Examples

Overview

File name	Description
Word	
Word\invoice_two_vat.docm	Invoice with macros and two VAT rates
Word\invoice_two_vat.docx	Same invoice without macros (Manually changing templates)
Word\invoice_two_novat_no_eu.docx	Duty-free delivery to non-EU countries
Word\invoice_two_novat_no_reverse_charge.docx	Goods to other European countries with reverse charge
Word\invoice_two_vat.raw.txt	Extracted text for `RunExamples.cmd`
Word\invoice_two_vat_raw.pdf	PDF saved from Word for `RunExamples.cmd`
Word\Mailmerge*	Example with mail merge function
Word\MailMergeNoPattern*	Example with mail merge function and fixed fields without hidden texts
Word\RunExamples.cmd	Calls Composer twice with IFilter technique and text file
LibreOffice	
LibreOffice\invoice_two_vat.odt	OpenOffice document for PrintMulti or clipboard
HTML	
Html\rechnungsmuster.html	Incomplete example showing the use of CSS
Excel (printing via PrintMulti)	
Excel\invoice_excel.docx	Word document with embedded Excel files xlsx
Excel\embed_*.xlsx	Various spreadsheets for embedding in `invoice_excel.docx`
Excel (printing via macro)	
Excel\invoice_using_comments.xlsm	Invoice information is specified via comments.

In the examples, the font colours for mandatory fields are red and for voluntary fields they are green.
In the ZUGFeRDComposer configuration file, you can specify whether the composer should already output an error if the field is not defined.
If necessary, the setting can be changed there.

invoice_two_vat.docx and invoice_two_vat.docm

The file invoice_two_vat.docm is identical to the docx file, but contains four macros (described in the manual)

- Show/hide pattern
- Digital invoice via IFilter technology
- Digital invoice by copying to the clipboard (**this is not possible when using text boxes**)

For many input fields, only certain enumeration values are allowed. Lists of allowed values for the input fields can be found in the ZUGFeRD_csharp sources or call the composer with the option `/?V`.

The example shows the following special features (many also apply to the other examples):

- **Route ID:** (BT-10)
  This is mandatory in Germany and must be specified correctly for invoices to authorities. For other invoices, 'N/A' can be used there.
  You can read more about this here: Route ID
  The routing ID given in the example is a number accepted by Peppol. There is a test environment where you can register and then submit test invoices.

- **Date formats** (e.g. BT-02)
  The formats 'dd.mm.yyyy' (01.03.2024), 'mm/dd/yyyy' (10/31/2025) and 'yyyy-mm-dd' (2025-07-01) are automatically recognized. Other formats are not possible.

- **[05]EUR¦[NF]DE-de¦[03]Invoice¦[R_]19%¦**
  This text block is completely hidden and consists of the following parts

  - **[05]EUR¦** (BT-5)
    This is a required field to set the currency code for the invoice. The currency symbols in the amounts are ignored.
  - **[NF]DE-de¦** (internal setting)
    To interpret numbers correctly, a defined number format is needed. This can be set automatically using the first amount in the invoice items or using this setting.
    See the manual for more information. All numbers must use the same format (thousands separator and decimal point)
  - **[03]Invoice¦** (BT-3)
    `Invoice` is the default value if not specified. Possible values are output with the option `/?V`.
  - **[R_]19%¦**
    This is an example of a default value for invoice items. The field is set up in the standard definition file as follows:
    `item_tax_rate:0:c:[R_#]:¦` The # is replaced in an invoice item line by the number ##, with leading zeros if necessary. This results in [R_1] or [R_01] for the first column.
    If a value without a number is defined, as is the case here, this is the fallback. This is used in invoice items 4 and 5. The unit is ignored.

- **Invoice item ID** (BT-126)
  Automatically replaced by the line item number if not specified (example: line item 1).

- **Unit of measure** (BT-130)
  If not specified, “pcs” (C62) is used. Possible units are listed in the “DefaultUnits.csv” table. You may include further assignments, but do not invent values on the right side.

- **Calculations**
  All totals are automatically calculated using the horizontal method. The tax amounts are added to the total net amount at the end, which prevents rounding errors from occurring.

  `You should at least define the total amount you have calculated. The composer then compares both values and returns an error if they do not match.`

- **Account details**
  Here, in the example, a completely hidden code `[81]30⋮` for the payment method (`payment_means_type_code`) can be found.
  This is a mandatory field. Common values are

  - 30: Sepa with BIC
  - 58: Sep without BIC
  - 68: Electronic like PayPal

invoice_two_novat_no_eu.docx

In this example, the VAT category 'G' (BT-151) is used in fields [C_1] and [C_2]. If no specification is made, as in the first example, 'S' is used. The most common are (from XRechnung-v3.0.1.pdf)

- S (Standard rate)
- Z (Zero rated goods)
- E (Exempt from tax)
- AE (VAT Reverse Charge)
- K (VAT exempt for EEA intra-community supply of goods and services)
- G (Free export item, tax not charged)
- O (Services outside scope of tax)
- L (Canary Islands general indirect tax)
- M (Tax for production, services and importation in Ceuta and Melilla) Exceptions for a possible tax exemption can and must be specified using the BT numbers BT-120 and BT-121. For 'G', 'AE' and 'K', Composer automatically generates the corresponding texts and codes.
  For other categories, these must be specified by the user. The exception text, such as 'Delivery outside the EU' as shown here, must of course still appear on the invoice.

Mailmerge (mail merge) examples

The Word document 'MailMerge.docm' contains a link to an Excel sheet with three invoices with different VAT calculations. All four macros are also included here.

MailmergeNoPattern example (mail merge and document fields)

The Word document `MailMergeNoPattern.docm` also contains a link to an Excel sheet with the three invoices from the last example.
In this example, no hidden fields are needed. The name of all fields (whether mail merge or document fields)

and their content are written to a configuration file for the composer call. Only the fields that begin with "_" are taken into account (writing is done without "_"). The field names must match the possible keys from the standard configuration file.
Please also note the alias table (`AliasTable.txt`), which makes it possible to print constants on the invoice (e.g. '*Rechnung*' instead of '*invoice*') so that they do not have to be hidden.
The alias table may need to be extended.

The configuration file written with the only macro then begins in the example as follows:

```
sep=⁞
buyer_name⁞1⁞=⁞Gans GmbH
seller_name⁞1⁞=⁞City of Erpel
buyer_contact_name⁞1⁞=⁞Gustav Gans
seller_contact_name⁞1⁞=⁞Gertrud Erpel
```

invoice_two_novat_no_reverse_charge.docx

This is similar to the previous example. Reverse charging is applied to other deliveries to EU countries. In this case, the recipient is responsible for paying the sales tax. The sales tax category used is 'AE'.

LibreOffice\invoice_two_vat.odt

You can copy the content of the LibreOffice example to the clipboard and run RunFromClipboard.cmd. This will create a valid XRechnung. LibreOffice makes it possible to create macros. This should make it possible to achieve the same functionality as with Word macros .

Html\rechnungsmuster.html

This incomplete example only shows the use of CSS and how to use it with the span command:

```
<span class=“hidden”>[XX]</span>[Sales tax ID]<span class=“hidden”>⁞</span>
```

Excel

Excel or other spreadsheets offer the advantage that you can have all sums, taxes, etc. calculated automatically. However, this only works if the hidden characters are not in the same cell as the numbers. So you would have to add a lot of columns just for the patterns.

I'm sure it's possible with a lot of effort and connecting cells in all other areas (it was too much work for me).

We have found two other ways to successfully generate digital invoices with Excel

Embedded Excel sheet in a Word document (invoice_excel.docx, embed_*.xlsx)

It is easier to take a Word document and just embed the calculation.

However, this combination also has disadvantages.

- When copying to the clipboard, the embedded sheet is not included
- IFilter technology does not work either.

This should work when printing the document to a PrintMulti printer from version **2.0.0.8**.

The Excel sheet contains narrow columns with the patterns to be hidden. Various Excel sheets with different options are included, including discounts and charges. These can be defined in different ways (together with a sign (+/-) or separated with positive values only)

Excel sheet where the invoice patterns are passed as comments

In this example, the invoice is only created using the included macro. This macro reads all comments from the current tab and extracts the data into a configuration file suitable for the composer. The first tab on the second page contains some explanations of the example. The last tab contains some constants that are used in combo boxes, such as the invoice type (must match the AliasTable.txt).

The invoice is printed in the current tab using the included macro.

That's it for now.

Good luck trying it out.