DpuScan

DpuScan 7

Reference Manual

User Dialogs

DpuScan

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1   User Dialogs

All user defined dialogs, UDD are subprofiles in DpuScan. A UDD can be used from each base profile so all UDDs can be reached and configured from each base profile.

Therefor the base profile offers on the Job-Page a set of controls to create, change and delete UDDs. Also it shows where the UDD is used, which is currently selected. To create or change a UDD a dialog pops up leading to the content and the properties of a UDD:

The content of a UDD are defined on this pages:

General the prompt to be shown in the UDD (can be edited), name in program, short description and Field type.

Edit, the properties of a regular edit field, such as length, allowed characters and values and write protection, .

Mask the properties of a masked edit field, which allows only a fixed format input.

List the properties and the source of a list- or combobox.

Button, the property of a button which is the constant value to be sent.

Date, the properties and ranges of a date time control.

Options, the behavior when filling an input field.

F1-Help, Allows the setting of a Popup-Helptext or a HTML-Document.

F3-Function, calls a function in an external module.

Frames, Allows for the definition of frames that are then displayed on an image during batch processing to highlight specific areas of the image.

Bindingng, describes the database connection.

Line layout, describes the color and font type and the the width and height of a an input field .

Recognition, the behavior when filling the input field via interactive OCR.

Beside the lines of the UDD the general properties of the UDD itself can be defined:

Layout, defines the position, size and alignment of the UDD.

Controls, defines the appearance and labelling of the standard Dialog buttons

Background defines the background colour and image to be used for the UDD.

F1-Help Allows the setting of a Popup-Helptext or a HTML-Document.

Colors, Color scemes for several applications.

Query, behaviour on database queries.

Dependend Files, used to run the UDD.

Additional Variables, behavior on database queries.

Script, a set of user defined functions to generate or proof the values in a UDD.

Further issues:

Messages and Warnings.

Glossary

1.1   Overview

User Defined Dialogs are input masks which can be adjusted to the needs of a given task. They can capture data as user input which aren't able to be recognized or calculated in another way.

The administrator of a scan station can create UDDs which are used by the scan operator later.

Typical tasks for a UDD are:

- at scan begin some data should be entered which belong to the complete batch or job, e.g. the number of the box the batch was transported with..
- in an exceptional situation the operator will be inquired, e.g. a unique Barcode was found a second time in the batch.
- image data should be read and entered, e.g. the hand written address data on a form sheet.
- before the batch is finalized the user can be requested or notified, e.g. if an expected event doesn't occur (the importer sleeps) or the batch has to be controlled twice because of a spot check.

UDD usually pops up in a defined situation, the user enters some data, then the closes the UDD and the dialog disappears. If data should be entered for each image it's useful to work with the PlugIn JK_INDEX. This tool allows to show a UDD permanently as part of the DpuScan Workspace.

See also the configuration of a UDD.

1.2   Content of a UDD

This dialog box shows in the title the name of the current UDD-Subprofile. On the left side is an input field for the title of the UDD.

Title   The title of the UDD will be shown in the title bar. As usual for all windows it will be shortened if the text is wider than the window itself.

The title may contain %-Codes also. They can be selected by the button ⬚.

Below the title is a list of lines the UDD consists of. The character at the begin of the line specifies the type of the input field:

E   (E)dit   a prompt and a text input box.

L   (L)istbox   a prompt and a drop-down list box

C   (C)omboBox   a prompt and a combination list box (drop-down plus edit field).

B   (B)utton   a Button and a fix value

D	(D) ateTimeCont rol	a Prompt and a date control
T	Commen(t)	a comment text
		an empty line
		a divider line

On the right side there are stacked property pages, showing the special properties of the lines:

General	Defines the the prompting text to be shown in the UDD and the name of the variable in the program, i.e. the %-Code.
Edit	Defines the properties of a regular edit field, such as length, allowed characters and values and write protection,
Mask	Defines the properties of a masked edit field, which allows only a fixed format input.
List	Defines the properties and the content of a list- or combobox.
Button	Defines the constant value to be sent when a button ist pressed.
Date	Defines the ranges of a date time control.
Options	The behavior when filling an input field.
F1-Help	Allows the setting of a popup helptext or a HTML-Document.
F3-Function	Calls a function in an external module.
Frames	Allows for the definition of frames that are then displayed on an image during batch processing to highlight specific areas of the image.
Bindingng	Describes the database connection.
Line layout	Describes the color and font type and the the width and height of a an input field.
Recognition,	The behavior when filling the input field via interactive OCR.

The **buttons** in between the list of the lines and the property pages are used for editing the UDD. before inserting a new input field, the program asks for the assigned variable in the program, the %-Code.

|	
Edit	Use this button to add a new line with an input field, or to insert it above the highlighted line in the dialog.
List	Adds a new line with a **Listbox element** or inserts it in the dialog above the highlighted line. The list may consist of fixed values or be loaded from a file when invoked.

Button	Adds a new line with a button or inserts it in the dialog above the highlighted line. Clicking such a button will assign a fixed value to the variable and close the UDD.
Date	Inserts a date time control "DateTimePicker" which allows to enter dates in a predefined time span.
Separator	Adds a new line with a separator line or inserts it in the dialog above the highlighted line
Blank Line	Adds a new line with a blank line or inserts it in the dialog above the highlighted line This is especially suited under list lines if the drop-down menu lies over the buttons.
Comment	Adds a new line with a comment or inserts it in the dialog above the highlighted line.
Delete	Deletes all highlighted lines from the actual dialog
⬇ ⬆	Moves the highlighted line up or down, respectively
Test	The **Test** button displays the actual prompt and the standard value in the dialog window. The window appears in its final format, just as it will appear later in the program.
Properties	The button **Properties** opens the dialog to determine the Properties. Please find details in the next chapter.
OK, Cancel, Apply, Help	The standard buttons work in their usual manner, with one exception: **Apply** will apply the modifications only the Test-UDD. The definite saving is reached only when the dialog is closed, with OK.

See also Properties of a UDD and overview

1.2.1   Linking to DpuScan

This tab displays the properties that describe the interfaces to the user and to the application.

Prompt in Dialog	You can enter the prompt for the highlighted line of the UDD. For prompt boxes and lists in a list field, this is the prompt on the left side of the UDD. For buttons, this text means the inscription on the button itself and the comment to be displayed in the comment line.

The prompting text may contain %-Codes, use the button to select them. These variables will be replaced by their current values just before displaying the prompt.

Always use current value.

Only when this option is enabled the %-Codes will be replaced. Otherwise they will represented as plain text.

Name in Program

Here, a name is displayed for the highlighted line. This is the so called %-Code or DpuScan-Variable

Although names can be used several times within a dialog, you should be aware that only the value of the last variable (bottom line) will be used in the program later.

Description

The **Description** field displays informative text on the selected variable if it was entered in the variables selection dialog.

Click this button to open the Variables selection dialog.

See also Content of a Dialog and Overview for more information.

1.2.2 Editfields

This page describes the properties of a line of the type Editfield:

Format	Masked or arbitrary	This type allows the input of any characters, i.e. there will be no further checking.
		However if an input mask is defined then the input will be restricted to certain characters at the designated places.
	Limited Character String	Usually strings may consist of any desired characters. The length can be restricted to a **maximum Length**.
	Decimal Integer	Allowed characters are leading arithmetic signs and the decimal digits.
		Like for all other numbers a valid range can be given by defining **Maximum** and **Minimum** (both included)**.** The Editfield *always* holds a correct input; it is proofed on *every keystroke*. So when trying to enter a value out of the valid range the field will be cleared immediately and then filled with nearest boundary.
		If maximum or minimum is omitted there will be no further checking for the boundaries.

	Hexadecimal Integer	Allowed characters are leading arithmetic signs and the hexadecimal digits.
		Notes:
		Prefixes and suffixes like "0x ", "h", "$", etc. are **not allowed** as input here.
		DpuScan internally handles Hex-Numbers as ***unsigned integer*** numbers, i.e. there will be an overrun on negative values. E.g. –1 will be treated as FFFF (if four digits are wanted)
	Floating point number	Allowed characters are leading arithmetic signs , the digits zero to nine and the decimal sign.
		In addition to **Minimum** and **Maximum** the number of **digits after the decimal point** can be defined.
	Userdefined	Allowed length and type of the can be stated with the entries for **Length**, **Continuous**, **Alpha** and **Numeric.**
Read only		With this option Editfields can be write protected. This may be useful if different UDDs within one Task works on the same variable.
Password		Sets the password behavior, i.e all key strokes will be shown as stars (asterisks).
Length		For character strings the **maximum Length** can be defined. This is the number of allowed characters, a value of zero disables the length check.
		Please note that huge values here in conjunction with a very long default text can make the Dialog wider than the screen.
		Note also that there is no way to define a minimum length and that the width of input field will calculated automatically.
Continuous		Active for Editfields of type **userdefined**. The input must not contain blanks, tabs linefeeds or carriage returns.
Numeric		Active for Editfields of type **userdefined** The input must consist of digits, signs and blanks.
Alpha		Active for Editfields of type **userdefined** The input must consist of letters. If **numeric** is also enabled the input can be alphanumeric (i.e. must not contain control characters)
Minimum and Maximum		If these values are specified and the minimum is less than the maximum, the input will be checked to be a number in the given range.
Digits behind the dot		Defines the number of digits for real numbers. If specified, the input will be checked to be a number and to have at most the defined count of digits after the dot.
		A value of zero is disables this check.
Test		*After* pressing the button **Test** the test field near of the button has all capabilities defined on this page.

See also Content of a Dialog and Overview for more information.

1.2.3　Masked Editfields

The creating of input masks generates a special format for each character of an input. Mask works *only* on Editfields of the type **Masked or arbitrary**. For Editfield of the type Masked or Arbitrary the Mask Tab is available:

Mask	In this editbox strings of placeholders can be entered to describe the input mask. Each placeholder represents the space for one input character.	
	The placeholders may be entered directly or selected from a popup menu >̲ .	
	Following Placeholders are available:	
_ **(Underscore)**	**Any Character**	Any character can be used for input.
U	**Uppercase Letter**	Only capital letters are valid.
L	**Lowercase Letter**	Only lowercase letters are allowed.
# (Crosshatch)	**Decimal Digit or blank**	Spaces and decimal digits are allowed.
X	**Hexadecimal Digit or blank**	Spaces and hexadecimal digits are allowed.
0 (Null)	**Decimal Digit or Null**	Decimal digits only are allowed, omitted entries will be filled with nulls.
O (Capital Letter O)	**Hexadecimal Digit or Null**	Hexadecimal digits only are allowed, omitted entries will be filled with nulls.
+ (plus sign)	**Sign or blank**	Signs (plus and minus) or spaces are valid.
' (Single quote)	**Divider point**	Only the digit grouping sign (thousand separator usually in English version a comma) is allowed.
. (Dot)	**Decimal point**	Only the decimal separator sign can be entered, in English version that is a full stop.
" " (Double Quotes)	**Embedded Phrase**	The embedded text is delimited by double quotation marks and is write protected on input. E.g. to enter an ISBN this mask will contain four phrases:
		"ISBN "0"-"000"-"00000"-"0
dd **mm** **yy** **yyyy**	**Date formats**	Placeholder for day, month and year w/o century. Numbers will be shown with leading zeros. There's no need to quote separators like dot or slash.
Display Pattern	When enabled an underscore will be shown for all places where an input can be made.	
	This is helpful if there are no other visible delimiters for the input.	

Error Bell	Sound the computers bell on a wrong input.
	Note: Depending on the operating system the sound may played automatically by a sound card or the on-board sound chip.
Fill from right	When DpuScan sends data to the UDD the masked field will be filled from the right.
	Example: The field is masked for an eight digit number with leading zeros. But DpuScan sends only 1234.
	Option on: **00001234** (Cursor at the end)
	Option off: **12340000** (Cursor at the begin)
	Now the user wants to enter a 5
	Option on **00012345**
	A data entry is possible at the end of the field, the preceding text will be shifted to the left.
	Option off: **52345000**
	Normally just the first digit will be replaced. To get the correct result 12345000 it is necessary to place the cursor after the 4 manually.
Selection	Here a part of the text can be pre-selected when entering the field. So the first keystroke replaces the marked text. If the same position is used for begin and end only the cursor will be placed there.
	If the start value is zero and the end value is –1 the whole string is marked.
	If both values are zero nothing is marked and the cursor is placed at the begin.
	If both values set to –1 also nothing is marked but the cursor is at the end.
Use fixed font for test	The text in the test field will be displayed with a fixed width for all characters (Courier New)
	Later the UDD uses always the default font "MS Sans Serif 8" for all text and input.
Test	**After** pressing the button **Test** the mask will be used for the test input field.
	Beneath the input field a ruler comes up to mark the caret position. Below the button a counter informs about the remaining characters.

See also Content of a Dialog and Overview for more information.

1.2.4   Userdefined Buttons

This Propertypage allows the editing of userdefined button lines in a UDD.

When working with userdefined buttons usually a UDD consist of several lines with different labeled pushbuttons that all work with the same variable.

Because the pressing of a userdefined button closes the UDD the standard pushbuttons should be disabled in the common Dialog properties.

When pressing a userdefined button the UDD always returns "OK" to DpuScan. To allow the user to cancel the UDD the Cancel-Button must be enabled, see the control properties.

Button Text (Prompt)	That is the button's label. The widest text is used to calculate the width of UDD itself.
Constant Value	When clicking on this button this value will be assigned to the variable and the Dialog closes with "OK".
Closes the Dialog	This option is always enabled here.
	In embedded Mode it causes the UDD to be hidden until the next call.
	Specifies that this is the default button of the UDD. The first button that has this property gets the input focus and then reacts to keyboard input "Return"
CheckBox	Displays a check box instead of a normal button, that is, a square, into which one can put a hook.
	If the hook is set, the C**onstant Value** is transmitted, see above.
	If the hook isn't set, an empty text is transferred.
Like "Do not show this dialog again"	If the user places the checkmark in this check box, this UDD will not be displayed in the future.
	To re-enable the dialog, you can
	- open it in the basic profile configuration once for editing. No further changes are required.
	- before the call, set the associated variable to a value *other* than the **Constant Value** specified above.

Note: To show the userdefined helptext for a button the focus can cycled through all the controls with the Tab-Key. When the desired button is highlighted, F1 will provide the helptext for that button.

See also Content of a Dialog and Overview for more information.

1.2.5   Lists

On this property page list boxes can be defined. It will be displayed automatically when a new list element was inserted in the UDD.

On the top it shows the type of the list and in the big field below the content of the list. If the source type "from a list" is chosen here the data can be entered to the big field. For source type "from a file" or "from a database" it remains to indicate the content may vary.

List type and content can be set by an option dialog which is reachable by the button ... in the upper right corner.

See also Content of a Dialog and Overview for more information.

1.2.5.1 Listbox Values and Options

This dialog defines how a list box will be filled and how it acts later.

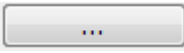|	
Listbox Typ	Declares if a list box will be shown as a static of values (Dropdown-ListBox) or with an additional edit box (ComboBox).
Source	Defines where the content of the list is stored:
	From a list
	The values can be typed in directly to the field in the middle of the dialog.
	From a file
	The values are stored in a text file and will be read each time the UDD is loaded at job begin.
	From a database
	The values will be fetched from a database by the use of an SQL-Statement.
File	Here the file with the values can be given. The file has to be plain ANSI text format, one value per line. The file name may contain %-Codes also. They can be selected by the button %.
	If a line start with a star (asterisk,*) this value will be selected as the default one, as long there are no other restrictions.
	This file will be stored along with the UDD-subprofile and can be exported and published too.
Load	Opens a common dialog for opening a file.
Save	Opens a common dialog for saving a file. The name suggested is built from the %-Code connect to this field.
Field for the list values	New list values can be entered in the field below the file name. It is enabled only for the source type list, for file and database it is disabled.
	To allow comfortable editing the Enter key will be directed to this field, it doesn't close the option dialog. Please use the mouse or the tab key leave the field.
Unicode	Handles the file as a UNICODE file.
	Option on:
	When storing, the file will be saved with a Unicode BOM 0xFF 0xFE.
	When reading a file without a BOM, Unicode coding is expected.
	Option Off:
	When storing, the file will be saved using ANSI coding.

When reading a file without a BOM, characters will be read as ANSI.

Always:

Reading a file with a BOM uses always the character coding specified by this BOM.

Sort   Sorts the values oft he list directly. If you are working with lists from a file or a database you may prefer option Sort, see below.

Set Default   Causes the selected line to be the default value. This value will be chosen automatically when the UDD opens, unless there are other restrictions..

Connection String   This field serves a so called DataConnection. This is a connection to a database server. The nearby button [...] opens a wizard dialog to set the details.

There, from a DropDown-list a provider can be selected and with some option fields for server name, user name, password etc. the ConnectionString can be built.

SQL Command   Here an instruction in form of an SQL-Statement can be given to query the database. For example:

```
SELECT Jobnummer FROM Jobs WHERE JobStatus='SCAN'
```

The nearby button [%] allows to insert DpuScan variables into the command. They will be replaced immediately before the instruction will be executed.

Execute   This button opens the connection and executes the SQL Statement.

The result will be presented as a list if there are one or more matches.

If there is no match, there will be a message here in the test. Later in processing mode no further action will be taken, the corresponding ListBox will just be empty.

Sort List   This option causes to sort the list before displaying it. This is useful if the values came from an unsorted file e.g.

Auto search   This flag controls the behavior during the text input. Assume there is a list with names:

```
Norman
Toni
Anton
Nadine
Oliver
```

For DropDown ListBoxes

Option Off:
Entering an "a" "Anton" will be selected, "T" is "Toni", first "n" gives "Norbert" the second one "Nadine" and "o" selects "Oliver"
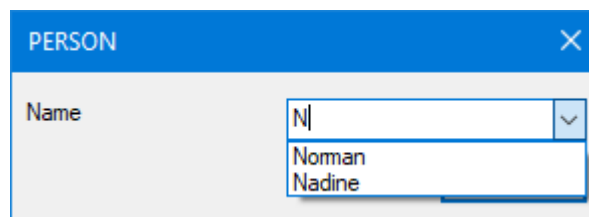
Option On:

"a" selects "Anton", a following "n" keeps the selection on "Anton" also a further "t". If there is a short break, about 1,5 seconds in between two keystrokes the search restarts again from the top of the list. After this pause entering an "o" will select "Oliver"

For ComboBoxes

Option Off:

Just a new word is typed into the edit field of the ComboBox.

Option On:

Typing "N" causes a shortened list to be opened under the edit field. It holds all entries starting with "n", that is Norbert" and "Nadine"

The behavior during the search operation can be changed by the flags **Anywhere** and **Case sensitive**

Anywhere

Option Off:

Only the begin of the list entry will be searched, "to" selects "Toni"

Option On:

The full entry will be searched, so "on" gives "Toni" and "Anton" as well.

This Option works for **ComboBoxes** with the flag **Auto search** only.

Case sensitive

Distinguishes upper and lower case letters writing.

Option On:

Case is regarded, "to" finds "Anton" but not "Toni"

Option Off:

Case will be ignored, "to" finds both, "Anton" and "Toni"

This Option works also only for **ComboBoxes** with the flag **Auto search.**

Use substitutions

This flag makes it possible to display abbreviated values in the list box.

If this value is selected in a prompt, the substitution of the variable will be automatically assigned.

Displayed values and substitutions are separated by an equal sign (=) inside the line. The **left value** is displayed on the screen, the **right value** is transferred to the application. If a **substitution is**

missing, the original value will be transferred. If the **original text is missing** the entry occurs as a blank line in the list.

Assume there is this unsorted list:

```
Nordrhein=1
Westfalen=2
Lippe=3
Hamburg=
=
=77
Berlin
```

The selection chosen should be stored in %(I.RetVal). The resulting UDD looks like this:

Here, selecting "Westfalen" will set %(I.RetVal) to "2". "Hamburg" will return an empty string, the first empty line will return a blank line too, the second one (selected) will give "77" and "Berlin" will just return "Berlin"

Visible Value **=** **Used Value**

Return full text   This option controls the behavior when a value is send to DpuScan after closing the UDD.

Option off:

Only the right part before the equal sign will be returned. Selecting "Lippe" returns "3"

Option on:

The full definition will be returned. Selecting "Nordrhein" returns "Nordrhein=1". Later on the Application side the result can be formatted with the %-Code-Formats

```
%(I.Country)=%(I.RetVal)[<"="]

%(I.Nummber)= %(I.RetVal)[>"="]
```
:

Accept full text   This option controls the behavior after a value was got from DpuScan and before opening the UDD.

Option on:

The given value may contain an equal sign. If it corresponds to one of the defined lines, this line will be selected. "Lippe=3" will select "Lippe"

If the equal sign is missing it will be searched in the right values and the corresponding left value will be selected. "1" will select "Nordrhein".

If the value wasn't found on the right side, it will be searched on the left visible one."Westfalen" will select "Westfalen"

Option Off:

To select the correct value the right part of the definition has to be sent.

"1" will still select "Nordrhein"

But "Westfalen=2" or just "Lippe" will default to nothing. In this case the top most entry of the list will be selected, in our sample "Nordrhein".

See also Content of a Dialog and Overview for more information.

1.2.5.1.1 ConnectionString Dialog

This dialog box helps to create a connection to a database service. For that a ConnectionString has to be built It consist of several parts, depending on the provider of the database service.

Provider

Here you can select from the most common database providers. If the current version of your provider isn't listed try to use on older version.. The parameters will be the same in many cases, just the keyword for the provider itself differs.

Parameters 1 to 4

Once you select your provider this parameters will get a meaningful prompt, e.g. Database, Uid or Password. The changes made to the text in this fields will be reflected in the field for the Connection String below.

Connection String

Here all values from the fields above will be inserted at the right place to compose a valid

ConnectionString. Using the button allows to insert DpuScan variables. When the UDD is loaded they will be replaced with the current values immediately before establishing the connection.

See also Lists, Listbox Values and content of a UDD.

1.2.6   Date Time Control

The tab DTC, Date Time Control, show the parameters for a DateTimeControl or DateTimePicker.

Date Time Format	Here the the format could be set: Tiem, Date short, Date long ore Userdefined. The change will be displayed immediatly in the test field
Up-Down Control	**Option OFF**:
	The controls shows a little button at the right. This allows to pick up a date from a calender control. Just by clicking selects a date. A double click starts a sequence of selection dialogs: Decade, year, month and then the day.
	Option ON:
	If this option is turned on, an up-down arrow is displayed to the right. So parts of the input can be count up or down. This is, for example, useful if only a time indication is to be made
Checkbox	**Option OFF:**
	The control returns always the selected date time value.
	Option ON:
	At the left side will appear a checkbox. If this box is checked, the value will be returned. Otherwise the result will be an empty string..
Userdefined Format	This field gets active if the date-time-format Userdefined was chosen.
	It can hold a combination of place holders. A list opens on the button to the right. Any other characters can be used as separators, a quotation isn't necessary.
After	Defines the begin of a valid time span, i.e. a valid date or the time has to be after this day or time.
	With the DropDown-List in the middle can be defined how this restriction will be given: Years, months, days, hours or a fixed date
	If you don't define begin, there is a technical restriction, dates before 1.January 1601 couldn't be handled.
Before	This works analog to **After**. Also here a technical upper border, dates beyond 31.December 9999 won't be accepted.
Test	This field allows to check and test the settings for this control element.

See also Content of a Dialog and Overview for more information.

1.2.7   Options for Input Lines

On this Tab it is possible to define default values for completing editfields and lists.

DpuScan offers four ways here:

Propose the value sent from the program. The calling program module sends the value to be displayed.

Propose the default value or the default list item	When selected the input box **Default** will be enabled for Edit fields. Here it is possible to enter a default value for this edit field.
	The entered value can be proofed by pressing the button **Validate** to ensure that the value conforms to the limits defined on the Edit and Masked tabs.
	This option has no meaning for Lists For lists since the default values are selected on the corresponding Tab for lists.
Propose the last input or the last selection	The last input is stored and proposed as the default for the Edit fields. Listboxes automatically selects the last known value.
	Note: To keep the last values for existing "real working" Dialogs this function is suppressed in the test mode (pressing the Test-button).
Build a history and...	The input field stores up to the last 9 entries and offers them as defaultFor the definition of a history the first Dropdown box determines the **length of the list**, while the second box selects the position in the list from where the default value will be taken.
	This is helpful when calling a UDD "for every image" in an event rule when the scanned or displayed documents always consist of two pages. So the proposed value can be set dependent on the actual side.

See also Content of a Dialog and Overview for more information.

1.2.8   F1-Help

This Tab makes it possible to define a short popup helptext for a single input field or to call a HTML document for the whole UDD.

Later the helptext may be recalled by pressing the F1-Key in a line (also on a userdefined button!) or by clicking on the Help button of the Dialog

No Help	This disables the help function. If typed helptext or a URL have previously been defined disabling the Help function leaves these intact.
Popup-Help	Here a short text up to 200 characters can be entered. The number of remaining characters is displayed beneath the input box.
	The text will be displayed in a typical popup help box placed in the upper left corner of the input field. The colour for the box can be selected in the screen setting, element "Quickinfo". The box is always titled with **Help for** "<prompt>".
	The help box closes on every key stroke or mouse click.

Note: When typing within the input box for the help text the *Return*- and the *Escape*-Keys are redirected to the box. So they don't close the whole Dialog, to do this please use the normal Dialog buttons.

Help from URL Reference to an external document source can be given via a link. (also known as **URL** Uniform Resource Locator). Windows uses the relevant program to display the Text.

So documents in HTML-Format will be shown with the standard browser. After starting the browser the control goes back to the UDD. The browser will stay open until the user closes it explicitly. Thus it can be reused for the next call.

The idea behind this is to facilitate a common documentation: The helptext is stored on a common network drive and is available for all scan stations. It can be maintained by the administrator without editing all UDDs on all machines.

Also all benefits of modern text processing can be used, e.g. to actualize a list of possible entries for a cost center from the database and to offer the right one to the user of the UDD.

Test This button recalls the helptext in the same way as the UDD later does.

See also Content of a Dialog and Overview for more information.

1.2.9 F3-Function

On this Tab an external function (DLL) or script (VBS) can be defined which is called when pressing the **F3-Key**. The current entire of field is given to the function and may be replaced with the returned string from the external function.

This way one can, for example, call an orthographical check for texts, a check for check sums of account numbers, or a currency calculator

The external function must be an exported function of a loadable module, i.e. a DLL and must have an DpuScan-compatible text interface: I.e. it must have an text as input and returns a text with up to 1024 characters. Both text are ANSI-coded and are terminated by a NULL-sign.

If a script is called there has to be a Function called ExtFunctionWrapper, you can copy its function template from here. In a script Unicode characters can be used.

The function call will be described by the following parameters:

Module Path to the DLL, that holds the requested function.

⬚ starts a Dialog which searches for the DLL. When loading a DLL this way all exported functions will be listed in the dropdown box **Name of the Function**.

Name of the Function Here the name of the function can be entered (case sensitive) or selected from the dropped list.

Call when ..

    F3 Key The function will be called when the F3 button is pressed

    Entering the field The field gets the input focus

Leaving the field	The field loses the input focus
Dialog opens	The function will be called after the dialog was opened or, while browsing, after a new image was selected.
Dialog closes	The function will be called before the dialog will be closed or, while browsing, before another image will be selected.
Options	Here you can set which data should be transmitted and which notation should be used for an extended return of a function.
Replace with returned String	Pastes the returned string into the calling editbox. This option is not available for lines, which makes a checking of the input, like masked or userdefined editfields, or which doesn't accept text input at all, like fixed lists, buttons, separators etc.
F3-Test	The text in box near the button will be sent to the function and, if selected, replaced with the returned string.

Note 1: When calling the function there will no further checking in the UDD. We have poor chances to catch errors in the called function. So it is up to the administrator to serve valid, save and stable functions here.

Note 2: The one and only argument given to the F3 function is the value from the *current line*. If you want cross-check with values from other lines of the UDD, you may consider working with a global Script. There it is possible to use Additional Variables too.

Note 3: If you want to control the further workflow, for example after a plausibility check, you can use Extended Return Values, e.G. [21] to keep the UDD open, replace the entered Text and mark it, see extended return for the actions 83,84 and 85

Please refer to the manual for a list of possible return values, a code sample and further details.

See also Content of a Dialog and Overview for more information.

1.2.9.1   Extended Return values on F3-call

Extended return of an F3 function:

An F3 function usually returns simple text. However, it can also return a field of texts, with the first element specifying the further behavior and the second the information required for this:

[10] Leave dialogue open

[2x] Leave pop-up dialog open and ...

[21] Replace entry and highlight the input

[22] Replace entry and do not highlight it

[23] Replace the prompt for the next line

[24] Show a message then replace input

[4x] Remain in the same field in the index dialog and ...

[41] Replace entry and highlight the input

[42] Replace entry and do not highlight it

[43] Replace the prompt for the next line

[44] Show a message then replace input

[71] Fill all of the following dropdown lists with default values

[72] Fill all of the following dropdown lists with values from the file

[73] Fill all the following dropdown lists with values from the given text

[83] Fill the entire dialog with the given text, * skip the line, + select the value

[84] Refill dialog with passed text, start with the next line

[85] Refill dialog with passed text, start with the current line.

1.2.9.2   F3 Function calling options

This dialog defines what variables are sent to the F3 function and how they will be separated in the argument list. Sometimes one will need more information than the plain value of the current line to decide what to to with it in a function.

However, sending more than one value brings the need of separators between them and to identify them in the function. To be on the safe, prevent the occurrence of a separator in one of the values!

Values to send

Specifies the set of values to be send when calling the F3 function

- **Current value only**, that is the value displayed in the field or selected in a list at the time when calling the function.

- **All Values from all lines**, in the form |%Code1=Value1|%Code2=Valuet2,...

- **All values and all additional variables**. Hereby system variables will be send only if this is enabled. The format |%Code1=Value1|% Code2=Valuet2,... will be used here too.

- **Current value and additional variables.**

  The format will be CurrentValue|%Code1=Value1|%Code2=Valuet2,... .

- **Prompts, Percencodes and Values, all lines all additional**

  The format is |%Code1=Value1=Prompt1|%Code2=Value2=Prompt2...

Type of separation

Specifies how the values will be separated in the string sent:

- **Bar**, available on the most keyboards

- **User defined character**, can be specified with the keyboard

- **Paragraph sign**, is used rarely and cannot be typed in as a single key on the most keyboards.

- **Hex one separator 0x01** Known as special ASCII code "Start of Heading" cannot be typed in on the keyboard and is nearly unused in normal texts.

Separator

Can be any user defined character or String.

Syntax for rebuilding a UDD

Distinguishes the spelling used in the extended return of an F3 function for the actions 83, 84 and 85
With these actions, the entire UDD is rebuilt:

Standard:

Default:Only rows with input fields and lists can be changed. all other line types are skipped.

For input fields, the prompts can be changed; for lists, the prompts and the values in the list can be changed.

It applies:

* (Asterisk) means that the line is not changed

+ (Plus) means that a certain value is selected from a list.

A **double** separator stands for a new line, a single for a new list value, e.g.

| | Pr ompt 1 | | Pr omt p2 | Val ue1 | +Val ue2 | Val ue3 | | * | | Pr ompt 4

The first line gets the prompt "Prompt1"

The second line receives the prompt "Prompt2" and the list contains the values value1, value2, value3, whereby value2 is selected automatically
The third line remains as it is.
The fourth line gets the prompt "Prompt4"
All other lines, if any, remain as they are.

Extended:

All lines except separator line and blank lines can be changed.

Prompts, values, and list values can be changed.

It applies:

* (Asterisk) means that the line is not changed

+ (Plus) means that a certain value is selected from a list.

~ (Tilde) The prompt for a list is retained

A **triple** separator stands for a new line.

| | | Pr ompt 1 | | | ~ | Val ue1 | +Val ue2 | Val ue3 | | | * | | |
Pr ompt 4 | Val ue4 | | | Pr ompt 5 | | | | Val ue6

The first line gets the prompt "Prompt1"

The second line keeps the prompt and the list contains the values value1, value2, value3, with value2 being selected automatically

The third line remains as it is.

The fourth line receives the prompt "Prompt4" and the value4

The fifth line receives the prompt "Prompt5" and the value " "

The sixth line receives the prompt " " (one space character) and the value "value6"

See also F3-Function.

1.2.10 Binding

If the ODBC-PlugIn is loaded in the current profile, it is possible to do a database query with the values that are entered in the UDD.

On this property page you can only set which internal variable shall belong to which field in the database.

Type   This is the access mode, possible options are:

Not in the Database (ignore it on query)
This is the default setting for all variables of UDDs that shall display 'just so'. But you can use this function also in order to create wildcards that may later have a match database.

Index Field (will be searched)
The contents of this variable are used as search criterion in the database. This means that datasets are searched where the database field matches the internal variable.

Will be filled from the database
When the database retrieval was successful, this field is populated with the contents of the according database field.

The button [...] opens a new dialog to select a field from a table from a database.
See ODBC-PlugIn for more details

DSN   Data Source Name, indicates the name of the data source. Usually it is a database.

Table   Indicates the name of the table to be searched.

Field   Indicates the name of the column in this table.

Match phrase exactly   When this option is disabled, these two wildcards can be used:

"*" (asterisk) stands for any number of lines
"?" (question mark) stands for exactly one character

If necessary, these wildcards are replaced by the ODBC-PlugIn to the wildcards that are utilized in the database.

For the general behavior of the UDD on a database query please also see Query and Query Result Options

See also Content of a Dialog and Overview for more information.

1.2.11 Frames

Frames are used in embedded Mode *only* on PopUp-UDDs it takes no effect.

To display embedded UDDs the module **JK_INDEX** is needed. A frame is used to mark an area on the image where the information to be entered into the editfield will be found

This Tab shows a list of frames which will be displayed in the corresponding image. The button Change opens a Dialog to create and manage these frames. All changes to the frames in that Dialog will be reflected also here.
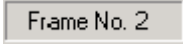
See also Content of a Dialog and Overview for more information.

1.2.11.1 Frames Dialog

In this Dialog box frames can be defined that will be shown on the corresponding image during indexing. For example when scanning Invoices it is useful to zoom to the banking data or to draw a frame around them.

Because the data for one input field may occur at different places on a page, it make sense to define several frames.

Also it is possible to set an *anchor* for a frame which defines from which corner the frame will be positioned.

Frame No. 2	In the top field the number of the frame is displayed.
Left **Top**	These fields give coordinates of the upper left corner of the frame. They are measured relative to the anchor point, see **Position Relative to**.
	If the anchor point is changed the coordinates will be recalculated from the new anchor.
	If the option *centre* is selected at **Position Relative to** the middle of the image will be calculated for each image depending of the width of the image. In this case the position cannot be set.
Width **Height**	This is the size of the frame. It doesn't depend on the anchor.
Position relative to	Here the origin for the placement of the frame can be given.
	If *bottom*, *right* or *centre* is selected the position will be calculated depending on the real width or height of the page.
Frame colour	Here the colour of the frame can be set.
Zoom in	If selected DpuScan tries to zoom the part of the image that holds the frame.
	This is possible only for the first frame.
	Other frames may be defined as well but they will not be visible unless the user zooms out back.
Show	Opens a preview window to place the frames with the mouse directly.
	When *centre* is used as **Position Relative to** the frame can be moved along this axis only.
<< and >>	This buttons switches to previous or next frame in the list.
Add	Create a new frame and displays it in the preview window.
	If possible the frame is 60x40 mm in size and is placed in the upper left corner 10mm away from the border.
Delete	Deletes the frame from the list
Delete All	Deletes all frames
Close	Closes the Dialog.
	It isn't possible to cancel this Dialog because all changes are sent to the property page directly.

See also Frames, Content of a Dialog and Overview for more information.

1.2.12   Line Layout

With this tab sheet the typeface and the alignment can be set for a single line.

In the left part of the tab sheet the values for the prompt can be set and the right part of the tab sheet contains the values for the edit field or input list.

Horizontal Alignment

Texts and fields can be shown left-aligned, right aligned or centered. Default value is left aligned. If a UDD contains some wide prompts and edit field but also a very short list e.g. for selecting a country code it may be more comfortable to display this list shorter than the edit fields. Additionally the prompts can be displayed right aligned.

Font

Opens the font selection dialog of the operation system to chose font family size and color. The frame above the button provides a preview of the current settings. When choosing a font please note that in a case transferring the configuration transfer to another computer the font has to be installed also on the target computer.

Width

Sets the width for the prompt or edit field. Please not that "Reset Font an Size" resets the width to the values given in the dialog "properties"

Line Height

The line height will be set for the whole line containing prompt and edit field. This may be useful if the font sizes for promt and edit field are extremely different or an opened list box with large fonts covers other information.

If the line height get at least twice the height of the characters the field becomes a multiline field

Remove Linefeeds

If the field is a hight multiline field all line breaks will be replace with spaces before returning the value to DpuScan.

Reset Font and Size

This button resets font color, size and the dimensions to default values. The reset will only take effect to the current chosen line.

See also Content of a Dialog and Overview for more information.

1.2.13   Recognition

This property page is available in ==Version 6 or later== of DpuScan. It describes the kind and parameters of an automatic recognition in Index mode. If the user spans a rectangular frame on an image, the text inside the frame will be copied into the current line of the UDD.

Type	Determines the type of data to be searched for, at the moment type Text is working only. In the future the types Barcode and Patchcode will be available.
	The type "none" disables the search feature for this line.
Language	If the Type Text is selected here the expected language can be given.
Format	This option handles the linefeeds: They can be ignored, deleted or replaced with blanks or the a <Ctrl>-A character (ASCII-Value 001)
Prefiltering	Here one or more regular expressions can be defined to clear the text before doing any further steps. So, for example, non-numbers can be removed from a text that should be an integer number.
	The button [...] will open the list of regular expressions where such expressions can be edited.
Validation Script	Here a Script can be given that validates the found text. For example, the found number, see above, has to be in the range 10999 to 30999. The button opens a dialog box for handling of the validation scripts. They can be loaded and changed with external and internal editors.

See also Content of a Dialog and Overview for more information.

1.2.13.1 List of Regular Expressions

This dialog shows a list of Regular Expressions wich will change the given text from the step before, usually an OCR-Result.

With the usual buttons the lists entries can be created, changed, moved or deleted.

The list shows this columns:

No.	Sequential number, the expression will be processed in this order.
Search	Describes the text to be searched for, usually with a search pattern.
Replace	Describes the replacing text
Flags	Flags Indicates the set flags:
	G: GLOBAL (replace all)

I: IGNORECASE Ignore case

S: SINGLELINE Treat the whole text as one single line

M: MULTILINE Regard line begin and line end

R: RIGHTTOLEFT work form right to left

E: EXTENDED special handling of comments and empty lines

Under the list are two fileds, one for the text to be changed and one for the result. The Test button causes the given text to be filtered by all expressions.

See also Recognition on the fly, Content of a Dialog and Overview

1.2.13.1.1 Edit Regular Expression

In this dialog, a single regular expression be edited. It consists of the parts

- Search the text to be searched,
- Replace the text you want to replace this text,
- and the switches that control the search behavior.

Please refer to the manual, chapter Regular Expression, for more details on placeholders, quantifiers and so on.

Search for	Specifies the search pattern for the text to be searched. From the context menu, the most important place holders, as well as grouping and repeat signs are available.
Replace with	Specifies the pattern for the text that is to replace the found text. As above, you can retrieve the most important place for holding replacement expressions via a context menu.
Gobal	GLOBAL: Option **On**: Each found will be replaced Option **Off** Only the first found will be replaced.

Ignore Case   IGNORECASE

Option **On**:

Upper / lower case is ignored

Option **OFF**

Upper / lower case is regarded

Multiline   MULTILINE

Option **ON**:

^and $ are detected in a multiline text as a line beginnings and ends

Option **OFF**:

^and $ are interpreted as the beginning and end of the whole text.

Single line   SINGLELINE

Option **ON**:

Multiline text is interpreted as a single line. When searching for any character "." the line feeds are interpreted as a single special character.

Option **OFF**:

When searching for any character "." the search ends at the first line break.

Right to left   RIGHTTOLEFT

Option **ON**:

The search terms are processed from right to left, but the syntax within a search expression is maintained.

Option **OFF**:

The search terms are processed from left to right.

Extended   EXTENDED

Option **ON**:

Spaces in the search expression will be ignored and must be searched by their hex equivalent \ x20 .

Comments are allowed at end of line

Option **OFF**:

Spaces are interpreted as a normal character.

Comments are not possible.

See also Recognition on the fly, List of Regular Expressions, Content of a Dialog and Overview

1.2.13.2 Validation Script Handling

1.2.13.2.1 Internal VBScript Editor

The internal editor will be available in DpuScan Version 6 or later. At the moment it acts as a simple text editor

The toolbar buttons at the top will open and save a script.

```
'-----------------------------------------------------
'Generated Script OCR_I_TYP_00
'Date          09.12.2014
'Time          16:01:27
'Author        Axel Kühn
'Company       Janich & Klass Computertechnik GmbH
'Machine       AKWIN7
'Origin        C:\PROGRAM FILES (X86)\JUK\DPUSCAN\UDD\
'Version       20141209_1601
'-----------------------------------------------------


Option Explicit
On Error goto 0


'-----------------------------------------------------
' Define globale variables as placeholder for %-Codes
'-----------------------------------------------------
Dim vI_TYP
Dim vI_RECHNUNGSDATUM
Dim vI_RECHNUNGSNUMMER
Dim vI_FIRMA
Dim vI_BLZ
Dim vI_KTO
```

Line: %ld / Column: %ld Selected %ld

[OK]   [Cancel]   [Help]

...
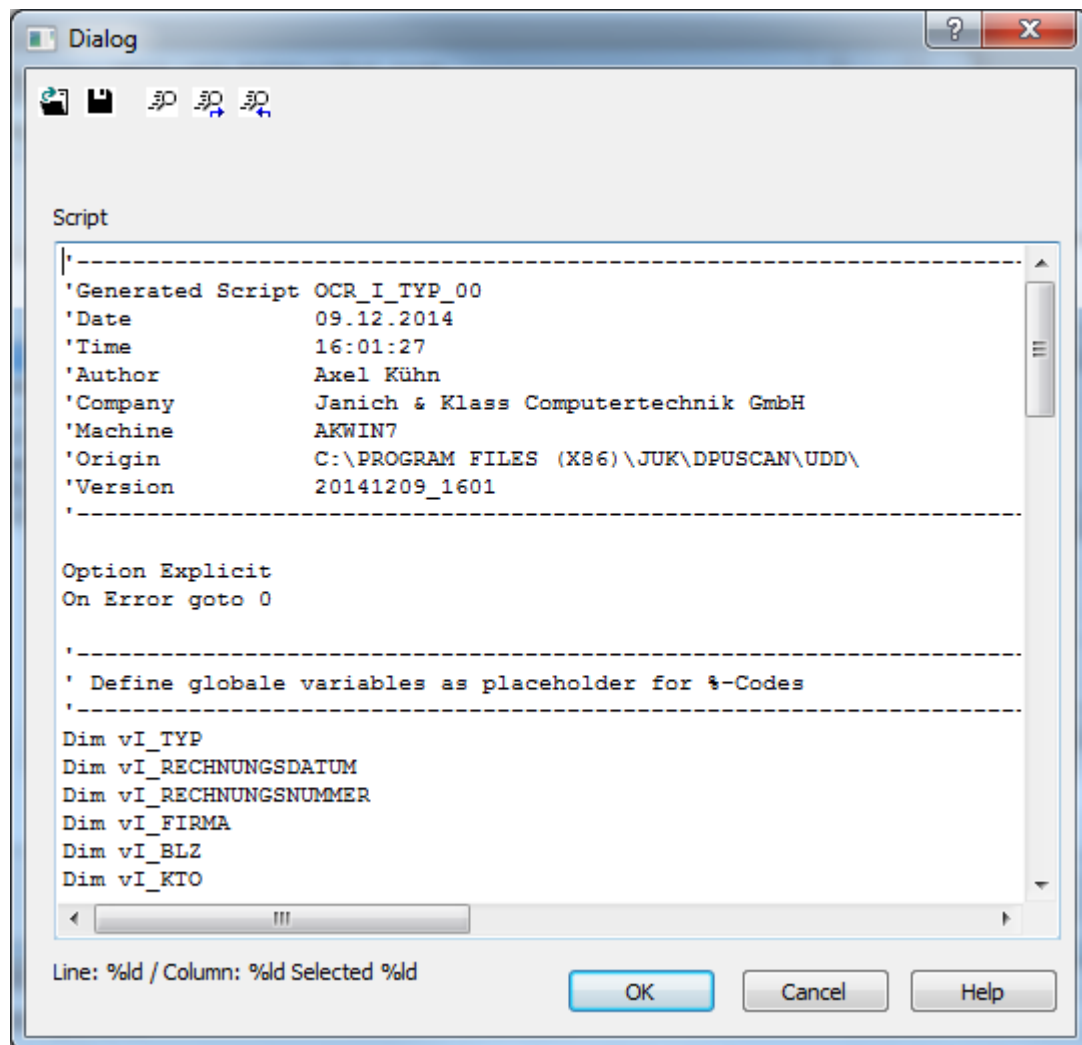
See also Recognition on the fly, Validation Script Handling, Content of a Dialog and Overview

1.3   Properties of a UDD

Beside the lines of the UDD the general properties of the UDD itself can be defined:

Layout	Defines the position, size and alignment of the UDD.
Controls	Defines the appearance and labeling of the standard Dialog buttons
Background	Defines the background color and image to be used for the UDD.
F1-Help	Allows the setting of a Popup-Helptext or a HTML-Document.
Colors	Color schemes for several applications.
Query	Behavior on database queries.
Dependend Files	Used to run the UDD.
Additional Variables	Behavior on database queries.

Script   A set of user defined functions to generate or proof the values in a UDD.

Issues on the lines of the UDD can be found at content of a UDD

1.3.1   Layout and Position

The properties button makes it possible to resize and position the UDD and to define the alignment of the controls.

Size of the UDD:

Height	Height of the whole UDD. The minimum height is restricted to a value that will show all lines and the standard buttons.
Width	Width of the whole UDD. The minimum width is restricted to a value that will show the standard buttons.
Fixed Size	If this option is enabled the dialog will be shown in the given size always. In Index-Mode it's not possible to push together the UDD or other windows in the same row or the same column.
Width of the Prompt Column	Here the width of the left column of the UDD can be changed. Usually this with will be calculated automatically but it can be overwritten with a larger value if required.
Width of the Control Column	The width of the input fields on the right side of the UDD will be also calculated automatically taking into account the width of the expected input. This default can be overwritten with a larger value if required.
	To reset the defaults enter zeros for width, height and the both column widths. Then press the button Position and Size and close the UDD with OK without changing size or position, the default values will be loaded again.
[<] Default [>]	Decreases or increases the width of both columns in steps of 20 pixels. The UDD itself will be enlarged if needed, but not shrunk.
	Pressing the button Default calculates the best column width based on the expected input.
Button "Position and Size Tool"	This button opens a preview of the dialog and position and size can be changed using the mouse. Changes can be stored permanently.

Placement of Dialogs:

Left edge of Dialog	Distance of the dialog to the left edge of the screen.
Upper edge of Dialog	Distance of the dialog to the upper edge of the screen.
Fixed position	Denies the movement of a pop-up UDD.

Adjustment of Input Lines

Size	Size of the region that is needed for the UDD's control elements.
	All lines and Buttons must be visible. A UDD may be larger than this region e.g. to display a background image completely.
Horizontal	Horizontal alignment (Left, In the middle, right) of the control element region inside a UDD.
Vertical	Vertical alignment (Top, bottom, centre) of the control element region inside a UDD .

See also other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD

1.3.2   Controls

On this Propertypage the common standard buttons can be shown and labeled.

Focus

Set Focus always to the first Line	Sets the behavior of the input focus when opening the dialog or going from one image to the next in Indexing Mode . Either it is always in the first input line or it remains in the last line which had the focus.

Scrollbars

In embedded Mode use Scrollbars automatically	Displays a scroll bar in embedded mode on the right or below if the UDD is larger than the area reserved for this when configuring the screen layout.

Single Control Lines

Stretch buttons, comments and Dividers	Specifies whether buttons and comments should be stretched to the width of the input area and whether dividing lines should be shortened to this width.

Buttons

Standard Buttons	Opens the dialog for the behavior and labeling of the standard buttons OK, Cancel, Help.

See also other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD

1.3.2.1   Standard Buttons

In this dialog the common standard buttons can be shown and labeled.

Has Button "OK"	This adds the Okay-Button to the UDD. When pressing this button the UDD will close and send its new values back to DpuScan. Pressing the *Return*-or *Enter-Key* will do the same.

This button should be enabled for all UDDs which are not used in embedded mode.

In the edit fields to the right of the checkboxes, labels for the buttons can be entered, e.g. "Release" instead of "OK". Please note that texts that are too long will be shortened on both sides.

Has Button "Cancel"

Adds a Cancel-Button. When pressing Cancel the UDD disappears without sending anything to DpuScan or storing the last selection or entry.

Pressing the **Escape -Key** or clicking the **close-cross** in the upper right corner will do the same, furthermore the key and cross will be *disabled* when this option is deselected.

When calling a UDD as a process step in the task list, outside a scan loop, e.g. at begin, the cancel button will be treated like an error and the task will stop.

When calling a UDD within a scan loop, the pressing of the Cancel-Button will be treated like as a pause.

Additional Keys on Cancel

The checkbox indicates that one or more additional keys must be pressed for the Cancel key to be executed. So accidental or inadmissible closing of the UDD can be made more difficult. This also applies to the "**Escape**"-Key or the **close cross** at the top right.

So this setting becomes important when the cancel button is hidden and only the close cross is visible.

The list contains the combinations of the keys <Alt>, <Ctrl> and <Shift>. This combination must be hold when the cancel button is pressed. Otherwise the cancel is ignored and the dialog remains open.

This also applies if the UDD does not have a visible cancel button and is instead ended using the keyboard with "Escape" or the close cross at the top right.

Please note that certain combinations are already evaluated by the operating system. <Ctrl> + Escape quickly switches between the open programs and <Alt> -Escape acts like the Windows key.

Also note that there is **always** a way to close the dialog: If all buttons are removed and the dialog does not have any user-defined buttons, the close cross always works while the **shift** key is pressed.

Has Button "Help"

Adds a Help-Button to the UDD. The text to display can be specified on page Help.

Has Button "Apply"	Adds an Apply-Button to the UDD. Not in use yet.
Always use current language	If this option is enabled the buttons will be labeled in the language that DpuScan uses. So a UDD can be displayed on a foreign language operating system.
Alignment	Specifies how the standard buttons such as OK, Cancel, and Help should be arranged. The choices are:

Right (default)	The button furthest to the right is flush right with the other controls on the right.
	The buttons have the standard size, button text that is too long is cut off on the left and right.
	The buttons are equally spaced.
Middle	The buttons are positioned in the middle below the other controls.
	The buttons have the standard size, button text that is too long is cut off on the left and right.
	The buttons are equally spaced.
Left	The leftmost button is flush left with the other controls on the left.
	The buttons have the standard size, button text that is too long is cut off on the left and right.
	The buttons are equally spaced.
Aligned	The buttons have the standard size, button text that is too long is cut off on the left and right.
	The distances are adjusted so that the button furthest to the left is left-aligned and the button furthest to the right is right-aligned.
Stretched	The buttons are the same size. It is adjusted so that the button furthest to the left is left-justified and the button furthest to the right is right-justified. This allows longer texts to be displayed on the buttons.
	If the dialog is too small to display all button texts, these will be cut off on the left and right.
	The buttons are equally spaced.

Standard	Recalls the standard labels for the buttons OK, Cancel Apply and Help.

See also Controls or other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD

1.3.3   Backgrund Picture

On this Tab settings for the background image and the fill color can be made. It shows a preview of the bitmap and offers some controls to place the image.

Background images, also known as "skins", are useful to display additional information or to highlight the UDD.

If, for example, a batch has to be scanned for a special customer (or consist of special documents) the UDD to receive the target directory can have the customer's logo in the upper right corner (or can display significant parts of the special documents). So the scan job becomes a customer-specific (or document-specific) look.

File	Enter the name of the bitmap file here.
	Pressing the button [...] opens a file open Dialog to search for the file. If the file can be used as a background image a preview will be shown

Alignment	The following options are available for the positioning of the background image:
	Userdefined
	The background image may be displayed centered or in a corner of the UDD, see Position of Skin
	Stretched
	Plain and nearly transparent patterns can be stretched to cover the whole UDD.
	Tile
	Small patterns can be displayed repeatedly until they cover the UDDs area.

Position of Skin	**Horizontal**
	The image can be placed at the left, in the middle or at the right.
	Vertical
	Also the vertical alignment can be given: At the top, centered or at the bottom.

To display just a small company logo it is recommended to display the logo in the upper right corner, enlarge the UDD and then place the controls at the lower left corner.

If the background image is smaller than UDD (and is not stretched) the remaining background can be filled up with an appropriate colour

Fill color

The button [...] opens the system Dialog to select the color.

Note: The created userdefined color palettes of this system color-selection-Dialog will be lost at end of the program.

See also other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD

1.3.4   F1-Help

This Tab makes it possible to define a short popup helptext for a single input field or to call a HTML document for the whole UDD.

Later the helptext may be recalled by pressing the F1-Key in a line (also on a userdefined button!) or by clicking on the Help button of the Dialog

No Help   This disables the help function. If typed helptext or a URL have previously been defined disabling the Help function leaves these intact.

Popup-Help   Here a short text up to 200 characters can be entered. The number of remaining characters is displayed beneath the input box.

The text will be displayed in a typical popup help box placed in the upper left corner of the input field. The colour for the box can be selected in the screen setting, element "Quickinfo". The box is always titled with **Help for** "<prompt>".

The help box closes on every key stroke or mouse click.

Note: When typing within the input box for the help text the *Return*- and the *Escape*-Keys are redirected to the box. So they don't close the whole Dialog, to do this please use the normal Dialog buttons.

Help from URL   Reference to an external document source can be given via a link. (also known as **URL** Uniform Resource Locator). Windows uses the relevant program to display the Text.

So documents in HTML-Format will be shown with the standard browser. After starting the browser the control goes back to the UDD. The browser will stay open until the user closes it explicitly. Thus it can be reused for the next call.

The idea behind this is to facilitate a common documentation: The helptext is stored on a common network drive and is available for all scan stations. It can be maintained by the administrator without editing all UDDs on all machines.

Also all benefits of modern text processing can be used, e.g. to actualize a list of possible entries for a cost center from the database and to offer the right one to the user of the UDD.

Test   This button recalls the helptext in the same way as the UDD later does.

See also Content of a Dialog and Overview for more information.

1.3.5   Query

If the ODBC-PlugIn has been loaded with the current base profile a database query can be executed when the dialog is shown. If additionally the Index-PlugIn is loaded the dialog can be used as an embedded indexing dialog.

On this tab sheet it can be set up how the query shall work and when it shall be performed.

Do Query before updating input mask	This option only takes effect, if the dialog is shown as an index mask in embedded mode.
	The query is performed automatically when scrolling before the index values are shown in the mask. The query will also be executed if the command **Data Send** is executed via button or macro.
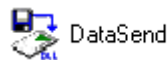
Do Query when pressing F12	The query will be executed with pressing F12, if F12 is not used for other actions by the application.
	Please note: The key F12 to start the query cannot be changed.
Do Query when leaving the image	This option only takes effect, if the dialog is shown as an index mask in embedded mode.
	The query is performed automatically before scrolling to the next image. The index values are not shown in the mask before the image is selected again. The query will also be executed if the command **Data Send** is executed via button or macro.

Try to find exact matching record	Using this option the application tries to fin a record where all fields (index an retrieval) are matching the fields of the dialog.
	If there is no result on the first attempt it will be searched for records only matching the index fields.
How to do the query	The button below the list opens a further dialog box to setup the handling of none, one or more results.

See also other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD

1.3.5.1   Query Result Options

This dialog box offers the settings for the outcomes of a database query. In general a database query can result in none, one or more matching records. Depending on that several options are possible:

Multiple results	There are two possibilities: • Use the first matching record and don't ask. • Offer a list and ask me

Depending on the option Allow Cancellation a list offered can be left without choosing a record.

One result   The case of an empty result of the query maybe expected.

- Just take it and don't ask.
- Offer a list and ask me

No result   It can be proceeded as follows:

- Do nothing
- Clear retrieval fields only
- Clear all fields
- Clear index fields only

Use Prompts as Column   Uses the prompts from the UDD if there are more matching records in a
Names   database query and these are displayed in a list. Otherwise the field names
                            from the database table are used

Allow Cancellation   Hides or shows a cancel button if the results shall be offered. Of course if
                            selecting the option "Present" for a single match the cancel button is
                            obligatory.

See also the property page Query and other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD.

1.3.6   Dependent Files

This tab displays a list of files that are needed for the operation of the UDD, That is:

For the dialogue itself:

- The background image
- The help file
- The scripts that are executed before opening
- The scripts that are executed after the closing

and for each line:

- The file with the values of listbox
- The help file
- The DLL with the F3 function
- The F3-Script
- The validation scripts of interactive recognition

Only those files are listed that are within the application folder or one of its subfolders. Files that are placed elsewhere, for example in the company network, are not considered.

By means of the buttons Check all or Uncheck all you can enlarge the selection to all elements, or make it void for all elements, respectively.

Files that are highlighted here will be read when the configuration dialog is left, and saved additionally as a copy in the local data space of the application. If no original file exists, it will automatically be recovered from the copy. This may be the case when the configuration was exported from one station to another.

Already existing files are not replaced, indifferent whether they are older or younger than the stored copy.

See also other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD

1.3.7   Additional Variables

It is possible to exchange some additional variables with the scan application. There are two groups, the system variables and the userdefined variables. While the system variables will change the behavior and the view of the UDD the private ones can be used to be examined before opening a UDD or to be set after closing a UDD. The places for this calculation are the scripts called before and after a UDD call.

All system variables will be preceded by the name of the UDD and will have the scope "Image".

System variables

System	If it is not intended to change the colors or the standard input field at run time the option System can stay **turned off**. Otherwise,enabling the check mark the following will variables be created automatically and evaluated each time the UDD is called.
	Please note that the counting for the color values begins at zero, number one in the list is the second color.
ExtBKColorList	Specifies the background color to be used. The colors can be adjusted in 29.3.1.5Properties – Colors.
	Example When a UDD has 5 rows and the value of ExtBKColorList 1,1,3,1,1, so the lines are 1,2,4 and 5 with the color in Group 1 for "Unchanged" is displayed and the third line of the color, the is set to "return from a function call.
	This variables is treated as l-Variable and will be saved with current the image.
ExtTextColorList	Sets the text color for all lines.Here fixed values are used:, e.g. 0x000000FF for red.
	This variables is treated as l-Variable.

ExtFocus	Specifies the line to get the input focus. Only input (lines that can somewhat be entered) will be regarded; Comment lines, lines and blank lines doesn't count.
	This variables is treated as I-Variable.
ExtEnable	Specifies the UDD should be enabled or disabled. This is useful in embedded mode when indexing should be available only on certain images, e.g. leading sheets.
	This variables is treated as I-Variable.
	If it is enabled, ExtEnable = 1, the UDD act normally.
	If it is disabled, ExtEnable = 0, no input is possible, but the lines are visible.
	The default value is ExtEnable = 1, i.e. "not disabled"
	This variables is treated as I-Variable.
ExtShow	Hides or shows the lines of the UDD. It acts more restrictive than just ExtEnable
	If it is enabled, ExtShow = 1, the UDD acts normally.
	If it is disabled, ExtShow = 0, no input is possible, no lines are visible, just the background is drawn.
	This variables is treated as I-Variable.
ExtEvent	Can be used in a F3-Function to determine the moment of the function call. This allows to use the same function for different purposes.
	10 when initializing a UDD immediately before the first display.
	20 when Data be send from the program to the UDD, e.g. in Index mode
	30 when the field gets the input focus
	50 when the key **F3** was pressed or a value in a list was selected
	60 when the key **F12** was pressed for a database query.
	70 when the field loses the input focus
	90 when in index mode data be send from the UDD to the program
	100 when the button **Apply** was clicked.
	This variables are treated as V-Variables and will be deleted at the and of the job
ExtLastField	This variable can be used in a F3-Function to determine the calling field.
	The format is LineNumber:%Code:Value:Prompt
ExtResult ExtResultParams	These variables can be set in a global script They are treated as V-Variables, can be used to control the further workflow and will be and will be forgotten at the end of the job.
ExtDefText	This variable can be set in a global script It is treated as an I-Variables and can be used to control the further workflow. It will be saved with tzhe current Image.

Additional Variables

Below the system variables is a list of other additional variables . All %-Codes known by the scan application can be chosen here. This variables aren't visisble when the UDD popps up, but they can be used in the F3-Scripts as well as in the global scripts working before and after the UDD-Call.

See also other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD

1.3.8   Script

All scripts that are executed before opening or after closing the UDD are listed on this tab. Compared to F3-Scripts,which work for one line, these overall scripts can access all variables of all lines of the UDD as well as the additional variables.

For example, before opening a UDD additional information can be got from a database, or after closing a UDD some input fields like name an d company can be combined to build an email address.

One or more scripts can be called. The list in the middle shows these scripts with context, name and storage place. They are called in the oder of list.

The buttons above the list will cause the expected operations:

New	Opens a dialog to create a new common script.
Edit	Opens a dialog box for editing an existing script
Delete	Removes the marked script form the list. The script file will remain on the disc.
	If you want to delete the file too, you have to do it with the system's file explorer.
Delete all	Removes all scripts form the list. No files will be deleted.

The elements below the list let you specify the kind of return and test the script:

Syntax for rebuilding a UDD	If the script uses the extended return to rebuild the UDD (functions 83,84,85), you can specify here how the return values are separated.
Test	Tests the script with the current values of the %-Codes.

See also other properties of a UDD. Issues on the lines of the UDD can be found at content of a UDD

1.3.8.1   Edit a common script

This dialog specifies the characteristics of a script call, for example when and which scripts to be called. In addition, the script can be changed with an appropriate editor.

Script   Shows the full path to the script. The nearby button ⋯ opens a common file open dialog.

Please regard the scripts will be saved with the UDD itself as long they are in the DpuScan program folder or one of its subfolders.

List of Editors   The list of the text editors consist of the internal editor and all programs that are assigned to VBS-Files and all **external editors** assigned to TXT files, so at least the entry Edit should appear which opens Notepad.EXE

Call before …   The script is executed before the data is displayed. Thus, e.g. missing information can be obtained from another data source.

Call after …   The script is executed after the operator has made all the entries and closes the dialog, or scroll to the next image.

Thus, e.g. Inputs can be combined and returned in other variables see Additional variables

The "Call..." options are not available, when running a script as Validation Script.

See also Recognition on the fly, Content of a Dialog and Overview

1.3.8.1.1 Internal Script Editor

The internal editor will be available in DpuScan Version 6 or later. At the moment it acts as a simple text editor

The toolbar buttons at the top will open and save a script.

```
Dialog                                              ?   _ □ X

📤 💾   ⚙  ⚙  ⚙

Script

|'-----------------------------------------------------
'Generated Script OCR_I_TYP_00
'Date            09.12.2014
'Time            16:01:27
'Author          Axel Kühn
'Company         Janich & Klass Computertechnik GmbH
'Machine         AKWIN7
'Origin          C:\PROGRAM FILES (X86)\JUK\DPUSCAN\UDD\
'Version         20141209_1601
'-----------------------------------------------------


Option Explicit
On Error goto 0


'-----------------------------------------------------
' Define globale variables as placeholder for %-Codes
'-----------------------------------------------------
Dim vI_TYP
Dim vI_RECHNUNGSDATUM
Dim vI_RECHNUNGSNUMMER
Dim vI_FIRMA
Dim vI_BLZ
Dim vI_KTO

Line: %ld / Column: %ld Selected %ld        [ OK ]  [ Cancel ]  [ Help ]
```

...
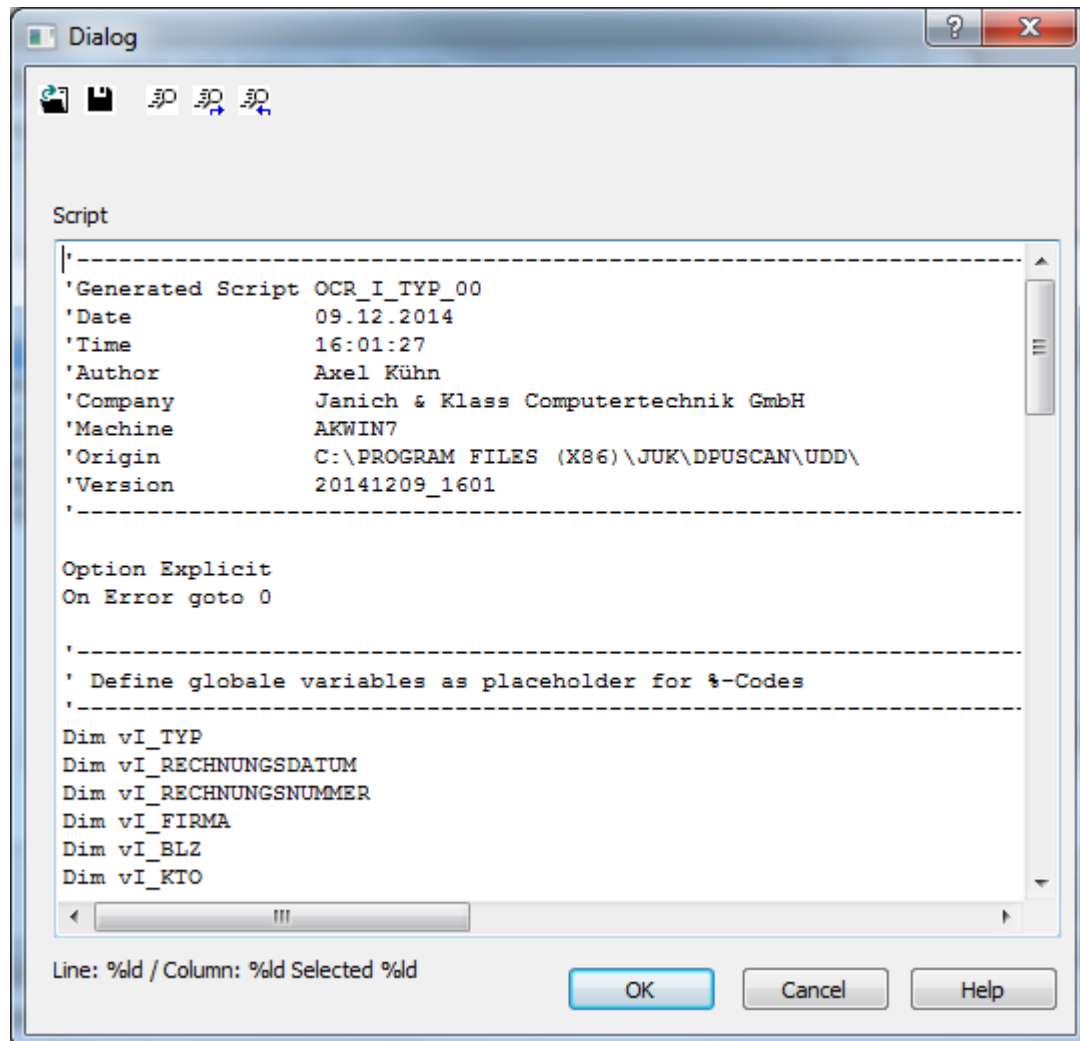
See also Recognition on the fly, Validation Script Handling, Content of a Dialog and Overview

1.3.8.1.1.1 Search and Replace

This dialog box offers the usual tools to search and replace a text

Search

Enter the text here to search for.

Replace

Enter the text here to replace the found text.

Options:

Ignore Case

Ignores capital letters during the search

User Regular Expressions

Allows to use regular expressions (placeholders) during the search.

Begin from Top

Begins the search from the top after reaching the end.

Actions:

Find

Searches for the next matching text.

Find previous

Searches for the previous matching text.

Replace

Replaces the currently marked text.

Replace next

Replaces the currently marked text and searches for the next matching search text.

Replace all

Replaces all occurrences of the searched text.

1.4   Messages and Warnings

The UDD module displays error messages and warnings to avoid error prone situations.

This error messages may occur:

Can't work with ... found ... expected.	There are version conflicts with the Index-PlugIn or the ODBC-PlugIn
	This may occur after copying parts of the scan application from another machine manually and aside from an installation process.

Please re-install or update the program correctly.

Call to external function fails!

Module=<module>

Function=<function>

In rare cases the UDD manager can catch errors when calling an external function.

Check the function for errors and exceptions.

Module for F3-Function not found or damaged.

The given DLL-File which holds the function wasn't found in the given path or the file is not a loadable executable.

Test that the DLL exists and works using the F3 Test button.

F3-Function <function> not found in Module <module>.

The given DLL-File doesn't hold the given function.

Check spelling of name and function and try the function with the test button (see above).

Can't load background image <bitmap>
Please use bitmap files only!

The attempt to load a file as background for a UDD failed. The given file is not in Bitmap Format.

Windows Bitmaps have a strictly defined structure and will mostly named with the file type ".BMP".

Other image-formats like JPG, GIF, TIFF etc. are not supported here.

Ensure due to a test that the bitmap is valid.

See Overview for more information.

1.5   Further Topics

There are also these further topics
Glossary
Messages.

1.5.1   Glossary

%-Codes

Administrator
ANSI

Base Profile
Bitmap

BlankLine

Browser

BOM

Button Line

ComboBox Line

Comment Line

Common Script

ConnectionString

Contact Address

Context Menu

Database

DateTimeControl

Decimal Numbers

DLL-File

DpuEnterpriseManager

DpuLocalServer

DPU-S

DpuScan

DpuScan Variables

DpuServer

DpuServerSettings

Dropdown

Editfield

EmbeddedMode

Eventrules

Export

Function Script

Hexadecimal Numbers

HTML

Input Field or Input Line

IndexField

Index-PlugIn

ISIS

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UDD

Validation Script

Variable's Scope

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