

EFR Guide [IT]

Implementation Details Italy

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This document amends "EFR Reference"
It refers to EFR version 2.x

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RT 2.0 Changes

RT 2.0 features can only be used on RT 2.0 printers.

Void / Refund

Possibility to void/refund receipts not issued on a printer by replacing S/N in RFN with:

- POS in the case of a POS receipt
- VR in the case of returnable voids
- ND in other cases

Rounding

Rounding behaviour of the printer can be changed in the printer menu, press:

3333 <CHIAVE> 15

cycle to flag 27 with <CONTANTE/TOTALE>

- 0: Rounding disabled (default)
- 1: Full Rounding
- 2: Only Rounding down
- 3: Only Rounding up

For examples and detailed description refer IT business cases document.

Position Types

For examples please refer the business cases document.

- Adv: Advance Payment
- Dep: Deposit
- FoC: Free of Charge
- Svc: Service
- Vou: Voucher

Payment Groups

- PayG 4 "Ticket": requires ticket number 4-XX
- new PayG 5-00: No Payment
- new PayG 5-03: Receipt followed to Invoice
- new PayG 5-04: Invoiced
- new PayG 5-05: SSNreceipt (Pharmacy, currently n.A.)
- new PayG 6-00: Discount on payment (Sconto a pagare)
- new PayG 6-01 Multi purpose voucher

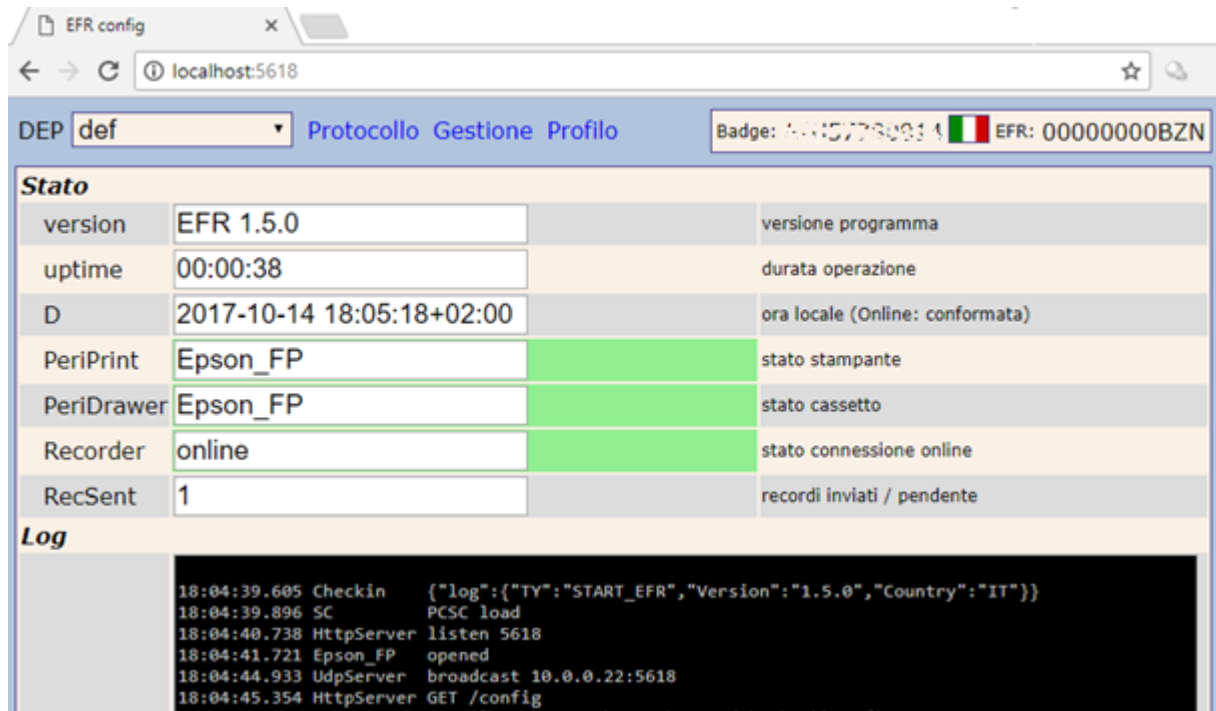
System Setup

EFR Installation

Windows: .msi from <https://public.efsta.net/EFR>
runs as Windows service

Linux: .zip from <https://public.efsta.net/EFR>
run file install.sh
run automation recommended, e.g. with systemd
setup run automation with install.sh:
install.sh --service --service-user=USER

Basic execution tracking can be examined via web access <http://localhost:5618/config>:



EFR is functional if 'uptime' is counting.

Printer Installation

By law a fiscal printer is required to print customer receipts and daily closures. EFR handles communication to the printer as well as to the peripheral devices connected, i.e. line display and cash drawer.

After having established a cable connection, set up and check the printer connection over <http://localhost:5618>.

Setup Connection

Printer connection can be set on page "Profilo":

RN IT Protocollo Gestione Profilo Licenza		
General		
Offline	<input checked="" type="checkbox"/>	controls EFSTA cloud communication for an Offline EFR you have to care for
Fiscal		
TaxId		IVA IT99999999999
Printer	Epson_FP	Printer driver to be used
Printer Cfg	ETH:192.168.1.37	connection attributes for Printer (Virtual) Serial: "[Port]:[Baudrate]" Ethernet: "ETH:[IP]" USB: "LIBUSB"

Test Connection

Basic hardware tests can be made on page "Gestione":

RN def Protocollo Gestione Profilo		
Stato		
ModuleName	Epson_FP	printer driver module
Serial	99MEX030623	matricola del misuratore fiscale
ErrorCode		ultimo errore / last error
Warning		
Stato	Info: Drawer: CPU:10.02 MF_STAT:0 MF_REL:04.3 MF_STAT0:00110 LastStateUpdate:1632746069439 ZI:280	informazioni di stato e diagnostica vedi / see "Protocollo di Comunicazione"
Comando		
Arrotondamento	disattivare abilitare	disabilitare o abilitare l'arrotondamento amount rounding on printer
Ristampa	stampare	permette la ristampa dell'ultimo receipt non funziona in caso di una stampa riuscita only
Verifica		
Stampante	*** PROVA *** PROVA *** PROVA *** *** TEST *** TEST *** TEST ***	comando per stampare un scontrino non fiscale / non fiscal receipt
	stampare	
Cassetto	aprire	comanda l'apertura del cassetto, per il ritiro della moneta command the opening of the drawer, for the withdrawal of the coin
Visore	Grazie della vostra visita	invia alla stampante un messaggio send to the printer a message
	inviare	
PugEdit		
Cambia layout	aprire	aprire l'editor del pug / open pug editor

Arrotondamento	enable/disable automatic rounding function of printer
Ristampa	reprint last fiscal receipt
Stampante	non-fiscal test print
Cassetto	open cash drawer
Visore	send text to line display

EPSON FP-90III & FP-81II

EFR currently supports fiscal printing with EPSON FP-90III or FP-81II in serial, ethernet or USB mode. Connect the printer using an included RS232 cable, ethernet cable or USB Mini B cable.

Firmware

Supported printer firmware is: CPU 11.02 or CPU 7.02 Build 0255

Printer Configuration

Connect a keyboard to the printer's USB A port and perform following steps to configure the printer:

RS232 connection

- | | |
|---------------------|---|
| STATO REGISTRAZIONE | 3333 <CHIAVE> |
| SCELTA FUNZIONE | 17 |
| CONNESSIONE RS232 | <ul style="list-style-type: none">● switch to "COMPUTER" using key <X>● confirm selection with <CONTANTE/TOTALE>● note configured BAUDRATE● Use <CONTANTE/TOTALE> to go to "CONTROLLO RTS/CTS"● change to "0" using key <X>● confirm with <CONTANTE/TOTALE>● exit with <CHIAVE> |

Ethernet connection

- | | |
|---------------------|--|
| STATO REGISTRAZIONE | 3333 <CHIAVE> |
| SCELTA FUNZIONE | 19 |
| CONNESSIONE LAN | <ul style="list-style-type: none">● switch to "COMPUTER" using key <X>● confirm selection with <CONTANTE/TOTALE>● print all ETH settings with <SUBTOTALE>● exit with <CHIAVE> |

USB connection

- | | |
|---------------------|--|
| STATO REGISTRAZIONE | 3333 <CHIAVE> |
| SCELTA FUNZIONE | 18 |
| CONNESSIONE USB | <ul style="list-style-type: none">● switch to "COMPUTER" using key <X>● confirm selection with <CONTANTE/TOTALE>● exit with <CHIAVE> |

Host side RS232 connection

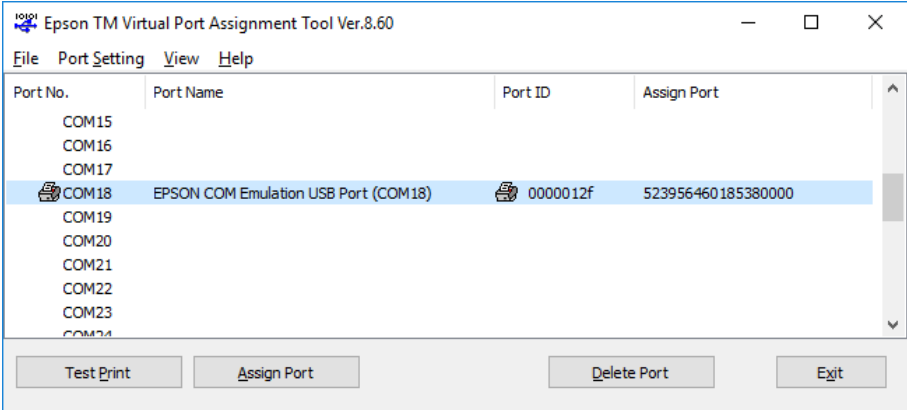
On <http://localhost:5618> on profile-page enter the connection details in field Printer Cfg:

For example: „COM1:57600“

Host side ethernet connection

On <http://localhost:5618> on profile-page enter the IP address of the printer in field Printer Cfg: For example: „ETH:192.168.0.12“

Host side USB connection

Windows Virtual Serial Port	<p>Install driver TMVirtualPortDriver860a from https://public.efsta.net/EFR [IT] [Drivers].</p> <p>Port assignment:</p> <ul style="list-style-type: none">• Click Port.No. COM18 / [Assign Port]• Assign Port / USB / A device is ... USB serial number.• Select printer from list / [OK]  <ul style="list-style-type: none">• [Exit]• Enter “COM18” on EFR profile-page
Alternatively: Windows over LIBUSB	<p>For driver installation use LIBUSB utility "zadig", which can be downloaded from zadig.akeo.ie. zadig.exe (zipped) also is available on public.efsta.net/EFR [IT] [Drivers].</p> <p>After starting the program select "TM-T800F TM-T900F" from the list. You may have to Options/List All Devices before. "Install Driver" or "Replace Driver".</p> <p>Enter “LIBUSB” on EFR profile-page.</p>
Linux	<p>Everything is done with the installation of node_module USB.</p> <p>In case of LIBUSB access errors the accessibility of USB interfaces has to be configured; e.g. insert in</p> <pre>/lib/udev/rules.d/50-udev-default.rules: SUBSYSTEM=="usb", ATTRS{idVendor}=="04b8", ATTRS{idProduct}=="0201", MODE="0666"</pre> <p>Enter “LIBUSB” on EFR profile-page.</p>

First Test Transaction

The cash register software communicates with the EFR via REST web service.

You can simulate this behaviour in your browser even before beginning to implement the actual interface. To do this please install a REST client of your choice, for example "Advanced REST client" for Google Chrome.

Parameters for the web request are:

URL: <http://localhost:5618/register>

Method: POST

Payload: Transaction data as XML, e.g.:

```
<Tra>
  <ESR TL="001" TT="1" TN="14511" T="1.95">
    <PosA>
      <Pos Amt="1.95" PN="1" Qty="1" Pri="1.95" Dsc="Color Stop 100ml" TaxG="A"/>
    </PosA>
    <PayA>
      <Pay Amt="2.00" PayG="0" Dsc="Contante"/>
      <Pay Amt="-0.05" PayG="0" Dsc="Resto"/>
    </PayA>
  </ESR>
</Tra>
```

Click on [Send]: the transaction is printed and registered.

In contrast to other countries with software fiscalization you have to provide item positions and payment lines for printing.

The returned answer provides you with the http state and the ResultCode RC:

```
<TraC SQ="8943">
  <Result RC="OK"/>
  <Fis D="10-12-18 15:52" FN="0039 0002 10122018 99MEX030623" DN="0002" ZI="39"
ID="99MEX030623"/>
</TraC>
```

As long as the printer is not set to fiscal mode (by an official representative), the printout will be marked "NON FISCALE".

Workflow Rules

http status	RC	
200	OK	proceed with the final steps (store transaction)
406	NO	show error message based on field ErrorCode NO reflects a printing error, the transaction may be repeated after operator intervention
400	BAD	BAD signals a formal or logical error correct transaction data before resending

If you get a `UserMessage` field in the response (given in Italian language), it has to be shown to the cash register operator (e.g. `MessageBox`).

Usually EFR responds within 10 seconds. As the response is given after print completion, on transactions with many positions or on end of day transaction a longer delay could occur.

For details and data structures see "EFR Reference".

Fiscal Printing

General Printer Settings

For configuration of the fixed header lines of the printer or logo graphs please install EpsonFpSuite from

https://download.epson-biz.com/modules/pos/index.php?page=single_soft&cid=5384&pcat=51&pid=3316 on a separate machine (as Windows drivers of EFR and EpsonFpWizard may interfere).

Print Layout

For printing a fiscal transaction the data has to be formatted, this is done using the HTML templating engine PUG. For further details refer to chapter PUG Layout.

For Italian fiscal printers the item description and additional text lines may be formatted freely, but referring amounts are printed in a fixed format by the printer.

Following rules occur for fiscal receipts:

- fixed header lines and header or footer logo graphics are configured with the program EpsonFpWizard and stored onto the printer
- header lines within transaction data may be up to 46 characters and up to 9 lines in fiscal receipts or up to 5 lines in fattura
- footer lines within transaction data may be up to 46 characters and up to 99 lines
- description and text lines up to 38 characters
- one transaction specific barcode may be printed in the last line of the footer
- paper is cut after print completion

For details of layout commands see chapter PUG Layout.

You can start Layout editor on page Gestione for layout configuration, it works as a WYSIWYG editor. Actual printout may differ due to limitations of the fiscal printer compared to HTML.

Besides fiscal.pug different non-fiscal layout files can be provided on directory /EFR/rn/def/cfg, the file name is derived from the NF tag: NF="Login" => "login.pug" (filename lowercase).

For non-fiscal printouts:

- the whole print line width (46 characters) can be used
- lines can be formatted emphasised () or double height (<h3>)

Application Requirements

- Sales of services can be issued by specifying PTY="Svc" on the Pos-element.
- Return/Void: A „DOCUMENTO COMMERCIALE emesso per RESO MERCE“ (Return) or „DOCUMENTO COMMERCIALE emesso per ANNULLAMENTO“ (Void) is printed.
- Return/Void transactions have to refer the original document by giving FN of the original receipt as ESR.RFN. If no FN is available "POS", "VR", or "ND" instead of the printer serial can

be used along with ESR.RD and ESR.RTN. A void transaction is issued if ESR.Void="1" is set, otherwise a return transaction is issued.

VAT Handling

As in other countries transaction data is normalized upon registration (details see EFR Reference: ESR Format). Tax rates are controlled via ESR.TaxA, Tax.Prc is matched against the printer configuration, which is loaded with rates valid at startup system date (and after each closure).

Current rates in RT mode are:

Prc	Descrizione	TaxG	Epson FP
			Tassa
22%	difetto	A	01
10%	prodotti turistici	B	02
5%	prestazioni sociali	C	03
4%	prima necessità	D	04
0%	Esente	ES	00
0%	Esclusa	EE	10
0%	Non soggetta	NS	11
0%	Non imponibile	NI	12
0%	Regime del margine	RM	13
0%	Operazione non IVA	AL	14
0%	TBD	-	15
0%	TBD	-	16
0%	TBD	-	17
0%	TBD	-	18
0%	TBD	-	19

In RT mode for 0% the appropriate tax group has to be used in Field TaxG to distinguish between the different groups, otherwise ES is used by default.

Payment Types

It is possible to define different payment types in the Pay element with Pay.PayG.

Following payment types are possible:

PayG	Description
0-00	Cash
1-00	Cheque
2-00	Credit
2-XX	Credit Card XX: 01-10
3-00	Ticket
4-XX	Ticket with number
5-00	No payment
5-03	Receipt followed to Invoice
5-04	Invoiced

5-05	SSN receipt (Pharmacy) currently N.A.
6-00	Discount on payment (sconto a pagare)
6-01	Multi purpose voucher

If Pay.PayG contains only 1 digit, the default value 00 for the index is used by EFR.

If no Pay.PayG field is present, or if Pay.PayG is different from the possible types, payment description is interpreted:

Pay.Dsc	PayG
"Cheque" or "Assegno"	1
"EC" or "Carta"	2-01
"Sconto"	6
"Voucher" or "Buono"	6-01

If no Pay.Dsc matches, PayG 0 for Cash is used.

Credit Card Handling

The EPSON printer can be programmed up to support different credit cards to split credit cards for each card type during z-report. E.g: printer 2-01 ... visa, 2-02 ... mastercard You have to send in the PayG 2-01 if the customer pays with visa, ...

If you don't split up credit cards just use 2-01.

Lottery Handling

With the new Receipt Lottery there is the possibility to send information relating the amount of the receipt to a particular Lottery Server which convert the amount in Virtual Lottery Ticket. Periodically the virtual ticket participate to the lottery and the result will be available on the Lottery Web Portal.

- During the transmission of the Lottery receipt to tax authority it is needed to define the Company name where the printer RT has been installed by setting the corresponding header line number (Ragione Sociale Esercente). Please ensure this is done by your fiscal partner on printer update or installation. By default the first header line is used as company name.
- The request to participate to the lottery game is done from the customers providing a lottery code released from lottery web portal.
- The printer will accumulate the request to participate to the lottery in a special memory and when the number of requests is equal to 100 or in case of Z-report, the accumulated requests are sent to the lottery server.
- In case of refund or void of a receipt issued on a different printer the lottery code has to be sent again.
- Checkdigit generation can be set in EFR profile.

- To participate in the lottery, the field IT_CodiceLotteria needs to be included in the transaction.

To add the lottery code of a customer to a request, the field ESR.Ctm.IT_CodiceLotteria is used:

```
<Tra>
  <ESR>
    <Ctm IT_CodiceLotteria="ABCDEFGH" />
  ...
```

Codice Fiscale

Codice Fiscale can be transmitted to the printer by sending the code in the field ESR.Ctm.IT_CodiceFiscale:

```
<Tra>
  <ESR>
    <Ctm IT_CodiceFiscale="....." />
  ...
```

EFR API

The EFR serves as system interfacing to certified fiscal printers. It does not replace a fiscal printer, this is still needed to fulfil the requirements of Italian fiscal law.

EFR keeps secure journals, as it does for other fiscal countries.

Sales transactions have to be printed using the fiscal functions of the printer. For this to work two elements have to be in place:

- a transaction, sent via REST web request to the EFR, which contains sales data, and
- a formatting file, which defines formal representation of this data.

Transactions

Normal Sale

Sample JSON Register Request Body:

```
{ "Tra":
  { "ESR": { "D": "2017-10-01T09:28:00", "TL": "01", "TT": "1", "TN": "2087", "T": "11.44",
    "PosA": [ { "_": "Pos", "PN": "1", "IN": "4012345678901", "Dsc": "ACID 500ml", "TaxG": "B", "Amt": "1.99"},
      { "_": "Mod", "PN": "1", "Dsc": "Special Offer", "Amt": "-0.50"},
      { "_": "Pos", "PN": "2", "IN": "9023456789001", "Dsc": "WHOLEWHEAT FUSILLI", "TaxG": "B", "Amt": "1.50"},
      { "_": "Pos", "PN": "3", "IN": "9023456789001", "Dsc": "WHOLEWHEAT FUSILLI", "TaxG": "B", "Amt": "1.50"},
      { "_": "Pos", "PN": "4", "IN": "4198765432109", "Dsc": "KITTEN PET FOOD 25x", "TaxG": "A", "Amt": "3.49"},
      { "_": "Pos", "PN": "5", "Dsc": "EMMENTAL CHEESE", "TaxG": "B", "Amt": "3.21", "Qty": "0.252", "QtyU": "kg", "Pri": "12.75"},
      { "_": "Lin", "LAmt": "-----"},
      { "_": "Lin", "Dsc": "Subtotal", "LAmt": "11.19"},
      { "_": "Mod", "PN": "2 3", "Dsc": "-25% Discount on Pasta", "Amt": "-0.75"},
      { "_": "Pos", "PN": "6", "Dsc": "Example Item", "TaxG": "ES", "Amt": "1.00"} ],
    "PayA": [ { "_": "Pay", "Dsc": "Cash", "Amt": "6.00"},
      { "_": "Pay", "Dsc": "EFT", "Amt": "5.44", "UID": "17075378 004704 004518"} ],
    "TaxA": [ { "_": "Tax", "TaxG": "A", "Prc": "22", "Net": "2.86", "TAmt": "0.63", "Amt": "3.49"},
      { "_": "Tax", "TaxG": "B", "Prc": "10", "Net": "6.32", "TAmt": "0.63", "Amt": "6.95"},
      { "_": "Tax", "TaxG": "ES", "Prc": "0", "Net": "1.00", "TAmt": "0.00", "Amt": "1.00"} ]
  }
}
```

Alternatively XML:

```
<Tra>
<ESR D="2017-10-01T09:28:13" TL="01" TT="1" TN="2087" T="11.44">
  <PosA>
    <Pos PN="1" IN="4012345678901" Dsc="ACID 500ml" TaxG="B" Amt="1.99"/>
    <Mod PN="1" Dsc="Special Offer" Amt="-0.50"/>
    <Pos PN="2" IN="9023456789001" Dsc="WHOLEWHEAT FUSILLI" TaxG="B" Amt="1.50"/>
    <Pos PN="3" IN="9023456789001" Dsc="WHOLEWHEAT FUSILLI" TaxG="B" Amt="1.50"/>
    <Pos PN="4" IN="4198765432109" Dsc="KITTEN PET FOOD 25x" TaxG="A" Amt="3.49"/>
    <Pos PN="5" Dsc="EMMENTAL CHEESE" TaxG="B" Amt="3.21" Qty="0.252" QtyU="kg" Pri="12.75"/>
    <Lin LAmt="-----"/>
    <Lin Dsc="Subtotal" LAmt="11.19"/>
    <Mod PN="2 3" Dsc="-25% Discount on Pasta" Amt="-0.75"/>
    <Pos PN="6" Dsc="Example Item" TaxG="ES" Amt="1.00"/>
  </PosA>
  <PayA>
    <Pay Dsc="Cash" Amt="6.00"/>
    <Pay Dsc="EFT" PayG="2" Amt="5.44" UID="17075378 004704 004518"/>
  </PayA>
  <TaxA>
    <Tax TaxG="A" Prc="22" Net="2.86" TAmt="0.63" Amt="3.49"/>
    <Tax TaxG="B" Prc="10" Net="6.32" TAmt="0.63" Amt="6.95"/>
  </TaxA>
</ESR>
</Tra>
```



```

    <Tax TaxG="ES" Prc="0" Net="1.00" TAmt="0.00" Amt="1.00"/>
  </TaxA>
</ESR>
</Tra>

```

JSON Response:

```

{"TraC":
  {"SQ":8946,
   "Result":{"RC":"OK"},
   "Fis":{"D":"10-12-18 09:27", "FN":"0039 0002 10122018 99MEX030623", "DN":"0002", "ZI":39,
    "ID":"99MEX030623"}
  }

```

XML Response:

```

<TraC SQ="8946">
  <Result RC="OK"/>
  <Fis D="10-12-18 09:27" FN="0039 0002 10122018 99MEX030623" DN="0002" ZI="39" ID="99MEX030623"/>
</TraC>

```

Response Fis fields:

Element	Descrizione	Description
D	DATA ORA	fiscal printer D ate and time
FN	NUMERO SCONTRINO FISCALE	receipt F iscal N umber
DN		receipt D ocument N umber
ZI	NUMERO CHIUSURA GIORNALE	Z report Index
ID	MATRICOLA FISCALE	fiscal printer I D

Sample Printout (because printer is not yet in fiscal mode marked NON FISCALE):

 * NON FISCALE *

DOCUMENTO COMMERCIALE
 di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
ACID 500ml	10,00%	1,99
Special Offer	10,00%	-0,50
WHOLEWHEAT FUSILLI	10,00%	1,50
WHOLEWHEAT FUSILLI	10,00%	1,50
KITTEN PET FOOD 25x	22,00%	3,49
0,252 kg x 12,75		
EMMENTAL CHEESE	10,00%	3,21
Subtotal		
-25% Discount on Pasta	10,00%	-0,75

TOTALE COMPLESSIVO 10,44
 di cui IVA 1,26

 * NON FISCALE *

Pagamento contante	10,44
Pagamento elettronico	0,00
Non riscosso	0,00
Resto	0,00
Importo pagato	10,44

11-02-2019 14:08
 DOCUMENTO N. 0028-0017

99MEY022311

 * NON FISCALE *

DETTAGLIO FORME di PAGAMENTO

Cash	5,00
EFT	5,44

EPSON ITALIA SPA
 CONTROLLO CONFORMITA' STAMPANTE FISCALE
 SCONTRINO DI PROVA

NON FISCALE

	EURO
ACID 500ml	1,99
Special Offer	-0,50
WHOLEWHEAT FUSILLI	1,50
WHOLEWHEAT FUSILLI	1,50
KITTEN PET FOOD 25x	3,49
0,252 kg x 12,75	
EMMENTAL CHEESE	3,21
Subtotal	
-25% Discount on Pasta	-0,75
TOTALE EURO	10,44
Cash	5,00
EFT	5,44
RESTO	0,00

18-10-17 13:47

99016493

SNF. 17

NON FISCALE

For fiscal transactions layout file /EFR/rn/def/cfg/fiscal.pug is used.

Return/Void Transactions

Sample return transaction:

```
<Tra>
  <ESR T="-1.99" RFN="0029 0003 11022019 99MEY022311">
    <PosA>
      <Pos PN="1" IN="4012345678901" Dsc="ACID 500ml" TaxG="B" Amt="-1.99"/>
    </PosA>
    <PayA>
      <Pay Dsc="Cash" Amt="-1.99"/>
    </PayA>
  </ESR>
</Tra>
```

Sample void transaction:

```
<Tra>
  <ESR T="-1.99" RFN="0029 0003 11022019 99MEY022311" Void="1">
    <PosA>
      <Pos PN="1" IN="4012345678901" Dsc="ACID 500ml" TaxG="B" Amt="-1.99"/>
    </PosA>
    <PayA>
      <Pay Dsc="Cash" Amt="-1.99"/>
    </PayA>
  </ESR>
</Tra>
```

Following error codes may occur during return/void transactions:

Error	Explanation
#input parameters out of range	Wrong format of RFN
#receipt already refund	Tried to refund/void an already refunded receipt
#receipt already void	Tried to refund/void an already voided receipt
#this is a refund receipt	Tried to refund/void a refund receipt
#this is a void receipt	Tried to refund/void a void receipt

Registering Non-Fiscal Transactions

It is recommended (but not mandatory) to register non-fiscal vouchers like Payin, Payout, Login... to have them stored in the respective journal.

Sample Non-Fiscal Transaction:

```
<Tra>
  <ESR TL="01" TT="1" TN="1234" NF="Login"/>
</Tra>
```

The NF tag declares the type of the transaction:

```
<ESR ... NF="XXX".
```

For printing the respective layout /EFR/rn/def/cfg/xxx.pug is used.

Like every other transaction the <Tra> or <ESR> element may contain additional data fields or arrays, which can be printed by referring to them in the layout file.

If it is required to store non-fiscal transactions without having printed them, set ESR tag Document Delivery DD="noprint":

```
<Tra>
  <ESR TL="01" TT="1" TN="1234" NF="internal" DD="noprint"/>
</Tra>
```

Daily Closure / Chiusura

The fiscal printer's closure function ("CHIUSURA FISCALE") is invoked by sending a non-fiscal signed transaction "Z Report":

```
<Tra>
  <ESR TL="01" TT="1" TN="1234" NFS="Z"/>
</Tra>
```

Response:

```
<TraC SQ="104">
  <Result RC="OK" />
  <Fis D="01-10-18 18:03" FN="0044 0025 11122018 99MEX030623" ZI="44" ID="99MEX030623"/>
  <Z T="145.00" CAmt="5.99" RAmt="5.99" VAmt="5.99" LastD="2018-09-30T09:28:18"
LastSQ="15">
  <ZTaxA>
    <ZTax TaxI="0" Prc="0" Amt="12.00"/>
    <ZTax TaxI="1" Prc="22" TAmt="18.03" Amt="100.00"/>
    <ZTax TaxI="2" Prc="10" TAmt="3.00" Amt="33.00"/>
  </ZTaxA>
</Z>
</TraC>
```

T	Daily Total
CAmt	Daily Refund Amount (compatibility with MF)
RAmt	Daily Refund Amount
VAmt	Daily Void Amount

ZTax elements are given per TaxI, the index in the printer's tax accumulators. ZTax elements are omitted if Amt is 0.

After closure the fiscal printer time is synchronized with the current system time.

Invoice

To print a fiscal invoice tag the transaction with Document Type ("Invoice") and – if available – Document Number (range 1-99999):

```
<Tra>
  <ESR TL="01" TT="1" TN="1234" DT="INVOICE" DN="25"/>
  ...
```

If no DN is given, the current invoice number issued by fiscal printer is included in the response:

```
<TraC SQ="88195">
  ...
  <Fis D="11-12-18 15:26" FN="0044 0025 11122018 99MEX030623" DN="25" ZI="44"
ID="99MEX030623"/>
```

...

On fiscal invoices quantity and price are printed for every position.

Business Cases

Business cases are referenced in the document "IT Business Cases".

Other Printing Functions

Reprint Fiscal Transaction

URL: <http://localhost:5618/peri/print/reprint>
Method: POST
Body: empty
Query: RN client to use, default 'def'

This function invokes the reprint of the last fiscal receipt on the fiscal printer. No data can be provided with this call, which is not journalized.

Direct Printing

Other non-fiscal prints can be sent directly to the EFR print function, no journaling or logging is performed:

URL: <http://localhost:5618/peri/print>
Method: POST
Body: plain text (plain/text)
Query: RN client to use, default 'def'
lay layout to use

If JSON or XML data is sent in the request body, you can request format transformation by specifying a pug layout name:

/peri/print?lay=report2

Therefore you have to set the content type to "application/json" or "application/xml".

In a multi-client configuration you may have to specify ?RN= to address the printer.

Line Display

Display Item

During position and payment entry the cash register application should send referring description and price/amount information immediately to the customer display:

URL: <http://localhost:5618/peri/display>
Method: POST
Body: text
Query: RN client to use, default 'def'

The first two text lines are sent to the standard customer display, capacity is 20 characters per line. Like with all other requests UTF-8 encoding is expected by default.

Example Body:

```
Arrotondato 30,00 €
Totale 30,01 €
```

Alternatively the following call may be used:
`/peri/display?text=This+is+test+line+1+Line+2`

Cash Drawer

By default the cash drawer should be managed by the cash register application.

Drawer pin, pulse on time and pulse off time can be set with the attribute "Drawer_Pin=PIN:ON:OFF". Default value is "2:15:15".

Open Drawer and Wait

URL: <http://localhost:5618/peri/drawer/wait>
Method: POST
Query: RN client to use, default 'def'

The cash drawer is opened immediately, after closing the response is sent. As the drawer might be left open longer time, an intermediate HTTP status "102 Processing" is sent within every 30 seconds till final closing "200 OK". Usually the application shows a message CASSETTO APERTO and locks further operator actions while the drawer is open.

Open Drawer and Poll

URL: <http://localhost:5618/peri/drawer>
Method: POST
Query: RN client to use, default 'def'

Opens and responds immediately. Afterwards you can poll the drawer state using request

URL: <http://localhost:5618/peri/drawer>
Method: GET
Query: RN client to use, default 'def'

(e.g. once per second), which will signal

```
{"PeriDrawer": "Epson_FP:open"}
```

or (when request header accept=text/xml is set):

```
<DrawerState>
  <PeriDrawer>Epson_FP</PeriDrawer>
</DrawerState>
```

until final closing

```
{"PeriDrawer": "Epson_FP"}
```

Manual Drawer Open

Manual drawer open (with key) and close events are logged in the transaction journal.

Automatic Drawer Open

The fiscal printer is set to programmatic drawer control on EFR startup. You can change this behaviour to automatic open per by defining your own initialization sequence in text file

/EFR/rn/def/cfg/Epson_FP.cfg:

```
{"start":["4014261","4014291"]}
```

The command "4014261" enables automatic drawer opening.

Drawer Parameters

Some cash drawers do not work with the standard configuration. Therefore you can use the profile attribute "Drawer_Pin"

e.g.: Drawer_Pin=2:15:15

First parameter: DRW PIN

Second parameter: PULSE ON Time

Third parameter: PULSE OFF Time

Printer State

URL: <http://localhost:5618/peri/print/state>

Method: GET

Response:

```
{
  "ModuleName": "Epson_FP",
  "ID": "99MEY022311",
  "Info": "",
  "Drawer": "",
  "PaymentRounding": 0,
  "CPU": "11.02",
  "MF_STAT": "0",
  "MF_REL": "04.0",
  "MF_STAT0": "00110",
  "LastStateUpdate": 1643814294263,
  "ZI": 21,
  "LastZIUpdate": 1643814275251,
  "RT_TYPE": "M",
  "RT_MAIN": "02",
  "RT_SUB": "08",
  "RT_DAY": "1",
  "RT_NWP": "0",
  "RT_SEND": "0000",
  "RT_OLD": "0000",
  "RT_REJ": "0059",
  "RT_EXPCD": "051021",
  "RT_EXPCA": "110138",
  "RT_BUILD": "0255",
  "RT_DGFE": "2",
  "RT_TRAIN": "1",
  "LT_SEND": 0,
  "LT_OLD": 0,
  "LT_REJ": 0,
  "LT_ACC": 0,
}
```

```

    "SimpleState": {
        "DrawerOpen": false,
        "PaperNearEnd": false,
        "PaperEnd": false,
        "CoverOpen": false,
        "MemAlmostFull": false,
        "MemFull": false,
        "CertExpires": "2021-10-05T00:00:00"
    }
}

```

or (with request header accept=text/xml):

```

<PrintState>
  <ModuleName>Epson_FP</ModuleName>
  <ID>99MEY022311</ID>
  <Info/>
  <Drawer/>
  <PaymentRounding>0</PaymentRounding>
  <CPU>11.02</CPU>
  <MF_STAT>0</MF_STAT>
  <MF_REL>04.0</MF_REL>
  <MF_STATO>00110</MF_STATO>
  <LastStateUpdate>1643814330345</LastStateUpdate>
  <ZI>21</ZI>
  <LastZIUpdate>1643814306309</LastZIUpdate>
  <RT_TYPE>M</RT_TYPE>
  <RT_MAIN>02</RT_MAIN>
  <RT_SUB>08</RT_SUB>
  <RT_DAY>1</RT_DAY>
  <RT_NWP>0</RT_NWP>
  <RT_SEND>0000</RT_SEND>
  <RT_OLD>0000</RT_OLD>
  <RT_REJ>0059</RT_REJ>
  <RT_EXPCD>051021</RT_EXPCD>
  <RT_EXPCA>110138</RT_EXPCA>
  <RT_BUILD>0255</RT_BUILD>
  <RT_DGFE>2</RT_DGFE>
  <RT_TRAIN>1</RT_TRAIN>
  <LT_SEND>0</LT_SEND>
  <LT_OLD>0</LT_OLD>
  <LT_REJ>0</LT_REJ>
  <LT_ACC>0</LT_ACC>
  <SimpleState>
    <DrawerOpen>false</DrawerOpen>
    <PaperNearEnd>false</PaperNearEnd>
    <PaperEnd>false</PaperEnd>
    <CoverOpen>false</CoverOpen>
    <MemAlmostFull>false</MemAlmostFull>
    <MemFull>false</MemFull>
    <CertExpires>2021-10-05T00:00:00</CertExpires>
  </SimpleState>
</PrintState>

```

ModuleName: Name of the printer module

ID: printer ID

ZI: Z-report index

CPU: Fiscal firmware version

MF_STAT: Fiscal memory status

0... OK

1... Error

2... Full

3... Overflow

MF_REL: Fiscal memory firmware version

MF_STATO: 5 bytes

First byte: printer state

- 0... OK
- 2... paper nearly empty
- 3... No paper or cover open

Second byte: Electronic Journal:

- 0... OK
- 1... nearly full
- 2... Unformatted
- 3... Previous
- 4... From another fiscal printer
- 5... Full

Third byte: Cash drawer state:

- 0... open
- 1... closed

Fourth byte: Receipt / Credit Note / Invoice

- 0... Fiscal receipt, credit note or direct invoice open
- 1... Fiscal/Non-fiscal Closed
- 2... Non-fiscal receipt open
- 3... Payment in progress (Fiscal receipt or direct invoice open)
- 4... Fiscal receipt – Error whilst transmitting ESC/POS commands (at receipt ending phase)
- 5... Negative fiscal receipt, credit note or direct invoice
- 6... Non-fiscal receipt – Error whilst transmitting ESC/POS commands
- 7... JavaPOS-UPOS mode – Awaiting closure command (Fiscal receipt, credit note or direct invoice)
- 8... Free or direct invoice open
- 9... Credit note opened via the fiscal protocol or web service
- A... Box office ticket open
- B... Box office ticket closed

Fifth byte: Operative

- 0... Stato Registrazione (MONITOR)
- 1... X State
- 2... Z State
- 3... S State
- 4... Box office
- 5... Keyboard opened credit note

RT_TYPE: RT Type

- I... Internal (fixed premises)
- E... External (market, street, door-to-door and seasonal traders)
- P... Palmtop
- M... MF type non telematics fiscal printer converted to RT
- S... RT server

RT_MAIN: Main status

- 1... Not in service
- 2... In service

RT_SUB: Sub Status

- 5... Da Censire
- 6... Censito
- 7... Attivato
- 8... Programmato RT

RT_DAY: Daily Open
 0... Daily Open FALSE
 1... Daily Open TRUE

RT_NWP: Non working period
 0... ready for transactions
 1... Z report must be performed

RT_SEND: Number of files to send

RT_OLD: Number of files considered old

RT_REJ: Number of rejected files

RT_BUILD: Firmware built number

RT_DGFE: Type of DGFE fyle system
 0... NO RT
 1... RT_TypeA
 2... RT_typeB

RT_TRAIN: Training mode (1... enabled)

RT_EXPCD: Date of expired Device Certificate

RT_EXPCA: Date of expired Communciation Authority certificate

LT_SEND: Number of Lottery receipt in the folder TO SEND

LT_OLD: Number of daily files waiting to be sent to the tax authority older than a configurable number of days

LT_REJ: Number of Lottery Receipt rejected from TA

LT_ACC: Number of Lottery Receipt accepted from TA

Lottery State

URL: <http://localhost:5618/peri/print/state/lottery>

Method: GET

Query: ZI Z-index (required)
 D Date DDMMYY (required)
 DN Receipt number
 RN client to use, default 'def'

If receipt number is omitted, the request returns all lottery files of the current day/ZI that received an error when sending to authority.

Response:

```
[
{
  "Code": "01",
  "ErrorCode": "FFFFF",
  "AnswerId": "",
  "DN": "0216-0027",
  "ErrorCode": "To Send"
}
]
```

Following Errorcodes may occur:

Code	Description	Typology
00000	XML not conforming to the layout	blocking
00300	Exceeded the maximum number of elements in the XML path	blocking

00301	XML file size constraints exceeded	blocking
00302	Service temporarily unavailable	temporary
00303	Device not 'IN SERVICE'	blocking
00304	Invalid certificate	blocking
00305	The type of the device is not valid	blocking
00306	Duplicate transmitted file	blocking
00307	The date of the commercial document is in the future	warning
00308	Payment data inconsistent	warning
00309	Exceeded the maximum number of calls in the time unit	temporary
99999	XML with Signature does not integrate	blocking

PUG Layout

Configuration of print layouts is done using the HTML templating engine PUG (former JADE).
Language details can be found on <https://pugjs.org>.

In this case HTML acts as device independent meta language, the EFR renders the content as possible onto the line printer.

PUG Editor

Workflow:

- start <http://localhost:5618/peri/pugedit> with a browser
- [open] e.g. file /EFR/IT/cfg/fiscal.pug.template
- copy your sample transaction data into the textbox at the left side (JSON only)
- the right side box shows the transaction data transformed to HTML
- modifications in PUG code (center box) are shown immediately
- when finished [download] e.g. as fiscal.pug and copy it to /EFR/rn/def/cfg/

EFR now transforms every transaction into HTML and renders it to the line printer. By their nature fiscal printers provide only very limited formatting functionality.

At the moment the editor implementation is basic, but it is going to be evolved as base technique for transaction rendering and print layout.

Layout Example

/EFR/app/IT/cfg/fiscal.pug.template:

```
//- fiscal.pug - Layout for Fiscal Transactions
//- fiscal.pug - Layout for Fiscal Transactions
-
  function fStr(str) { return str || str === 0 ? str.toString().replace(/\r/g, '') : '' }
  function fDec(dec) { return fStr(dec).replace(/\./, ',') }
  function fAmt(Amt) { return fDec(Amt && Amt.toFixed ? Amt.toFixed(2) : Amt) }
  function fPrc(Prc) { return fDec((Prc+'').replace(/%$/, '%')) }
  function fD(D)      { return D.substr(8, 2) + '-' + D.substr(5, 2) + '-' + D.substr(2,
2) }
  function fTime(D)   { return D.substr(11, 8).replace(/^0/, '') }

mixin pos(p)
  if p.Qty && p.Pri
    .DscTxt= fDec(p.Qty) + ' ' + fStr(p.QtyU) + ' x ' + fAmt(p.Pri)
  if p.TaxG
    .Dsc= fStr(p.Dsc)
    .TaxG= fStr(p.TaxG)
  else
    .Dsc2= fStr(p.Dsc)
  if p.Amt
    .Amt= fAmt(p.Amt)
  else
    .Amt= fStr(p.LAmt)

mixin tot(t)
  hr
  .Tot
  .Dsc2 TOTAL
  .Amt= fAmt(t)
  hr
```

```

mixin pay(p)
  if p.Amt
    .DscTxt= fStr(p.Dsc)
    .Amt= fAmt(p.Amt)
  else
    .DscTxt= ' ' + fStr(p.Dsc)
    .Amt= fStr(p.LAmt)

mixin tax(t)
  .DscTax
  .Prc= fPrc(t.Prc)
  .Net= fAmt(t.Net)
  .TAmt= fAmt(t.TAmt)
  .TaxG= fStr(t.TaxG)
  .Amt= fAmt(t.Amt)

mixin head(h)
  if h
    br
    each v, k in h
      if '_' != k
        .Txt= v._ ? fStr(v.value) : fStr(v)

mixin foot(f)
  if f
    br
    each v, k in f
      if '_' != k
        .TxtCenter= v._ ? fStr(v.value) : fStr(v)

html
  head
    title= ESR.DT||ESR.NF||'Receipt'
    style(type='text/css').
      body {
        font-family: Consolas, 'Courier New';
        width: 46ch;
        background-color: white;
      }
      .Txt { white-space: pre; }
      .TxtCenter {
        white-space: pre;
        text-align: center;
      }
      .Net, .TAmt, .TaxG, .Amt { text-align: right; }
      .Pos, .Mod, .Lin, .Tot, .Pay, .Tax, .ItemHead {
        display: grid;
        grid-template-columns: 37ch 1ch 8ch;
      }
      .Dsc { grid-column: 1; }
      .Dsc2, .DscTxt { grid-column: 1 / span 2; }
      .DscTxt { white-space: pre; }
      .TaxG { grid-column: 2; }
      .Amt { grid-column: 3; }
      .DscTax {
        width: 90%;
        display: grid;
        grid-template-columns: 4fr 10fr 10fr;
      }
      .Print { display: none; }
      @media fiscal {
        .Disp, .Tax, .Tot { display: none; }
        .Print { display: block; }
      }

  body

```

```

    //- Display Cfg Location data
    if Cfg && Cfg.Cmp && Cfg.Loc
        .TxtCenter.Disp= fStr(Cfg.Cmp.Nam)
        .TxtCenter.Disp= fStr(Cfg.Loc.Adr) + ' ' + fStr(Cfg.Loc.Zip) + ' ' +
fStr(Cfg.Loc.City)
        .TxtCenter.Disp= 'TaxId: ' + fStr(Cfg.Cmp.TaxId)
        .TxtCenter.Disp
        br

    //- Header
    +head(ESR.Head)

    //- Itemheader
    hr
    .Lin.Disp
    .Dsc Item
    .TaxG %
    .Amt Amt
    .Disp
    hr

    //- required, do not change
    if ESR.PosA
        each p in ESR.PosA
            div(class=p._)
                +pos(p)
    +tot(ESR.T)
    if ESR.PayA
        each p in ESR.PayA
            div(class=p._)
                +pay(p)
    if ESR.TaxA
        br
        each t in ESR.TaxA
            div(class=t._)
                +tax(t)

    //- Footer
    .Print
    br
    +foot(ESR.Foot)
    hr
    .TxtCenter= 'Terminal: ' + fStr(ESR.TL) + '/' + fStr(ESR.TT) + ' ' + fStr(ESR.DT
|| ESR.NF || 'Receipt') + ': ' + fStr(ESR.TN)
    .TxtCenter= fD(ESR.D) + ' ' + fTime(ESR.D)
    .Txt= fD(ESR.D) + ' ' + fTime(ESR.D)

```

Invoice Ctm Header Example

If ESR.Ctm shall be printed on invoices, replace +head(ESR.Head) with following code in invoice.pug:

```

if ESR.Ctm
    .Txt=ESR.Ctm.Nam
    .Txt=ESR.Ctm.Adr
    .Txt=ESR.Ctm.Zip + ' ' + ESR.Ctm.City
    .Txt=ESR.Ctm.TaxId

```

Restrictions

The fiscal printer allows only layout of header and footer lines and item text, amounts are formatted by the printer.

Although transaction data usually is provided with UTF-8 encoding, only PC437 characters can be printed. Printing of the Euro symbol is not allowed (is replaced by "€").

Barcode

To add a barcode to a fiscal or non-fiscal layout enter:

```
div
  img(data-barcode="type:ean13" data-value="123456789012" style="width:30ch;height:3ch")
```

The data-barcode attribute defines barcode parameters, data-value the content. Style (local or CSS) is used for dimensioning.

data-barcode

type		character set (as regular expression)
upc-a	00	[0-9]{11,12}
upc-b	01	0[0-9]{10,11}
ean13	02	[0-9]{12,13}
ean8	03	[0-9]{7,8}
code39	04	[0-9A-Z \$%*+-. /]{1,34}
itf	05	[0-9]{2,62}
codabar	06	[0-9A-Da-d\$+- .&/:]{1,47}
code93	72	[\u0000-\u007f^{ }]{1,59}
code128	73	[\u0000-\u007f^{ }]{1,98} (default)
gs1-128	74	[\u0000-\u007f^{ }]{2,96}
qr	91	QR type 1, 256 characters max.
qr2	92	QR type 2
	75	GS1 DataBar Omnidirectional
	76	GS1 DataBar Truncated
	77	GS1 DataBar Limited
	78	GS1 DataBar Expanded

Optional further parameters (refer to printer documentation):

Parameter	default value	description
pos	901	center
w	3	module width in pixels, overrides style width
h	100	barcode height in pixels, overrides style height
hri	0	human readable interface: 0=no, 1=above, 2=below, 3=above and below
hri_f	0	HRI font: 0=Font A, 1=Font B

Example of a very small barcode with human readable text below:

```
div
  img(data-barcode="w:1;h:30;hri:2" data-value="This is a test")
```

data-value

For EAN types an eventually missing check digit is computed by EFR.

The data-value can be set programmatically:

```
div
  - var x = ESR.TL + ("0" + ESR.TT).slice(-2) + ("00000" + ESR.TN).slice(-6)
  img(data-value=x style="width:30ch;height:3ch")
```

Graphic Printing

A company logo should be saved directly on the printer using the manufacturer's utility program (e.g. EpsonFpWizard.exe) along with fixed header and footer lines, do not use runtime Graphic Printing.

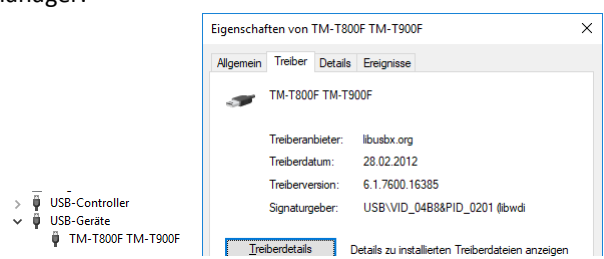
Appendix

Attributes

Following EFR profile attributes are specific to the IT fiscal module.

Fiscal_Rounding	Activate automatic rounding by EFR
Drawer_Pin	[PIN]:[PULSE ON ms]:[PULSE OFF ms] - default: 2:15:15
IT_DefaultPaymentGroupIndex	Set default payment group index if one-digit PayG is sent - default: 00
IT_RTInvoicePaymentGroup	Change PayG 5-04 to other PayG

Troubleshooting

Error	Explanation
LIBUSB_ERROR_ACCESS	on Linux access to USB devices sometimes has to be granted manually, e.g. by editing /lib/udev/rules.d/50-udev-default.rules. For Epson FP insert: SUBSYSTEM=="usb", ATTRS{idVendor}=="04b8", ATTRS{idProduct}=="0201", MODE="0666"
LIBUSB_ERROR_NOT_SUPPORTED	install/reinstall the appropriate Windows USB driver (see section 0 Printer Installation); in "zadig" you may have to Options/List All Devices before
LIBUSB_ERROR_IO LIBUSB_TRANSFER_STALL	on Windows possibly a driver problem, check Windows hardware manager: 
Epson_FP:#timeout on page "Stato" http://localhost:5618/config	printer is connected, but timed out: check printer USB port configuration (see 0 Printer Installation Epson FP-90III) or restart printer
Epson_FP:#opening	turn printer off, wait 5 seconds and turn it on again - it may last up to 90 seconds until the printer startup is completed and EFR has reopened the port
#PRINTER_OFFLINE	paper out or printer cover opened

In case of an error (Result.RC != "OK"), for this transaction a detailed log file is stored in directory /EFR/rn/def/log/.

User Messages

UserMessage	Explanation
Carta Scontrino	reported once a day, if printer paper is low
Stampante offline (fine carta o coperchio aperto)	in connection with ErrorCode #PRINTER_OFFLINE on paper out or if printer cover is opened

EPSON FP-90III Error Codes

The following table details the individual error codes and the possible motives:

Code	Error	Description
02	CARTA SCONTRINO	It is a warning rather than an error. Flag SET 14/11 activates or deactivates the warning. If activated and the paper is low, the printer generates this warning in response to the payment or closure commands. The UPOS fiscal driver automatically deactivates this warning; paper status is determined through the regular printer status requests.
03	OFFLINE	The printer has gone offline ("ERROR" LED ON). Either the paper has finished or the cover has been opened.
07	SLIP KO	Only valid with the FP-H6000 or if an external Slip printer is connected to the fiscal printer via the serial port. Indicates a slip printer problem.
08	TASTO ERRATO	Invalid key press.
09	DATA INVERIORE	Invalid past date entered. The date cannot be earlier than the date of the last fiscal closure report.
10	DATA ERRATA	Bad date format. E.g. 33022017.
11	SEQUENZA ERRATA	Command sequence not allowed. The command cannot be used at this point in the sequence. See examples below.
12	DATI INESISTENTI	Inexistent data. For example, attempting to use a PLU that has not been programmed.
13	VALORE ERRATO	Generic error. One or more fields contains an erroneous value.
14	PROG MATRICOLA	No fiscal serial number has been programmed.
15	GIA ESISTENTE	An attempt has been made to perform an operation that has already been carried out. For example trying to program a PLU with a barcode that has already been set on another PLU.
16	NON PREVISTO	Generic error. An invalid index parameter or an inexistent H1 H2 command pair has been received.
17	IMPOSSIBILE ORA	Generic error. It is not possible to carry out the operation at this time.
18	NON POSSIBILE	Generic error. It is not possible to carry out the operation.
19	SCRITTA INVALIDA	Obsolete.
20	SUPERA VALORE	The amount is greater than the maximum allowed.
21	SUPERA LIMITE	A parameter value is outside the permitted range.
22	NON PROGRAMMATO	The printer has received a command that requires prior programming.
23	CHIUDI SCONTRINO	The maximum number of operations has been reached and the receipt must be closed with a single payment or cancelled. The current limit is around 1000 operations.
24	CHIUDI PAGAMENTO	The maximum number of operations has been reached whilst partial payments are being printed. The receipt must be closed with a single final payment or cancelled. The same 1000 operations limit applies.
25	MANCA OPERATORE	Only valid if operator mode has been enabled. No operator has been selected.
26	CASSA INFERIORE	An attempt has been made to perform a cash out operation or receipt change of an amount greater than the current cash drawer total.
27	OLTRE PROGRAMMAZIONE	The sale price (unit price x quantity) is greater than the programmed department limit.
28	P.C. NON CONNESSO	No PC or server connection or bad sequence termination. Server includes SMTP mail server or receipt as image server (SET 33).

29	MANCA MODULO	Only valid with the FP-H6000 or if an external Slip printer is connected to the fiscal printer via the serial port. Indicates that no form has been inserted.
30	CHECKSUM ERRATO	Partita IVA (business tax code) or codice fiscale (personal tax code) checksum error.
34	MANCA ATTIVAZIONE	Missing activation. For example, attempt to open an invoice when invoice printing has been deactivated. Also, if receipt as image mobile number verification has failed.
35	"SLIP: CONNESSIONE?"	Only valid with the FP-H6000 or if an external Slip printer is connected to the fiscal printer via the serial port. Indicates a slip printer connection problem.
35	RIMOUVERE MODULO	Only valid with the FP-H6000 or if an external Slip printer is connected to the fiscal printer via the serial port. Indicates form removal. More of an instruction than an error.
38	EFT-POS in ERRORE	EFT-POS error
01,04, 05,06, 28,31, 32,33, 36	NOT USED	

Common errors

Condition	Code
Sale price (unit price x quantity) greater than the programmed department limit	27
Zero quantity	21
Operator number outside of permitted range	16
Department zero	16
Display justification code outside of permitted range	11 or 16
Discount or surcharge of zero	16
Discount type 0 on a correction (storno as previous transaction)	11
Surcharge type 5 on a correction (storno as previous transaction)	11
Subtotal discount when subtotal is zero or negative	17
Newer models only – 1-075 native command for barcodes and QR codes with direct invoices and firmware < 4.016	17
Attempt to set additional header type 1 lines with fiscal receipt or credit note already open	17
Attempt to set additional header type 5 lines with direct invoice already open	17
Attempt to set client type 6 lines with direct invoice already open	17
Payment received but already completed	11
Closure command 1-087 before payment	11
Closure command 1-087 and insufficient payment	11
Payment received whilst subtotal is negative	17

Subtotal obligation (flag 4-014 / 13) not respected	17
Unit price that does not respect the Valore Imputazione (4-015 / 01) rules	13
Payment type outside of permitted range	16
Payment index outside of permitted range	16
Attempt to program retail header lines whilst the printer is in the "DAY OPENED" logical state	17
Attempt to set the date whilst the printer is in the "DAY OPENED" logical state	17
Attempt to enter training mode whilst the printer is in the "DAY OPENED" logical state	17
If flag 4-014 / 03 = Si – Native command 1-050 to open the cash drawer received whilst a document is open	11

Document Revision History

Revision	Date	Changes
1.00	2017-09-12	Initial Version
1.01	2017-09-28	Added /peri functions, layouting, DT, DN
1.02	2017-10-16	
1.03	2017-11-13	VAT Handling
1.04	2017-11-20	Error Codes
1.05	2017-11-23	PUG Editor
1.06	2017-12-04	additional Support Information
1.07	2018-02-07	support LIBUSB_ERROR_NOT_SUPPORTED
1.08	2018-05-03	EPSON TMVirtualPortDriver860a
1.09	2018-08-07	Correction <Fis> Response
1.10	2018-08-31	NFS="BAL" changed to NFS="Z"
1.20	2019-02-11	changes regarding RT mode printers
1.21	2019-02-12	Payment types
1.30	2019-08-27	RS232 connection
1.40	2019-10-02	Ethernet connection
1.50	2019-11-26	Lottery
1.51	2019-11-27	Line Display request body example
1.60	2020-03-24	Additional Lottery Information
1.61	2020-04-21	Updated response in lottery state
2.00	2020-12-23	RT 2.0
2.01	2021-01-22	extended lottery state response
2.10	2021-02-15	RT 2.0 Changes
2.11	2021-03-08	split PayG 2 to 2-00 (Credit) and 2-XX (Credit Card)
2.12	2021-03-18	Updated supported Printer Firmware Credit Card Handling Invoice Ctm Header Example
2.30	2021-10-12	RN query parameter and document formatting
2.31	2021-10-18	EFR Installation 2.x
2.40	2022-02-02	new field SimpleState on /peri/print/state response