will be shown the **Select Frequency Band** dialog that allows the user to select the band, see figure 12 below.

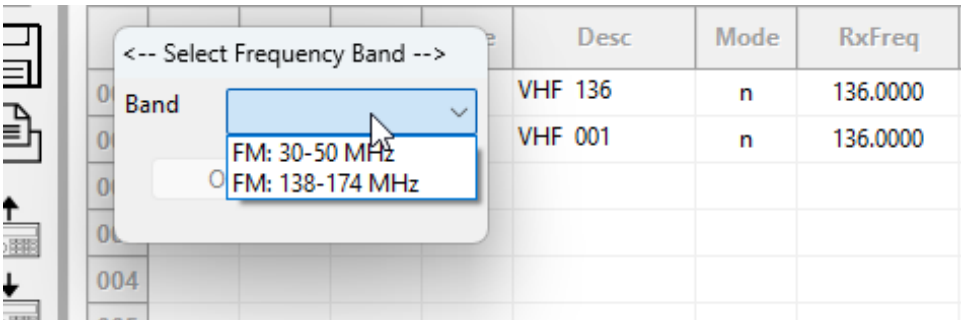


Figure 12: Select Frequency Band Dialog showing TFM-530 options.

Once the radio and band selections have been made then the currently displayed tab will be configured to talk with the target radio selected by the user.

4.2 Reading data into TDPx

The user may read data into TDPx from a source, which may be:

- a. Open a .tdpx file.
- b. Import a legacy format file (.100, .136 etc.).
- c. Import a .csv file (if it is correctly configured).
- d. Read data from a radio.

4.2.1 Opening a file

To open a file select either the Open option in the File menu, or the  icon from the button bar.

In either case you will get the Select File dialog, navigate to the location of the .tdpx file you wish to open and select that file. The currently displayed page/tab parameters will be set correctly for the data in that file.

Note: this must be a file created by TDPx. Legacy files created by earlier versions must be imported.

4.2.2 Importing a legacy format file

To import a file select the Import option in the File menu, this will bring up the Select File dialog. The file type filter, shown in figure 13 below, can be used to select legacy files from: TDFM-136 (binary or text), any of the MultiTDP text files (TFM-138B, TFM-5xx etc) as well as .csv files.

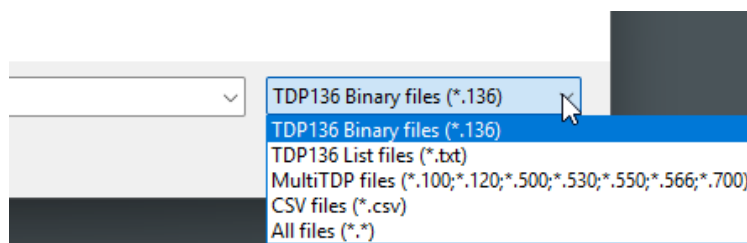


Figure 13: Select File dialog - file type selector.

Once the file has been selected, TDPx attempts to import the selected file to the currently displayed page. It is up to the user to correctly match the page type to the file type.

4.2.3 Importing a CSV format file

TDPx supports importing .csv files allowing the user to edit using an external tool, like a spreadsheet, and then saving the file as a .csv and importing it into TDPx. When selecting a file in this case be sure to change the file type to CSV files (*.csv) or All files (*.*) in order to see the available .csv files.

There are a few requirements and restrictions to importing using this method that are required to ensure successful importing of files.

The most important is to ensure that the column headings can be recognized by the TDPx .csv importer; Table 2 below shows the valid column headings that must be used. Any data columns in your .csv file with a column heading not found below will be ignored.

The file does not need to include all headings for the radio type, but each .csv file must include heading 'MNUM' and at least one other column of valid data.

Headings must be exactly as shown: *capitol letters only and no white space.*

Note: For TDAM-1000, see separate section below.

Columns Supported		Radio Type					
Num	Heading	TLAF	RP25	NP25	TFLX	TiL90	TLAM
1	MNUM	Y	Y	Y	Y	Y	Y
2	BAND	-	-	-	Y	-	-
3	SCAN	Y	Y	Y	Y	-	Y
4	ZONE	-	Y	Y	-	-	-
5	DESC	Y	Y	Y	Y	-	Y
6	MODE	Y	Y	Y	Y	-	Y
7	RFRQ	Y	Y	Y	Y	Y	Y
8	RSQL	-	Y	Y	-	-	-
9	RNSV	-	-	Y	-	-	-
10	RTON	Y	Y	Y	Y	-	Y
11	RCOD	Y	Y	Y	Y	-	-
12	RTGP	-	Y	Y	-	-	-
13	RNAC	-	Y	Y	-	-	-
14	TFRQ	Y	Y	Y	Y	-	Y
15	TSQL	-	Y	Y	-	-	-
16	TTON	Y	Y	Y	Y	-	Y
17	TCOD	Y	Y	Y	Y	-	-
18	TTGP	-	Y	Y	-	-	-
19	TNAC	-	Y	Y	-	-	-
20	TIDC	-	Y	Y	-	-	-

Table 2. Data Columns - CSV Headings by Radio Type.

For a successful .csv import, the data in the columns must be correct for the radio that you are trying to configure. While basic error checking is performed by the importer, it remains the user's responsibility to ensure that the data are correct.

Note: memory numbers must be three digits, so numbers less than 100 must include the appropriate number of leading zero's.

Note: you must follow the data format restrictions of the radio type that you are creating the file for. As an example: the TLAF radios support up to nine characters in the description field whereas the

RP25/NP25 radios support up to eight. Other differences exist, they are described in the manuals that came with the radios.

Examples:

a) TFM-138 / TFM-5xx VHF file:

```
MNUM,DESC,RFRQ,TFRQ,RTON,TTON,RCOD,TCOD,SCAN,MODE.
001,HELI_1,159.6750,159.6750,64,64,000,000,LOCK,
002,HELI_2,159.8500,159.8500,64,64,000,000,___34_,N
003,REGA_6,159.2000,159.2000,64,64,000,000,LOCK,
004,K_KANAL,158.6050,150.6250,64,64,000,000,LOCK,N
```

b) TDFM-136(A|B) VHF file:

```
MNUM,SCAN,DESC,MODE,RFRQ,RSQ,RTON,RCOD,RTGP,RNAC,TFRQ,TSQ,TTON,TCOD,TTGP,TNAC,TIDC,
000,N,Mem 136,n,136.0000,x,67.0,023,293,0001,174.0000,-,67.0,023,293,0001,00000001,
001,N,ARIZ 1,n,151.4000,t,162.2,023,293,0001,159.4050,t,162.2,023,293,0001,00000001,
002,N,ARIZ 2,n,151.4150,c,123.0,023,293,0001,159.4350,c,123.0,023,293,0001,00000001,
003,N,NVDA R1,n,151.4150,t,162.2,023,293,0001,159.4350,t,162.2,023,293,0001,00000001,
```

Note: the examples above show the maximum number of columns of data for each of the respective radios, you are not required to create files with all columns.

4.2.4 Importing a TDAM-1000 CSV format file

The TDAM-1000 is a special case compared to the other transceivers in that data transfer is done by the TDAM-1000 reading/writing to/from a USB drive connected to the radio; there is no PC to TDAM-1000 direct connection.

All TDAM-1000 legacy data files are .csv files, that is the default file format. It is the format that must be used to program channel information into the radio. The file headings are separate and distinct from the file headings for all other radios. These are:

- . Valid TDAM-1000 Column Headers: "Memory", "Name", "Receive", "Transmit", "Scan", "Rx Only"
- . TDAM-1000 also supports a Title line that must be: "TDAM-1000" and may include "Purge"

Example:


```
TDAM-1000,Purge,,,,
Memory,Name,Receive,Transmit,Scan,Rx Only
1,TWR BKUP,118000,118000,Yes,Yes
2,TWR S,118350,118350,No,No
3,TWR N,118700,118700,Yes,Yes
4,GND C,119100,119100,No,Yes
5,GND N,121650,121650,Yes,No
6,GND S,121900,121900,Yes,Yes
7,SOUTH A,122075,122075,No,Yes
```

Note: TDPx will correctly export the TDAM-1000 data in .csv format, but there is currently no support for generating the "Purge" option, that must be edited in the exported file by the user if needed. See TDAM-1000 documentation for more information.

4.2.5 Read data from a radio

The primary function of TDPx is to allow data transfer to and from a TiL radio. With the exception of the TDAM-1000 there must be a connection between the radio and the computer on which the TDPx program is running. See the manual that came with your radio for cable details.

In most cases the TiL radio will have to be put into communications mode, see the manual that came with each radio to determine how to get into communications mode for that radio. Be sure to have connected the radio to the PC with the correct cable, and select the correct communications port.

To read data from the radio select either the Get from radio option in the Data menu, or press the  button on the button bar.

When either option is selected you will see the dialog shown in figure 14 below:

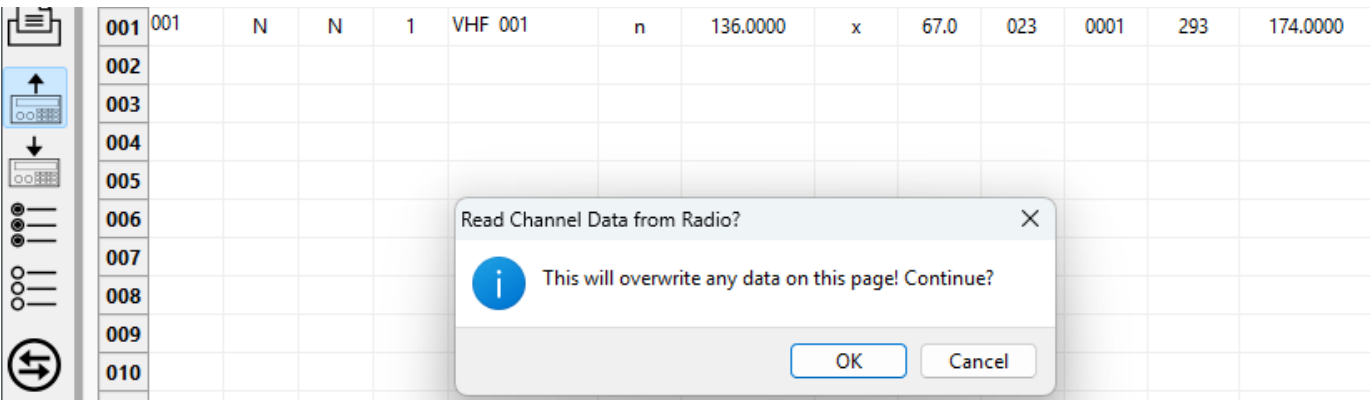


Figure 14: The Read radio warning Dialog box.

If the user selects 'OK' then TDPx will attempt to establish communications with the attached radio and if successful will download channel data from the radio to TDPx. The downloaded data will be written into the table as the download occurs, this is shown in figure 15 below.

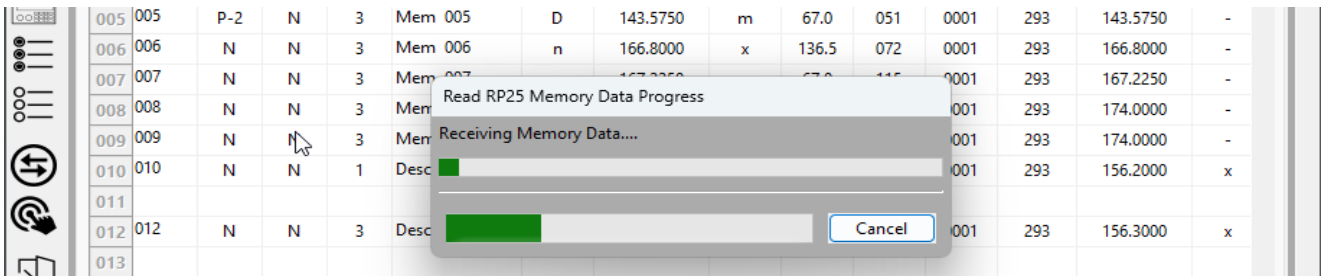


Figure 15: The Read radio data in progress Dialog box.

4.3 Editing Individual Memory Record Parameters

To edit a memory parameter value just click in the cell of the data you wish to change, one click selects the cell, a second click activates the editor. The appropriate editor will activate in that cell allowing you to edit the contents.

The editors, broadly speaking, are divided into two types: drop downs to allow the user to select from a set of valid options (ex. CTCSS tones, DCS codes), or direct entry of values (ex. description, frequency).

An exception to this is the TLAF scan editor which is presented to the user as a set of check boxes in the scan cell on each row.

4.3.1 Data presentation by radio Type

The editable radio information is arrayed in a grid on the currently visible page, the number of rows displayed is determined by the specific radio, the number of columns corresponds to the number of editable characteristics in that radio. Radio's of the same Type share the same editable characteristics. See Table 1 in section 3.3 above.

Type: TiL-90 has two (2) data columns: channel, and frequency.

Type: TDAM-1000 has six (6) data columns: memory number, scan, description, receive frequency, transmit frequency, and receive only.

Type: TLAF are the largest number of different radios and includes all the TFM variants. These radios support ten (10) data columns: channel, scan, description, mode, receive frequency, receive CTCSS tone, receive DCS code, transmit frequency, transmit CTCSS tone, and transmit DCS code.

Type: TFLX is a module option currently available only in some of the TDFM-9xxx radios. This module supports all the same data columns as TLAF with the addition of a band column as each row can be one of three different bands, for a total of eleven (11) data columns.

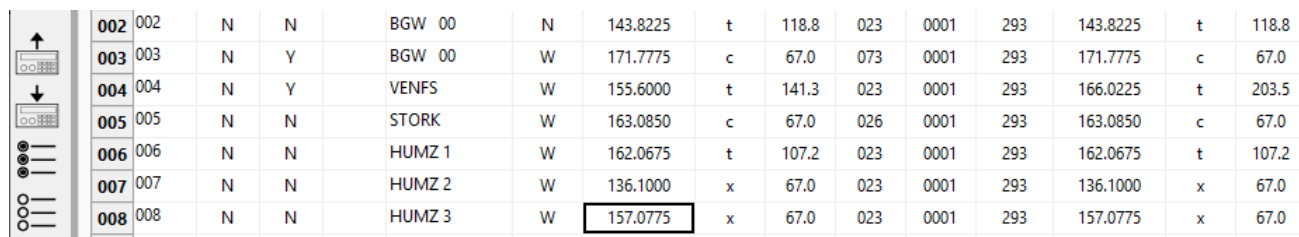
Types: RP25/NP25 these radios comprise the TDFM-136 family and supports nineteen (19) data columns for the RP25 radios and twenty (20) for the NP25 radio. These types support all the columns of the TLAF Types and add: shadow channel, zone, as well as receive squelch, talkgroup and NAC, and transmit squelch, talkgroup, NAC and ID call. The NP25 also adds receive noise squelch value.

4.3.2 Data validation

When TDPx reads data into the program by importing a non-native file (ie not a .tdpx file), changing the target on a page with data, or reading from a radio, it runs a set of data validation routines on the incoming data.

If a problem is found, the data is replaced by the default data for the column in question, and the cell is highlighted. The following sequence demonstrates the feature, starting with figure 16 below showing part of a TDFM-136 file.

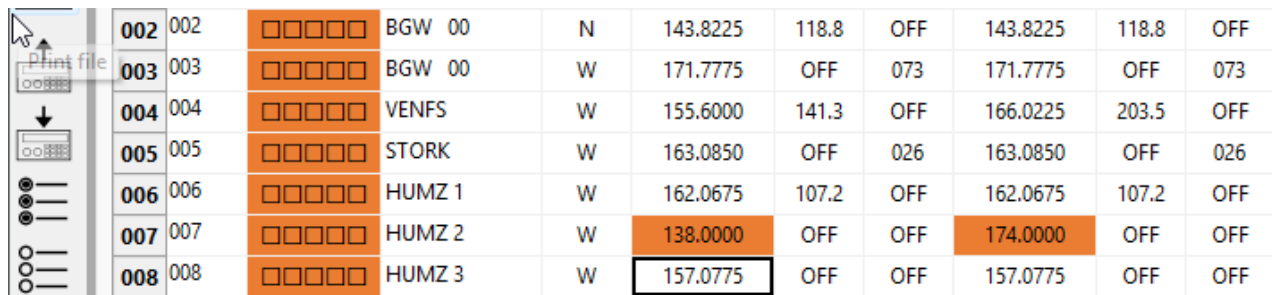
The user can force a validation by selecting **Validate page data** option in the **Data** menu.



002	002	N	N	BGW 00	N	143.8225	t	118.8	023	0001	293	143.8225	t	118.8
003	003	N	Y	BGW 00	W	171.7775	c	67.0	073	0001	293	171.7775	c	67.0
004	004	N	Y	VENFS	W	155.6000	t	141.3	023	0001	293	166.0225	t	203.5
005	005	N	N	STORK	W	163.0850	c	67.0	026	0001	293	163.0850	c	67.0
006	006	N	N	HUMZ 1	W	162.0675	t	107.2	023	0001	293	162.0675	t	107.2
007	007	N	N	HUMZ 2	W	136.1000	x	67.0	023	0001	293	136.1000	x	67.0
008	008	N	N	HUMZ 3	W	157.0775	x	67.0	023	0001	293	157.0775	x	67.0

Figure 16: Data validation: starting condition: TDFM-136 data.

If the Target radio is now changed to a TFM-138, those parameters that do not directly translate to the TFM-138 are highlighted, in this case the scan and those frequency values that were outside the TFM-138 range, see figure 17 below.



002	002	□□□□	BGW 00	N	143.8225	118.8	OFF	143.8225	118.8	OFF
003	003	□□□□	BGW 00	W	171.7775	OFF	073	171.7775	OFF	073
004	004	□□□□	VENFS	W	155.6000	141.3	OFF	166.0225	203.5	OFF
005	005	□□□□	STORK	W	163.0850	OFF	026	163.0850	OFF	026
006	006	□□□□	HUMZ 1	W	162.0675	107.2	OFF	162.0675	107.2	OFF
007	007	□□□□	HUMZ 2	W	138.0000	OFF	OFF	174.0000	OFF	OFF
008	008	□□□□	HUMZ 3	W	157.0775	OFF	OFF	157.0775	OFF	OFF

Figure 17: Data validation: highlights after change Target to TFM-138.

The highlights can be turned off using the Clear Highlights option in the Data menu, or by pressing the 'C' when the menu is open

4.4 Writing data out of TDPx

After data loading and/or data manipulation, the TDPx program can write channel data to a destination, which may be any of:

- a. Save data to a .tdpx file.
- b. Export to a .csv file.
- c. Send data to a radio.
- d. Send data to a printer.

4.4.1 Saving a file

To save a file select either the **Save** option in the File menu, or the  icon from the button bar.


In either case you will get the **Select File** dialog, navigate to the location where you wish to save the file to. The data currently displayed on the open page/tab will be saved into the filename that the user enters, the extension .tdpx will be automatically added.

Note: TDPx only saves in .tdpx format, legacy file formats are not supported.

4.4.2 Exporting a CSV format file

TDPx supports exporting .csv files allowing the user to edit using an external tool, like a spreadsheet. First select the rows of the file that you wish to export, it can be all rows or some subset, there are several ways to do this:

To select *all* data on a page:

- . From the **Data** menu select the option **select All**, or press the  button on the button bar or left click on the empty square on top of the row numbers.

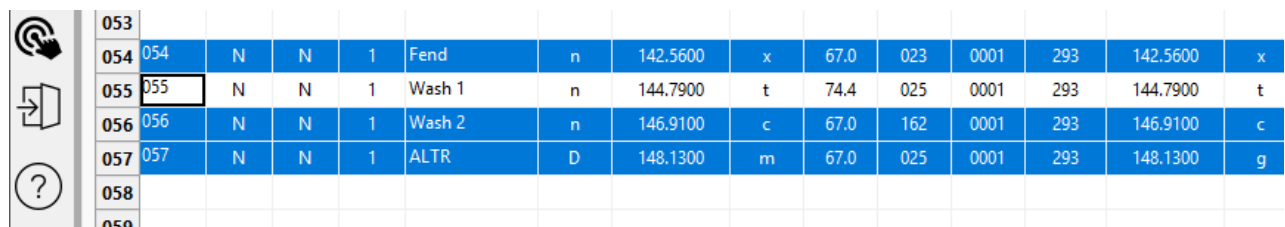
To select a subset of rows:

- . Left click on any row number to select that row.
- . Press and hold 'CTRL' and click on any other row to add that row.
- . Left click on a row number and while holding the mouse button down drag up or down the row numbers.

Once your data rows have been selected, use the **Export...** option in the **File** menu to open the Export CSV file dialog, the file selection process is as described in the section above.


4.4.3 Write data to a radio

Be sure to have connected the radio to the PC with the correct cable, and select the correct communications port. Before any data may be sent to a radio you must select the rows of data that you wish to send, data selection options are the same as for Exporting a file in the section above. Figure 18 below shows three rows of data selected.



053														
054	054	N	N	1	Fend	n	142.5600	x	67.0	023	0001	293	142.5600	x
055	055	N	N	1	Wash 1	n	144.7900	t	74.4	025	0001	293	144.7900	t
056	056	N	N	1	Wash 2	n	146.9100	c	67.0	162	0001	293	146.9100	c
057	057	N	N	1	ALTR	D	148.1300	m	67.0	025	0001	293	148.1300	g
058														
059														

Figure 18: Multiple discontinuous rows of data selected.

To write the selected data to the radio, press either the **Send to radio** option in the **Data** menu, or press the  button on the button bar. This will start the data transfer as shown in figure 19 below.

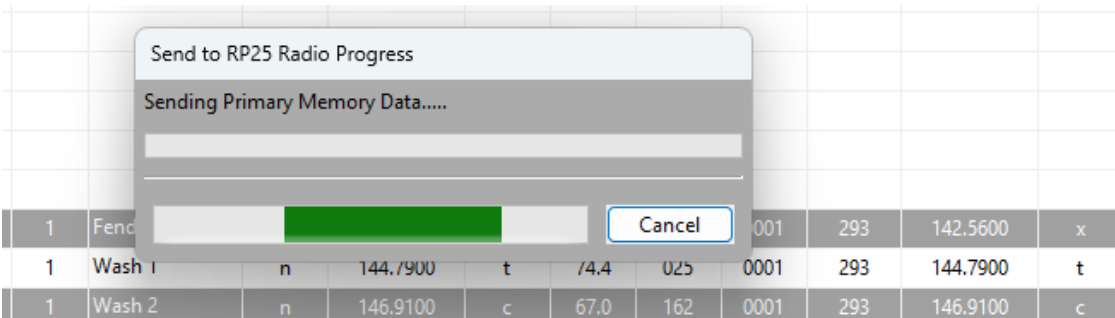



Figure 19: Transferring selected data from TDPx to the radio.

4.4.4 Send data to a Printer

TDPx allows you to send the currently displayed data page to a printer by selecting **Print...** in the **File** menu or by pressing  on the button bar.

To preview the data before sending it to the printer select **print preview** in the **File** menu.

The **page setup...** option in the **File** menu opens the **Page Setup** dialog which allows the user to select paper size and orientation as well as margins for printing.