18 DETAIL DATA EDITOR

The Detail Data Editor (DDED) is a tool to edit the detailed data for End–Items. Single aggregate and composite aggregate data may be entered by the DDED.
The DDED can be used *instead* or *in parallel* to the standard data editor, which is accessible via the File–>Open–>... operation. It depends on the users choice to use the standard data editor or the DDED. It is not possible to edit composite aggregates with the standard editor, only the single aggregate may be edited.

The next section explains how to start the DDED tool within I_MDB.

18.1 DDED START

It is prerequisite, that the DDED is attached to the End–Item type. This attachment has to be created during the data structure definition with DADIMA.

The DDED integration has been created by the user who is responsible for the data structure definition, so that the I_MDB user is able to work with the DDED.

To start the DDED tool:

1. Navigate to the desired Item within the user tree.

2. Select the Item and press the **right** mouse button to pop up the command menu.

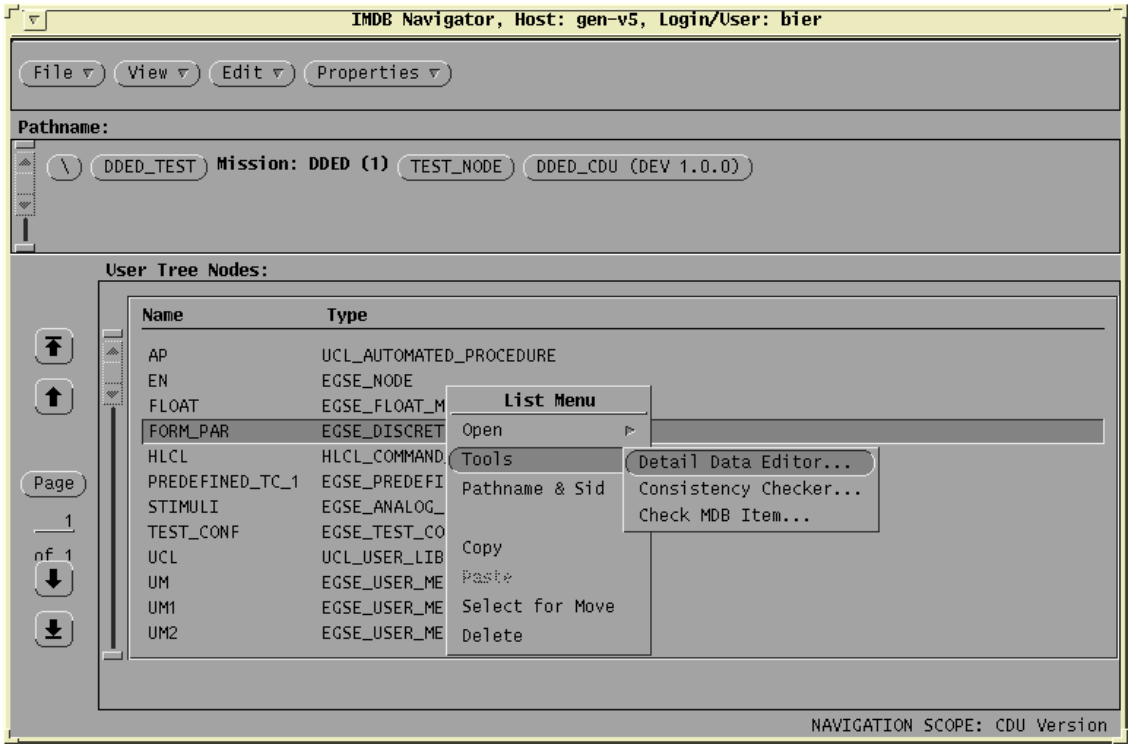

Figure 201.Starting the Detail Data Editor

3. Select **Tools –> Detail Data Editor**... from this list.

The message window 'Tool has been started in batch mode' comes up.

The DDED main window displays the message "Please wait a moment — I'm reading the end item data structure".

4. Wait until the above mentioned message disappears. The user can then work with the DDED on the desired end item which is described in the next sections.

18.2 DDED MAIN WINDOW

When the DDED has been started, at first the main window is popped up. Global commands on an End–Item can be executed from this window.

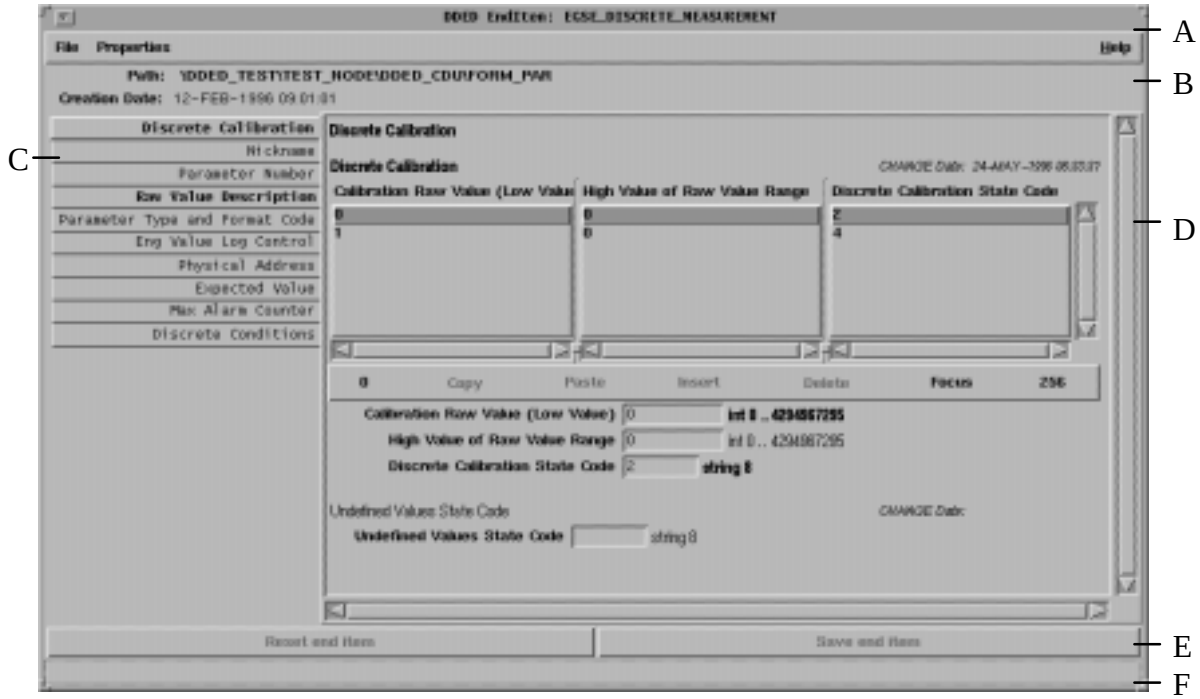

Figure 202.DDED Main Window

A Menu bar

The menu bar contains two menus, one to open and save an end item, and one to set some of the DDEDs properties.

File –> Open end item

Open another End–Item. Before opening the new end item, the program asks wether you want to save any changes you made to the current end item.

File –> Save end item

Saves all changes you made to the current end item.

File –> Quit

Quit the DDED. Beforethe program is closed, it asks wether you want to save any changes you made to the current end item.

Properties –> Edit Mode

The user may select between two different edit modes: read only *or* edit.
By choosing *edit*, you are allowed to actually change end item data. This is only allowed as long as you are the owner of the end item and the containing CDU is not in status *frozen*.
Mode *Read only* prohibits the changing of end item data. The DDED will start automatically in this mode if you are not owner, or if the containing CDU is in status *frozen*.

Properties –> Logfile Level

It may be selected if only errors, all messages or debug information shall be written to a log file. The Logfile will be used for failure analysis and is not relevant for the normal user. The files are stored in the $MDA_HOME/bin/sun4/MESS directory.

Properties –>Check Level

Selection of the level for mandatory check. The following 3 levels are supported:

without Mandatory Check
: the DDED will not make a mandatory check.

only changed Aggregates
: the mandatory check will only be done on changed aggregates (default)

Full Check
: the mandatory check will be done on all aggregates of the end item

Properties –> Tab position

You can select the position at which the aggregate tabs will be placed.

Help –> About

Displays genreal information about the DDED.

B Info area

The information area contains the *Pathname* and *Creation Date* of the end item that is currently displayed in the main window.

C Aggregate tabs

The aggregate tab area contains a tab for every aggregate of the end item. By selecting a tab, the aggregate content area (D) will be updated to show the contents of the currently selected aggregate.

D Aggregate contents

The aggregate contents area show the end item data of the currently selected aggregate.

E Comand area

The command area contains two buttons. By selecting the button *Reset end item*, the values of the end item will be reset to the database values. Any changes you made after you last saved the end item will be lost.
The button *Save end item* saves all uncomitted changes to the database.

F Message bar

Messages as response to user actions will be displayed in this part of the window.

18.3 DATA ENTERING FOR NON–COMPOSITE AGGREGATES

Non–composite aggregates are aggregates containing only single record or multi record data. This chapter describes how to enter data into these types of aggregates.

18.3.1 Single Record Aggregate data editing

When you have selected a single–record aggregate by pressing on the aggregate tab, the aggregate content area will be showing the aggregate contents.

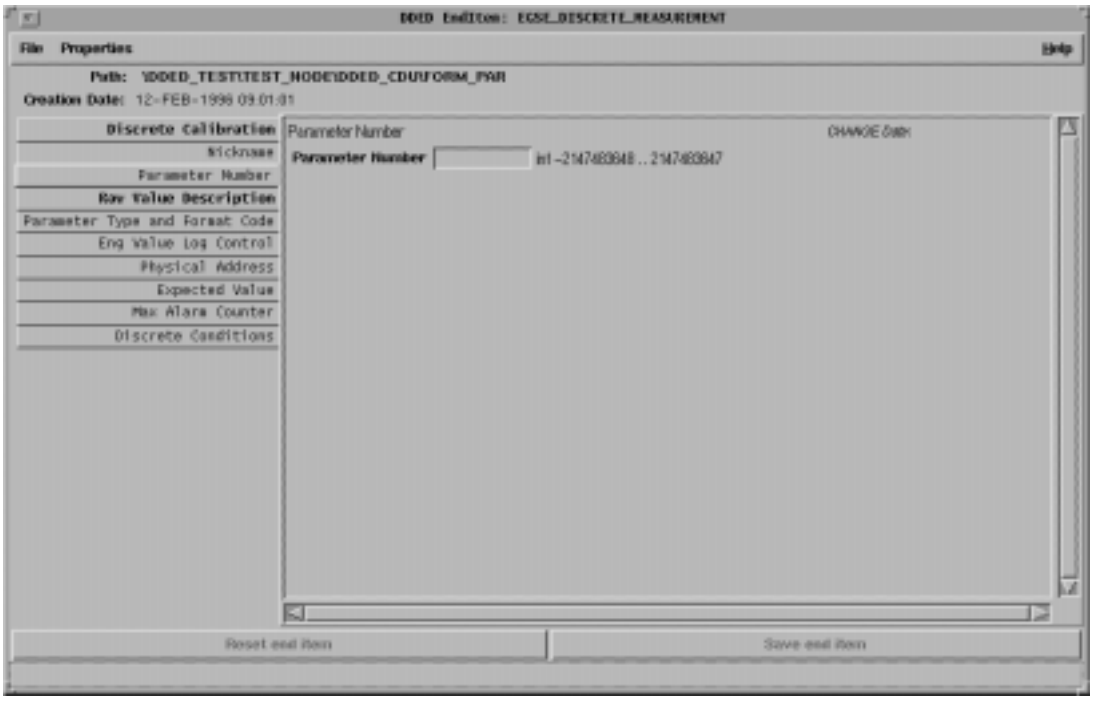

Figure 203.DDED window showing a single–record aggregate

To fill Single Record Aggregates with data

1. If the attribute type is not enumeration, simply select the desired data field in the aggregate content area and **enter** the attribute value.
Otherwise click on the button on the right of the attribute field to open the drop down menu containing the valid values for this enumeration. Then select a value from the list.
Attributes of type pathname can as well be filled by clicking on the label of the attibute. This will open the PNS tool where you can select the desired pathname.

2. Pressing the **Return** key will have the attribute value checked for type conformance. This will not work for enumeration type attributes, which can only contain values of correct type.
If the consistency checker detects an error, a message will appear in the message bar.

The **Tab** key and the **Shift+Tab** key may be used to switch *forward* and *backward* between the data entry records.

The Save operation has to be used to permanently store the data in the database.

18.3.2 Multi Record Aggregate data editing

Multi record aggregates are aggregates containing more than one record of data. When selecting a multi record aggregate from the aggregate tab area, the aggregate contents will be updated to show the contents of the selected aggregate:

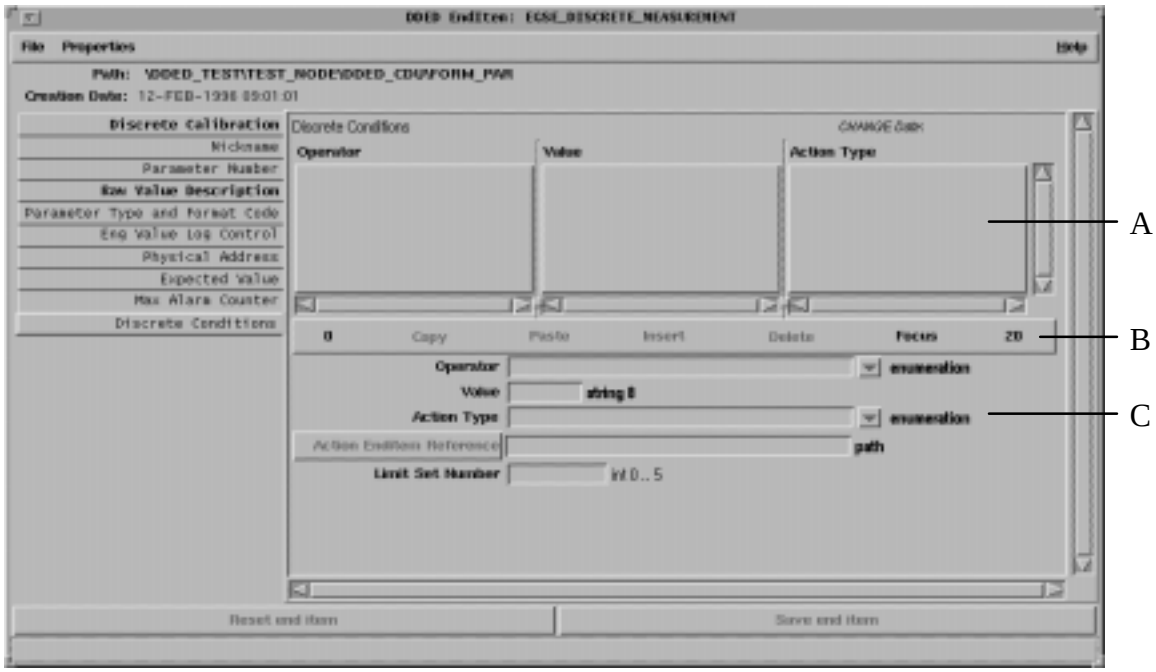

Figure 204.DDED window showing a single–record aggregate

Data Definition Area Explanation

The data definition area for a multi record aggregate is more complex than the one of a single aggregate. An explanation of the definition area follows now.

A Multi Record Aggregate List

The number of lists shown depends on the number of attributes defined for the multi record aggregate. A maximum number of three attribute lists may be displayed.

B Data Value Entry Fields

New attribute values for one record of the multi record aggregate can be entered in the data entry fields at the bottom of the lists. The currently selected records values will be displayed here.

C Pull Down Menus

The pull–down menus below the scroll lists provide operations on the multi record aggregate records like insertion, deletion, etc. The different commands are explained below.

Copy

The copy operation copies the actually selected record into the copy buffer. Afterwards the record may be inserted with the paste operation.

Paste

Insertion of a record from the copy buffer into the list of records. The place of insertion can be defined by selecting one of the following menu items: first, before, after and last.

Insert

Insertion of a new empty record on the *first* scroll list position, *before* the actually selected record, *after* the actually selected record, or at the *last* scroll list position.

Delete

Deletion of the actually selected record.

Focus –> Get

Displays the position number of the actually selected record.

Focus –> Set

Selects and displays the record of the given position number

Focus –> Total

Displays the number of records which are currently defined for the multi record aggregate.

The *Numbers* on the left and right side within the pull–down menu area indicate the minimum and maximum number of definable records. If the maximum number is equal to zero, the maximum number of records is unlimited.

To create a new row for a Multi Record Aggregate

1. Move the mouse pointer to the scroll lists and select the desired record if the new record shall be inserted before or after an existing record (skip this step if there are no records defined).

2. Select one option from the **Insert** menu, depending on the insert position within the scroll list.

3. Select the related data field(s) in the data definition area at the bottom of the pull down menu and **enter** the attribute value(s). Attribute data of multi–record aggregates can be entered in alomost the same manner as attribute data for single–record aggregates.
The only difference is, that by pressing the **Enter** button, the attribute data will not only be checked for type conormance, but as well be inserted in the list, assuming that no errors are found.

4. Select the **highlighted record** within the list to fill in the entered data into the list (if the record has not already been updated).

5. Repeat step 3 to step 4, if several records shall be created.

The Save operation has to be used to permanently store the data in the database.

18.4 DATA ENTERING FOR COMPOSITE AGGREGATES

A so called composite aggregate is an aggregate on higher level consisting of more than one simple aggregates.

Relationships and dependencies between the aggregates of a composite aggregate may be defined by the ***variant part*** and the ***foreign key reference***.

For a subset of the aggregates of a composite aggregate a variant part can be defined which is similar to a variant record in ADA. *One* special attribute of an aggregate represents the discriminant.
Within the DDED Composite Aggregate window the attribute which represents the discriminant, is marked by the identifier **+**. Depending on the value of this attribute other simple aggregates of this composite aggregates become valid (so called variant aggregates).

A foreign key attribute is a reference to one or more other aggregates within the composite aggregate (i.e. other aggregates of this composite aggregate have the same attribute). The name of this foreign key attribute is the same in all referenced aggregates.

Within the DDED Composite Aggregate window the attribute which represents the foreign key, is marked by the identifier *****.

All foreign key attributes of the same composite aggregate for one end item have the same value. The user needs to enter the value only once, DDED automatically updates all foreign key attributes of the composte aggregate, when the user enters a vaule for this attribute.

How to enter data into screen forms of composite aggregates having variant aggreagtes and foreign key attributes is described in detail in the following parts.

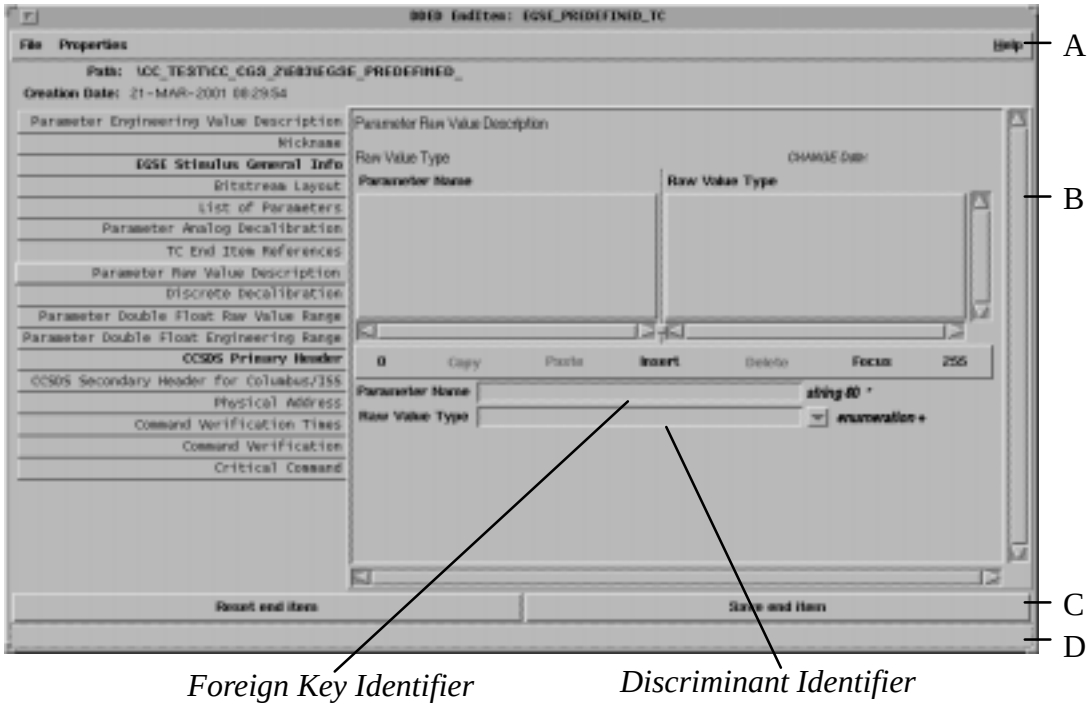

Figure 205.DDED window showing a composite aggregate with Foreign Key and Dirscriminant Identifier

A Menu bar

See the description for single record aggregates, section 18.3.1.

B Data definition area

Area where the attribute data values of the multi record aggregates will be defined. It contains fields for data entering and displays the related attribute data types, e.g Raw value Type. The handling of data entry is equal to the one of ’Multi Record Aggregate Data Entry’ described in section 18.3.2.

C Command area

See the description for single record aggregates, section 18.3.1.

D Message bar

Messages as response on user actions are displayed in the area at the bottom of the window.

Define Data for a Composite Aggregate with a Variant Part

1. Select or create an end item of type EGSE_FLOAT_MEASUREMENT and start the DDED.

2. Select **View–>[composite aggregate to be modified]** (e.g. Analog Calibration) from the DDED main window.

The aggregate content part shows the selected aggregates attributes. The attribute which represents the discriminant is marked by the identifier +.

3. Open the pull–down menu by pressing on the button on the right side of the text entry field. The menu shows the valid enumeration values, e.g. IDENTICAL, POINT_PAIRS, POLYNOM.

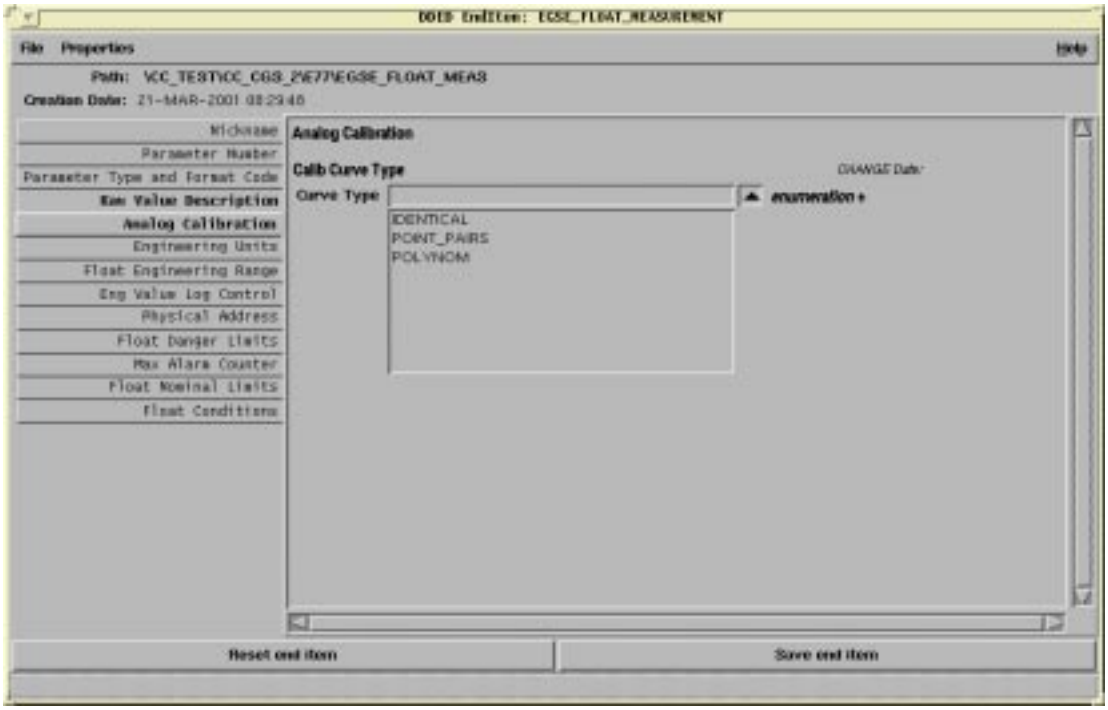

Figure 206.DDED window showing a composite aggregate with discriminant

4. Select one item from the selection list.

After the selection has been made, the aggregate contents will be updated showing the new attributes thet belong to the selected discriminant value. Each enumeration type has its own description and therefore its own data entry fields.

Figure 207. displays an example of an aggregate with a discriminant. When the enumeration POINT_PAIRS has been selected, the data definition area changes as it is shown. The composite aggregate is composed of a multi record aggregate called ’Analog Point Pairs’.

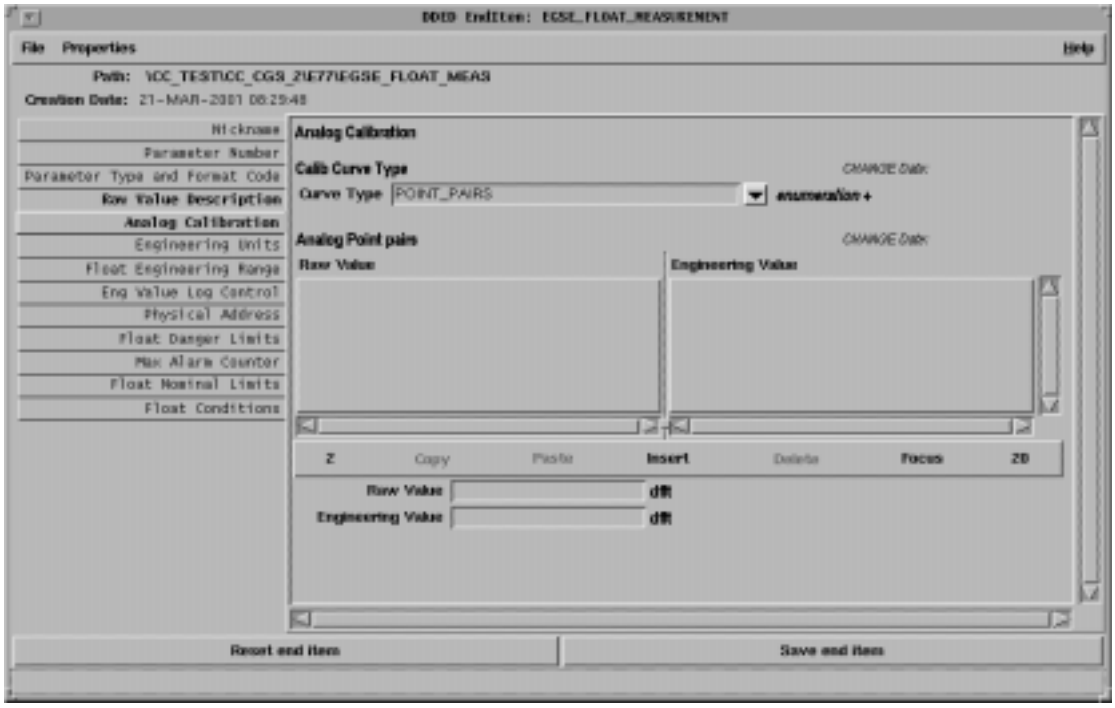

Figure 207.DDED window showing composite aggregate after discriminant selection

5. Insert the attribute values of the simple aggregates and/or multi record aggregates as explained in the sections above.

The Save operation has to be used to permanently store the data in the database.

Define Data for a Composite Aggregate with a Foreign Key Attribute

1. Select or create an end item of type EGSE_PREDEFINED_TC and start the DDED.

2. Select **View–>[composite aggregate to be modified]** (e.g. Parameter Raw Value description) from the DDED main window.

The aggregate content part is updated to show the selected aggregates attributes. The attribute which represents the Foreign Key is marked by the identifier *****.

1. Move the mouse pointer to the scroll lists and select the desired record if the new record shall be inserted before or after an existing record (skip this step if there are no records defined).

2. Select one option from the **Insert** menu, depending on the insert position within the scroll list.

3. Select the related data field(s) in the data definition area at the bottom of the pull down menu and **enter** the attribute value(s). Attribute data of multi–record aggregates can be entered in alomost the same manner as attribute data for single–record aggregates.
The only difference is, that by pressing the **Enter** button, the attribute data will not only be checked for type conormance, but as well be inserted in the list, assuming that no errors are found.

4. Select the **highlighted record** within the list to fill in the entered data into the list (if the record has not already been updated).

By inserting the composite aggregate record, the window is extended by the aggregates containing variant records and foreign key attributes. An example is shown in figure 208. (use the scrollbar on the right of the DDED window to make the aggregates visible).

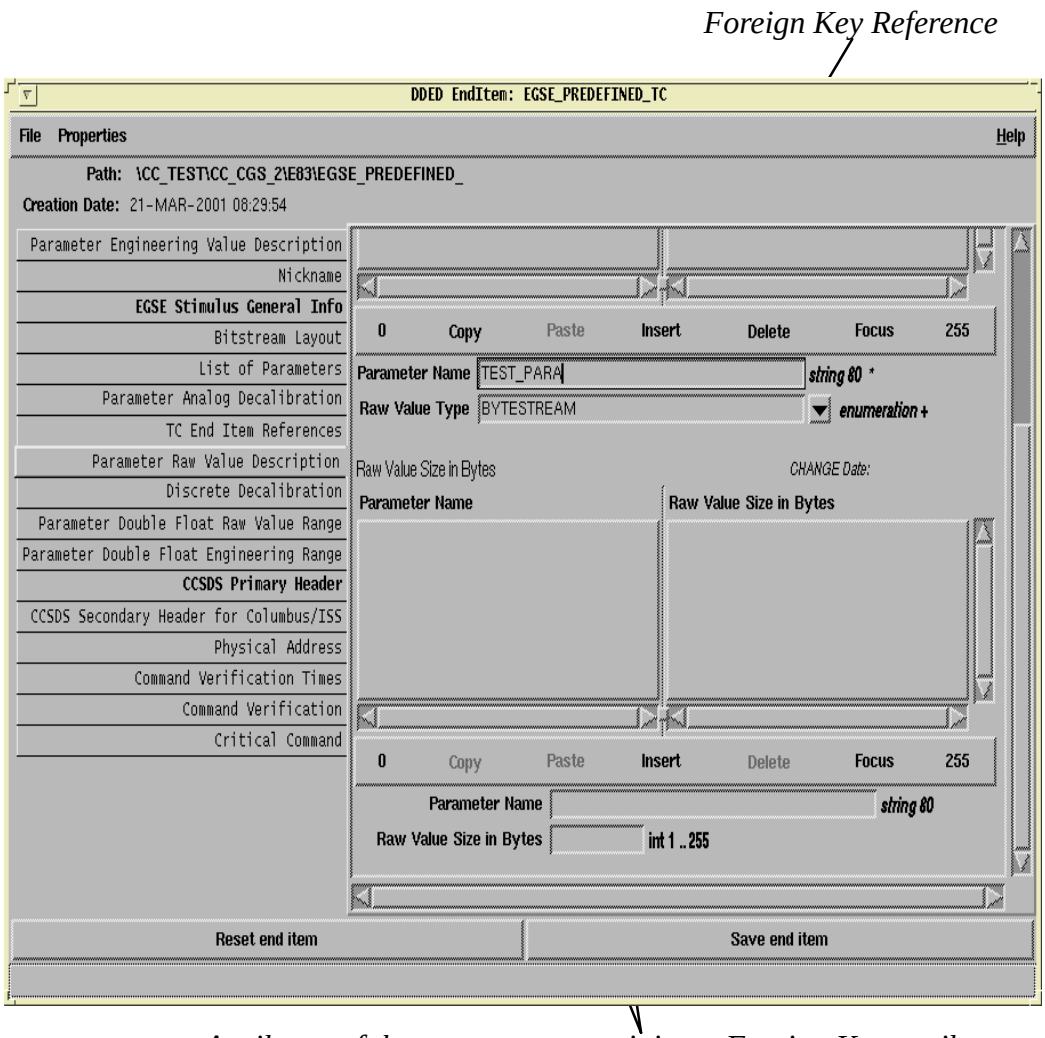

Figure 208.DDED window showing a composite aggregate with a Foreign Key

5. **Insert** the attribute values into the aggregates referenced by the foreign key. The data entering can be performed as explained in section 18.3.2. The foreign key attribute field will be filled automatically.

6. Repeat step 2. to step 5. if several composite aggregate records shall be created.

The Save operation has to be used to permanently store the data in the database.