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Identification and presentation of facade levels

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Ordinary level tables

Buildings freshly imported via dxf miss several properties. Only properties that are common for all imported objects like the floor height and reflection loss are defined. Properties that are unique for each building are of course missing, e. g. building name, object number and address, see Fig 1.

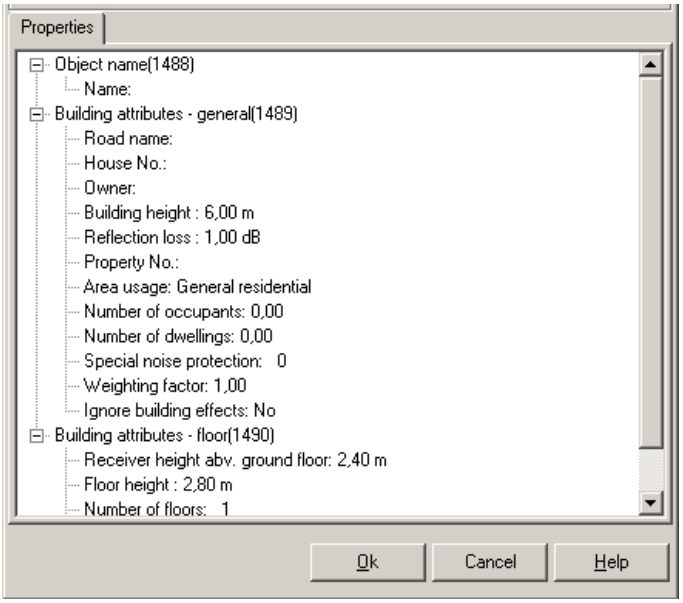


Fig 1 Building name, road name, house number and several other properties are missing for freshly imported buildings

This means that so far there is no property that can be used for a sensible identification of facade receivers. If you don't state the building name first but go straight to calculation of facade noise levels the program has no other possibility than to use the object ID/house ID for identification which is not usable for the reader of your report.

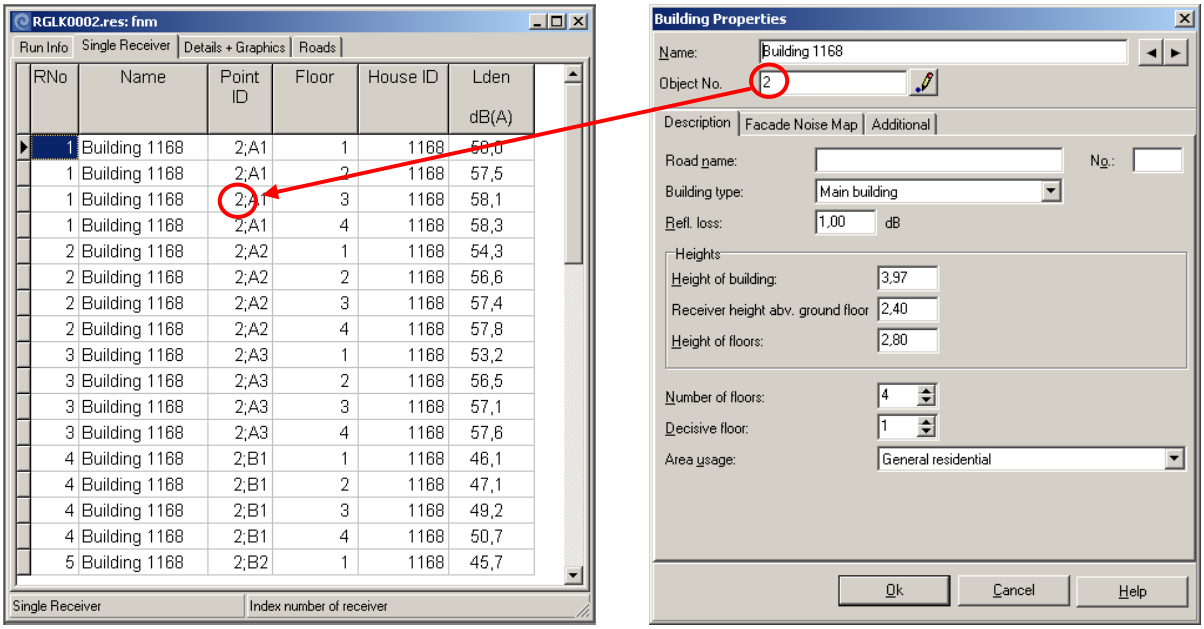


Fig 2 The building ID and object number is used to identify the receiver, here ID = 1168 and object number 2

In the column ‘Point ID’ of the single receiver table the object number appears. The facades are named A, B, C … in the input direction of the building. In case you have defined more than one vertical row of receivers along the facade, the rows are named A1, A2, A3 etc.

Without a map showing where building 1168 is situated a result table like the one shown in Fig 2 is of no use. However, in Graphics the result can still be presented like shown in Fig 3, i. e. with ordinary (‘old fashioned’) level tables inserted. However, the tools available to design these ‘level tables’ are very limited, and now (from Version 7.0) we have more advanced possibilities, see later.

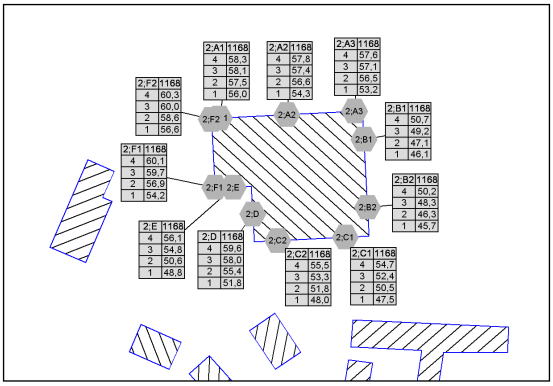


Fig 3 Ordinary level tables

Prepare Buildings

In order to produce more informative tables, the buildings must have individual names. Prepare Buildings under Geo-Tools is the right tool for that.

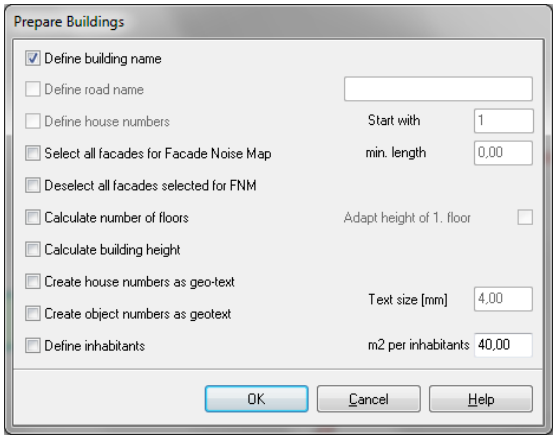
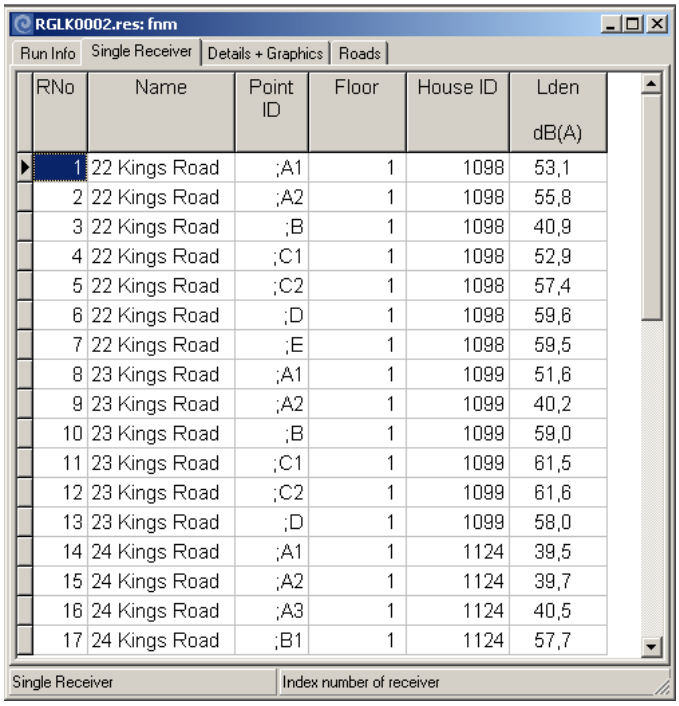


Fig 4 Prepare Buildings

If the buildings were created via Shape files or Ascii Table import maybe they already have unique Road names and House number. In that case tick ‘Define building name’ and use the tool to make the address appear as building name as well as receiver name in the Result Tables.

If the buildings were imported via dxf you can use Prepare Buildings to define the address. Tick for Define road name + Define house numbers and key in the road name + start number. The function works on selected buildings. If no specific buildings are selected all buildings in the situation will be prepared. Therefore if the layer structure in the basic dxf file makes it possible to group buildings along the same road or within the same borough in an easy way, it is also possible to name the buildings in an informative way. Once the road name and number have been established you can launch Prepare Buildings a second time with Define building name ticked and in this way make the address go into the name field, see Fig 5.



RNo	Name	Point ID	Floor	House ID	Lden dB(A)
1	22 Kings Road	;A1	1	1098	53,1
2	22 Kings Road	;A2	1	1098	55,8
3	22 Kings Road	;B	1	1098	40,9
4	22 Kings Road	;C1	1	1098	52,9
5	22 Kings Road	;C2	1	1098	57,4
6	22 Kings Road	;D	1	1098	59,6
7	22 Kings Road	;E	1	1098	59,5
8	23 Kings Road	;A1	1	1099	51,6
9	23 Kings Road	;A2	1	1099	40,2
10	23 Kings Road	;B	1	1099	59,0
11	23 Kings Road	;C1	1	1099	61,5
12	23 Kings Road	;C2	1	1099	61,6
13	23 Kings Road	;D	1	1099	58,0
14	24 Kings Road	;A1	1	1124	39,5
15	24 Kings Road	;A2	1	1124	39,7
16	24 Kings Road	;A3	1	1124	40,5
17	24 Kings Road	;B1	1	1124	57,7

Fig 5 Single receiver table with address and house number as receiver identification

Prepare Buildings offer several other functions. E. g. it can be used to calculate the number of floors/receivers per row and to convert the house number into geo-text making it possible to shown the number in Graphics, see Fig 6.

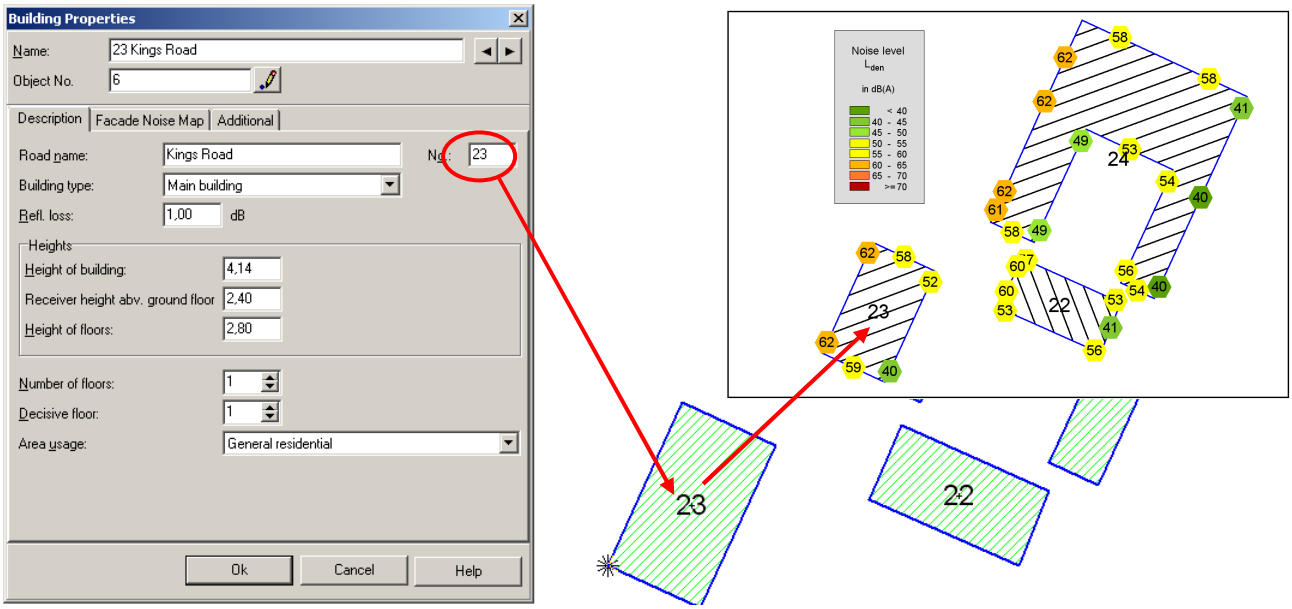


Fig 6 House numbers can be created as geo-text and shown in Graphics

Once sensible receiver identification has been established you can also present the calculation result in Graphics by inserting a 'freely floating' table. The table is prepared in the SoundPLAN Spreadsheet. Click the button for 'new spreadsheet box', see Fig 7, drag a square on the sheet, right click and select Edit contents. An example is seen in Fig 8.

Fig 7 Button for new table box

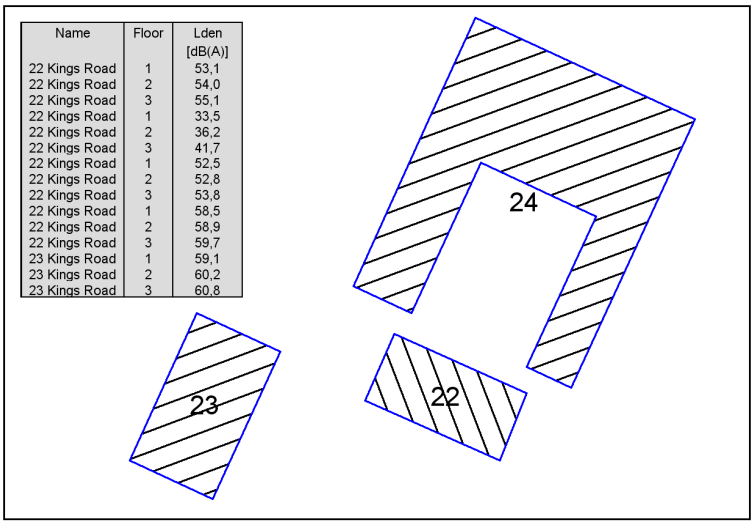


Fig 8 Receiver table from SoundPLAN Spreadsheet inserted in Graphics

Receiver Flags

Since version 7 licenses with Cartography got the possibility to insert files of type 'Receiver flags' on sheets. With this feature receiver tables (format xxxx.ntd) prepared in the SoundPLAN Spreadsheet can be shown on the map. The difference compared to the 'freely floating' table inserted via a spreadsheet box (Fig 8) is that each facade segment generates a table that is connected to the receiver. That makes the map very easy to read. Fig 9 shows an example in which levels exceeding the noise limit are shown on red background colour and facades with conflicts are marked with a red line. The result in free field receivers can also be documented this way.

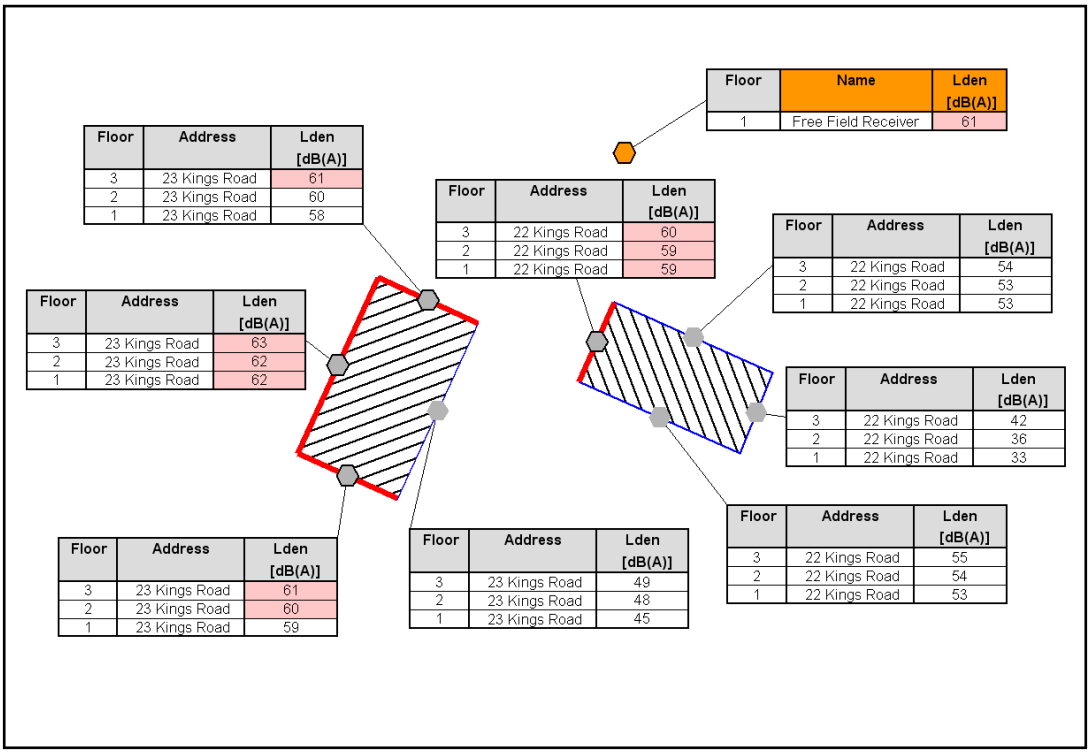


Fig 9 Receiver flags from SoundPLAN Spreadsheet loaded in Graphics via File selection manager

If you are not familiar with the SoundPLAN Spreadsheet the quick guide on the next pages might give you a kick start.

SoundPLAN Spreadsheet, quick guide

Launch the Spreadsheet and select file type Receiver table and New template. Click New and pick the result you want to present.

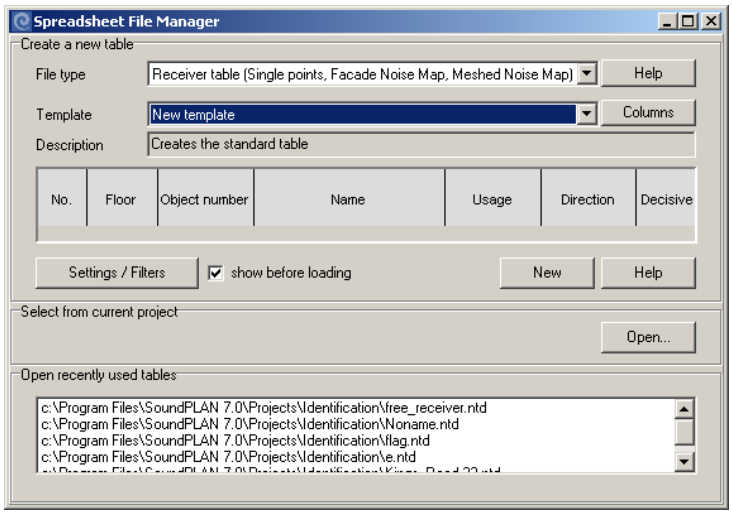


Fig 10 The Spreadsheet File Manager

Facade calculations in general contain a huge amount of data. To load all available data in a table most often will produce a confusing documentation impossible to navigate in. Therefore the program gives you several possibilities for filtering out unnecessary data at loading time. First you must select level and time slice, see Fig 11.

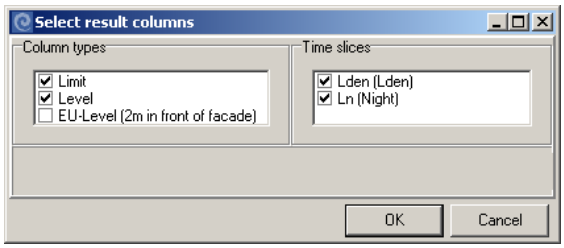


Fig 11 Tick for data to be included in the table

Next the box shown in Fig 12 pops up.

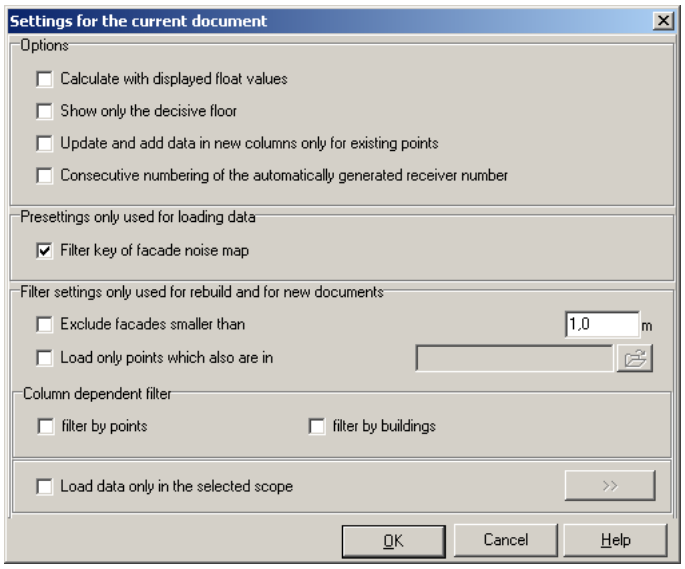


Fig 12 Definition of default table settings

For some of the features to tick in this mask it is clear what the effect will be, but for others it might not be that obvious. The following lines might clear up the mystery:

***- Calculate with displayed float values**:* Values shown in the spreadsheet will in general be rounded to 0, 1 or 2 decimal places (user definable). However, this is only for display; internally in the program all decimal places are kept no matter the way you decide to display the values. In case you perform calculations in the spreadsheet – e. g. to find the difference between two calculation results – the result might depend on where in the process the values are rounded. Example: you subtract two values displayed with 1 decimal: 55,5 (internally 55,541) minus 51,5 (internally 51,450). If you calculate with displayed float values activated the result will be 4,0 but it will be 4,1 without this feature activated. To conclude you should activate 'Calculate with displayed float values' if you want your calculation result to be consistent with the values in the table.

- Update and add data in new columns only for existing points: It is possible to amend an existing spreadsheet with results from another run. If you tick this feature only those results in receivers already represented in the spreadsheet will be added.

- Consecutive numbering of the automatically generated receiver number: Ticking this prevents gabs in the receiver numbering. This setting is mandatory if you later on want to add results to the table.

- Filter key of facade noise map: Ticking this will exclude the key from the name column, see Fig 13.

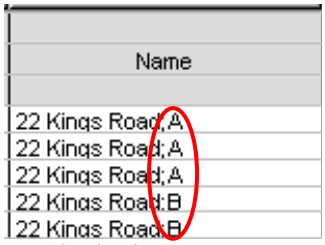


Fig 13 The 'key'

- Load only points which are also in…: With this feature you can exclude all data but data in receivers that are included in an existing .ntd file, meaning in another spreadsheet.

- Load only data in the selected scope: In tiled projects ticking this feature will open the tile manager for marking the area inside which data wants to be loaded.

Finally click OK and take a look at the table. It might need some modifications before you reach the final design. Most of these modification can be done under the menu Table > Table settings and Table > Layout.

Once the table design has been completed it is time to save the table, go into Graphics and load the table as file type Receiver flags.

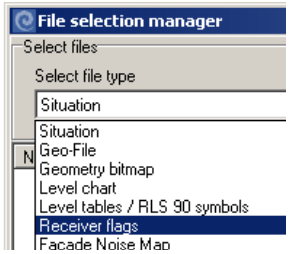


Fig 14 The File selection manager in Graphics

If the tables default are located a bit clumsy they can be moved in Edit map mode. Tick for Move tables, see Fig 15

Fig 15 Tables can be moved in Edit map mode

Hint: Please be aware that the tables/'Receiver flags' you show in Graphics come from the Spreadsheet and is saved there, and not in Graphics. It is therefore in the Spreadsheet you select what to show in Graphics. The following example demonstrates this.

Suppose you have done a facade noise map that includes calculation of Lden, Lnight and Lmax, like in Fig 16:

File Edit Title Table Window class Tools Options Help

1	6	8	11	12	13
			fnm		
No.	Floor	Name	Lden	Ln	Lmax
				[dB(A)]	
22	GF	Kings Road 1	70,1	62,6	85,3
54	GF	Kings Road 2	71,0	63,6	86,7
54	1.FL	Kings Road 2	70,5	63,0	85,2
55	GF	Kings Road 2	66,4	58,9	86,4
55	1.FL	Kings Road 2	66,0	58,6	85,7
56	GF	Kings Road 2	63,8	56,3	83,6
56	1.FL	Kings Road 2	63,5	56,1	83,0
57	GF	Kings Road 2	67,0	59,6	87,4

Fig 16 Receiver table with the 3 results

You plan to prepare 3 sheets, one for each time slice. Go to Tools > Column definition for receiver tables in Graphics, see Fig 17:

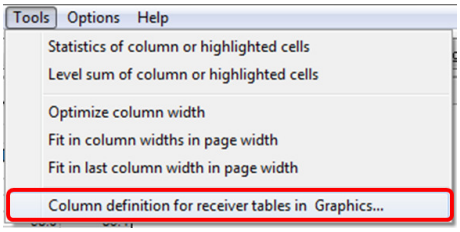


Fig 17 Call 'Column definition….'

With this tool you can prepare the data you want to show in Graphics. The default set up name is 'Column set'; hit the button with the double arrow to change the name, and tick the corresponding value, see Fig 18. Repeat this two more times for Lnight and Lmax respectively and save the receiver table.

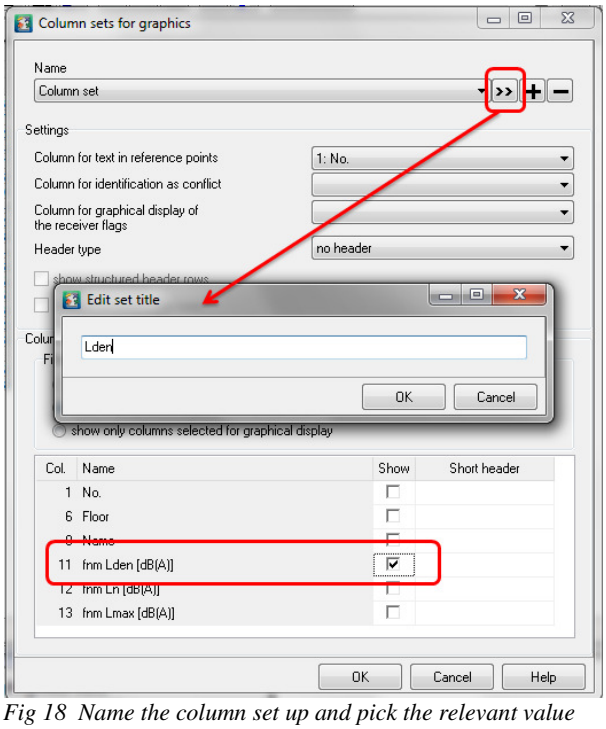


Fig 18 Name the column set up and pick the relevant value

Now open Graphics > File Selection Manager. When you load the file type ‘Receiver flags’ you are offered to select between the 3 different column set up, see Fig 19.

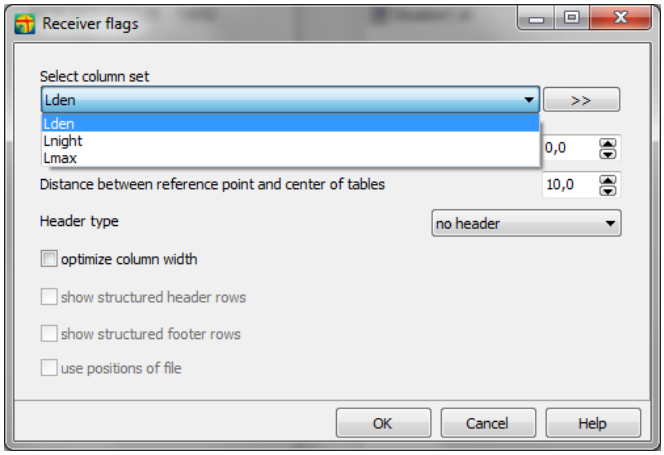


Fig 19 Select which time slice to show