

*Communication Protocol*

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# REVISION HISTORY

Rev	Sheet	Comment	Date	Author
3.12	All	First English edition based on version 3.12 but also edited to remove old obsolete methods and commands. Other sections enhanced.	18 <sup>th</sup> Jul 2017	Philip Barnett
3.2	All	New RT telematics printer commands added and related commands updated. Added 1-138, 4-055, 4-255 9-004, 9-204 Updated 4-005, 4-205, 1-095/96/97, 1-078 and VOID/RETURN receipt	9 <sup>th</sup> Oct 2017	Philip Barnett CR
3.3	All	??	17 Jan 2018	MP
3.4	All	Updated the read status command 1 138 and added new commands: Check DOC status 9 007 Set new URL CA 9 008 Enable download CAcert	June the 6 <sup>th</sup>	CR
3.5	All	Added new commands for RT: Extended 4 205 to read the Status Ventilazione IVA Extended 4 204 to read the VAT exemption 4 034 with function to restart the web server Added flag 14 from 55 to 61	June the 22 <sup>nd</sup>	CR
3.6	All	Fix doc bug relating the command 9 005, the field Date is dd mm yyyy	July the 5 <sup>th</sup>	CR
3.7	All	Fix the doc bug the command set vat table has the date on 6 bytes dd mm yy	July the 9 <sup>th</sup>	CR
3.8	214	Fix the description of the command from 9005 to 9205	July the 17 <sup>th</sup>	CR
3.9	All	Editing of word file	August the 6 <sup>th</sup>	CR
4.0	All	Fix bug relating the 4005 VAT rate setting: the 99 is no longer used to save in FM	Aug. the 15 <sup>th</sup>	CR
4.1	All	Updated the command 9-205 refund test refund/void	Aug the 28 <sup>th</sup>	CR
4.2	All	Added FLAG SIMULAZIONE S14/62	Aug the 29 <sup>th</sup>	CR
4.3	All	Added the range for RT of VAT value	Sep the 10 <sup>th</sup>	CR
4.4	All	Added default setting of VAT exception N1-N6	Oct the 13 <sup>rd</sup>	CR
4.5	All	FIX error description in 9 205 command	Oct the 19 <sup>th</sup>	CR
4.6	Read status	RESULT LAST UPDATE	Dec the 11 <sup>th</sup>	CR
4.7	Read status	Swapped position Result last update with DEMO	Dec the 7 <sup>th</sup>	CR
4.8	Void Refund	Deprecated "RESO MERCE" and "ANNULLAMENTO", replaced with "REFUND" AND "VOID"	Jan the 21 <sup>st</sup>	MG
4.9	All	Changed Set VAT table entry condition for "Day Opened"	Feb the 1 <sup>st</sup>	MG
4.10	All	Extend VAT Table and added VAT table number in the VOID/REFUND commands	Feb the 18 <sup>th</sup>	CR
4.11	All	More detail about extended VAT table Added the Read daily SALES/REFUND/VOID per VAT 2050/51	Feb the 20 <sup>th</sup>	CR
4.12	All	Added the VAT extended date setting	Feb the 25 <sup>th</sup> 2019	CR

Rev	Sheet	Comment	Date	Author
4.13	All	Updated the commands: 4-215 and 1-138 with missing information.	Mar the 15th 2019	CR
4.14	All	Added 1-137 paper cut command Added 9-013 / 9-213 automatic Z report command. Corrected refund/return and void string format errors. Added and expanded layouts. Document updated throughout.	2 <sup>nd</sup> Apr 2019	PB
4.15		++ Updated index with set automaticZrep ++ 2050/51 function ,44 read amount and receipt amount per VAT ++ 9 016 new command to move Rej. File to Archive folder ++ added DEMO MODE state	18 <sup>th</sup> May 2019	CR
4.16		++ new command to read ID zrep 9 217 (FW 7,2) ++ new command to close receipt w/o CUT 1 137 ++ new command to read EJ file system details 1- 136	25 <sup>th</sup> June 2019	CR
4.17	All	Document updated throughout.	12 <sup>th</sup> Nov 2019	PB
4.18	All	Updated to Lottery specs. Added 1-134, 1-135, 9-019, 9-218 and 9-219 commands. Updated 1-138 and 9-016 commands. Added flag 4-015/26.	25 <sup>th</sup> Jan 2020	CR
5.00	All	Updated "Document Types and Totalisers" table. Reorganised title hierarchy throughout document. Added 4-273, 9-003 and 9-020 commands. Updated 1-077, 4-014, 4-019, 4-214, 4-015 and 4-215 commands. Added where appropriate that 1-060, 1-061 and 1-135 commands cannot be used together in a single document. Added "8.4.5 HEADER1 = 9 – COMMAND GROUP 9 FUNCTIONS" chapter. Added "12.5 H1=9 Commands" chapter. Document updated throughout.	24 <sup>th</sup> Jul 2020	PB
6.00	All	1-139 and 4-031/4-231 EFT-POS commands added. Added 1-090, 4-037, 4-038, 4-237, 4-238, 9-022, 9-025 and 9-222 commands. 9020 command - Corrected export error note (Options 30 to 41 can only be saved to USB pen drive). Also added type 40 note. 2-050/2-051, 4-002, 4-028 and 4,202 commands expanded. Added Appendix I Rounding. Removed obsolete model references (only RT documented). Removed personalised fiscal receipt (ricevuta fiscale) credit note, free invoice, class I, class III and graphic fiscal receipt (scontrino sicuro) references. Removed obsolete 1-053, 1-054, 1-095, 1-096, 1-097, 1-141 to 1-144, 3-018, 3-021, 4-026, 4-033, 4-070 to 4-072, 4-226, 4-233, 4-270, 4-271, 4-298, 4-300 commands. Except for UPOS states, removed fiscal receipt references as commercial document is now the correct term. Except for UPOS states, removed non-fiscal receipt references as management document is now the correct term. Document updated throughout.	28 <sup>th</sup> May 2021	PB

Rev	Sheet	Comment	Date	Author
7.00	All	<p>Corrected Serial Number Prefixes 99IEB and 99IEC.  Updated 1-047 command as reprinting is supported in Demo and Simulation modes.  Corrected 4-014/67 inverted descriptions.  Updated 4-014 and 4-015 default values.  Added references to "Buono Celiachia".  Updated 3-103 and 3-104 commands to include DOC TYPE 6 (electronic payments filter).  Updated 3-104 command to include multiple frame mode.  Added totalisers 86 and 87 to 2-050/2-051 command.  Added E-Receipt references.  Added 4-015/28, 4-015/29, 4-215/28 and 4-215/29 E-Receipt parameters.  Added 1-131, 1-132, 1-133, 1-332, 1-333 and 9-226 E-Receipt commands.  Updated 9-016 command to include E-Receipt files.  Expanded 1-084, 4-031, 9-022 and 9-222 commands.  Expanded common errors table.  Added 273 (EMISSION MODE) and 274 (CLIENT ID) key functions.  Added CORS Origin setting to commands 4-034 and 4-234. Default = * (asterisk).  Expanded APPENDIX B and E.  Updated and expanded "4.1.Operating Modes" and "4.2 Demo and Simulation Modes" chapters.  Created separate TX and RX tables throughout.  Added 1-108 command.  Maximum number of fiscal daily closures figure corrected from 3653 to 3650.  Document updated throughout.</p>	5 <sup>th</sup> Oct 2022	PB

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## 1. INTRODUCTION

This document describes the data communication protocol between for example a computer and an Italian EPSON fiscal printer. The following models are described:

Model	Serial Number Prefix
FP-81 II RT (modified / modificato)	99MEX
FP-81 II RT (native / nativo)	99IEB
FP-90 III RT (modified / modificato)	99MEY
FP-90 III RT (native / nativo)	99IEC
RT Server	99SEA

Fiscal printers can be connected via four interfaces:

1. Serial RS-232
2. USB Mini-B
3. LAN Ethernet
4. Wi-Fi dongle

All models have serial and USB interfaces and can also be connected via Wi-Fi using the EPSON WL-01 or WL-02 USB dongle. RT models always have an Ethernet port.

Certain features depend on the model and version of firmware. This is mentioned throughout the document where appropriate. Appendix A can also be referred to.

The communication protocol has been designed on three levels of the ISO/OSI model using the "Collapsed OSI Model".

The supported service is of the "Connectionless Type" and the configuration is master/slave. The older client/server implementation is no longer used and will not be discussed in this document. An older document version can be provided on request.

The printer can be controlled via data communication, via the keyboard (or barcode reader) or a combination of the two. It can also connect to a POS terminal or weighing scales plus can print invoices on a secondary printer connected to the fiscal printer's serial port. The web service communication protocol is not within the remit of this document. Please refer to the ePOS Fiscal Print Solution Development Guide.

## 2. RELATIVE DOCUMENTS

UnifiedPOS – Retail Peripheral Architecture  
 EPSON Serie FP Manuale Operatore (User Manual)  
 FP Negative Fiscal Receipt Credit Note (Credit Note Negative Fiscal Receipts)  
 Gestione Fatture Ricevute Fiscali (Invoice and Personalised Fiscal Receipt Management)  
 Gestione IVA Nature Ventilazione (VAT Management)  
 Gestione Loghi (Graphic Logo Management)  
 ePOS Fiscal Print Solution Development Guide  
 Manuale Protocollo XON-XOFF (XON-XOFF fiscal protocol)

## 3. ABBREVIATIONS AND TERMINOLOGY DEFINITIONS

<b>ACK</b>	Acknowledgement
<b>AE or AdE</b>	Agenzia dell'Entrate (Italian tax authority)
<b>CNT</b>	Frame counter
<b>CKS</b>	Frame checksum
<b>EJ</b>	Fiscal Electronic Journal (DGFE / MPD)
<b>ETX</b>	End of Text frame identifier
<b>FM</b>	Fiscal Memory / MPR
<b>MF</b>	Misuratore Fiscale (fiscal printer based on 1983 fiscal law)
<b>MMC</b>	Multimedia Card (No longer used). Must be SD type.
<b>MPD</b>	New name for EJ in the case of RT printers
<b>MPR</b>	New name for FM in the case of RT printers
<b>PDU</b>	Protocol Data Unit
<b>RT</b>	Registratore Telematico (fiscal printer based on new data transmission law)
<b>STX</b>	Start of Text frame identifier

## 4. FISCAL PRINTER MODES AND STATES

### 4.1. Operating Modes

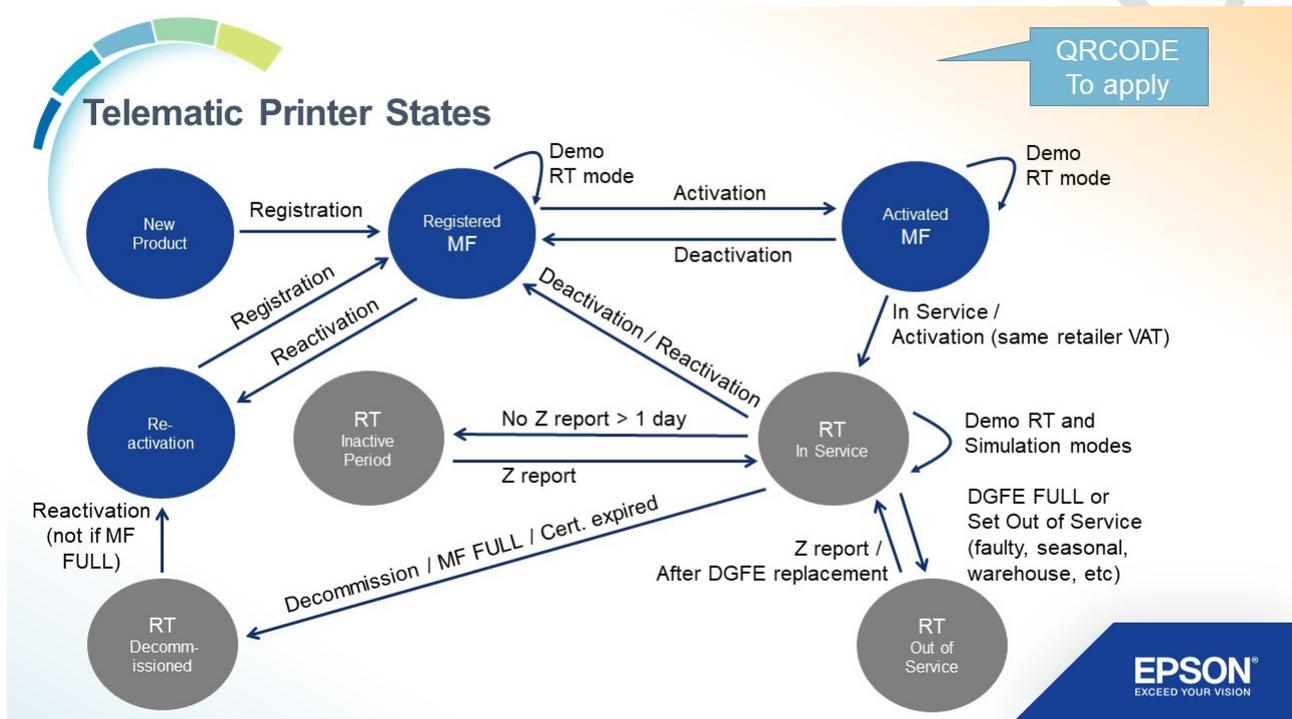
The fiscal printer supports the following operating modes:

- **MF-PRE-CENSITO:** The printer is shipped in this condition. <sup>[1]</sup>
- **MF-CENSITO:** The printer enters this mode after an authorised technician has performed the CENSIMENTO operation. This registers the printer with the tax authority. The unique tax authority device certificate is also downloaded to the printer and stored in the MF (sealed fiscal memory module). <sup>[1]</sup>

<sup>[1]</sup> Please note that a small number of printers are pre-registered in the factory to respect conformity requirements.
- **MF-ATTIVATO:** Once the retailer / merchant VAT number has been set, the printer enters into this mode. At this point the RT printer operates in legacy mode adhering to and compliant with the 1983 MF law. This mode is now obsolete but is still required so that the printers can be placed in service. This operation is performed by an authorised technician. In case of reactivation with the same retailer VAT number, the printer enters this condition only momentarily before then entering in the **RT-IN SERVIZIO** condition automatically.
- **RT-PRE SERVIZIO:** This mode is now obsolete as the transition period has ended. It was used to delay the In-Service condition. It enabled the printer to enter in service at a future chosen date, remaining in the MF-ATTIVATO condition until such date. The switch was automatic and required that the logical Day Opened condition was False at that moment. If True, the switch would occur immediately after the next fiscal daily closure Z report. Programming was performed by an authorised technician.
- **RT-IN SERVIZIO:** The RT printer is placed in service. Once in service, the printer emits DOCUMENTI COMMERCIALI (commercial documents) with the RT logotype symbol. At the end of the day the printer performs a daily closure Z report as usual, but an XML file of the daily takings is also sent to the tax authority. This operation is performed by an authorised technician setting the current date. The first daily closure will contain the intervention data in the XML file.
- **RT-IN PERIODO INATTIVO:** The printer enters in this mode if DAY OPENED is false and a period of 24 hours elapses without a daily closure Z report.
- **RT-FUORI SERVIZIO:** The printer can be set in this mode when it is not being used. For example, faulty, seasonal use, warehouse, etc. Also enters this condition automatically when the MPD (DGFE) is full.
- **RT-DISMESSE:** Used to definitively retire the printer. However, the printer can be restored by setting the RT-RIPRISTINO CERTIFICATO condition both on the printer and on the tax authority web portal (where the RT device can be found in the retailer's "cassetto fiscale" account).
- **RT-DEMO:** Used to simulate RT operation without sending XML files to the tax authority. If the printer is in **RT-IN SERVIZIO** state, the printer must be online so that the entering operation can be registered with the tax authority. The exiting operation however does not generate any traffic to the tax authority. This mode is not supported on the RT Server. See further below for full details.

- **RT-SIMULAZIONE:** Used to simulate RT operation sending XML files to the tax authority that include the simulazione="true" attribute in the header of the file. The printer must be in the **RT-IN SERVIZIO** state. Differently to the **RT-DEMO** state, the printer does not need to be online as the operation is not registered with the tax authority (the tax authority will be aware of this condition due to the simulazione="true" attribute). See further below for full details.
- **RT-RIPRISTINO CERTIFICATO:** The printer is ready to be re-registered. The same condition must exist on the tax authority web portal (where the RT device can be found in the retailer's "cassetto fiscale" account). This recovery can only be used twice in the lifetime of the printer as there is only space for three device certificates in the fiscal memory sealed module.

**4.2. Telematic Printer States**



### 4.3. Demo and Simulation Modes

Training mode is a function only relevant for obsolete MF fiscal printers that adhered to the 1983 fiscal law.

The Demo and Simulation RT mode functions can be used to aid testing. They are mutually exclusive so only one can be set at a time. The table below describes both functions:

	<b>DEMO RT MODE</b>	<b>SIMULATION RT MODE</b>
Printouts	By law, spaces are replaced by question marks to render printouts unusable in a retail outlet. This behaviour is fixed.	
Logotype RT	No	No
Daily takings transmitted to tax authority	No	Yes Sets simulazione="true" attribute in the header of the XML file
Daily closure Z reports local directory path	www/dati-rt/demo	www/dati-rt/simulazione
Can enter in <b>PERIODO INATTIVO</b> state	No	Yes
EFT-POS to POS terminal	Yes	Yes
E-Receipt	Yes	Yes
RT Server	No <sup>[1]</sup>	For future use
Invoices	No	No
Graphic logos	Yes	Yes
Prerequisites	Current state must be at least <b>MF-CENSITO (REGISTERED)</b> to enter  Daily open must be False to enter and exit	Current state must be <b>RT-IN SERVIZIO (IN SERVICE)</b> to enter  Daily open must be False to enter and exit
Sends notifications to tax authority	Depends. If the current status is <b>RT-IN SERVIZIO (IN SERVICE)</b> , the RT must be online so that an Out of Service intervention (FUORI SERVIZIO) notification can be transmitted to the tax authority. This occurs when entering Demo RT mode <sup>[2]</sup> . Exiting does not generate any intervention notifications (the next In-Service Z report will update the tax authority).	No
Max number of switches	2000 in the lifetime of the printer <sup>[3]</sup>	
SET 14 flag H1=4; H2=014	63	62
Keyboard sequence	3333 + Chiave + 14 + 63 + X + Contante	3333 + Chiave + 14 + 62 + X + Contante
Minimum firmware version	Native: All Modified: 7.00	Native: 7.00 Modified: 11.00 RT Server: 4.00 (for future use)

- [1] Even though the mode is not valid, the command is still accepted by the RT Server.
- [2] Irrespective of the method used to request Demo RT mode (communication protocol or keyboard), the printer automatically sends the notification.
- [3] The fiscal memory reserved space for the 2000 switches is for both Demo and Simulation. In other words, the space is NOT 2000 Demo + 2000 Simulation. Entering into the mode counts as one switch and exiting counts as another switch.

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#### 4.4. UPOS States

States are based on the UPOS international standard model. The printer supports the following states:

- **Monitor:** This is the main state from where it can enter other conditions. It can be divided into two sub-states based on the Boolean Day Opened flag:
  - **Monitor and DayOpened True:** The printer enters this state when the first commercial document has been issued – whenever the counter is different from 0.
  - **Monitor and DayOpened False:** After having printed out a Z report, the printer enters this condition.
- **Fiscal Receipt/Direct Invoice/Credit Note/Return/Void:** The beginFiscalReceipt, 1-089 native and RETURN/VOID commands switch the printer to this state from the **Monitor** state. Credit notes are obsolete. In this condition, sales, corrections (storni) along with discounts and surcharges can be performed plus some other specific commands can be sent. Sales are not permitted in return and void documents. Refunds (resi) are not permitted in commercial documents. Regarding commercial documents only, if whilst in the **Monitor** state the first command is either a sale, modifier, correction or free text body line, the printer switches to **Fiscal Receipt/Commercial Document** mode and processes the command. In other words, upon receiving one of these commands it switches without the need to use the beginFiscalReceipt command. For correctness, EPSON do not recommend the use of this shortcut.
- **Fiscal Receipt/Direct Invoice/Return/Void Total:** Whenever partial payments are made, the PrintRecTotal command switches the printer to this state after the first partial payment. The printer remains in this state until the sum of all payments is more than or equal to the total amount due.
- **Fiscal Receipt/Direct Invoice/Credit Note/Return/Void Ending:** After the payment or payments have been completed, the printer switches to this state. Credit notes are obsolete. In this condition, printRecMessage commands can be sent regarding trailer and additional trailer free text lines (information to be printed out at the end) plus some other commands. If the "All Void" command is received at any time whilst the document is open, the printer also enters this state.
- **Document:** The beginFiscalDocument command opens a free invoice (now obsolete).
- **Monitor and TrainingModeActive:** This is the main state from where it can enter other conditions. In training mode Day Opened does not apply. The printer can be used for educational purposes at will since test print outs do not affect the fiscal counters. The printer can enter this condition from the Monitor and DayOpened False state via the keyboard or fiscal command. Prints outs are all non-fiscal. By law, spaces are replaced by question marks (?) and the NON FISCALE line is automatically printed at the head and foot of the test print out.
- **Fiscal Receipt/Direct Invoice/Credit Note/Return/Void and TrainingModeActive:** The printer switches to this state from the **Monitor** and **TrainingModeActive** state in the same manner as it switches from the **Monitor** state to the **Fiscal Receipt/Direct Invoice/Credit Note/Return/Void** state. The rules and commands are the same. Credit notes are obsolete.
- **Fiscal Receipt/Direct Invoice/Return/Void Total and TrainingModeActive:** The printer switches to this state from the **Fiscal Receipt/Direct Invoice/Credit Note/Return/Void** and **TrainingModeActive** state in the same manner as it switches from the **Fiscal Receipt/Direct Invoice/Credit Note/Return/Void** state to the **Fiscal Receipt/Direct Invoice/Return/Void Total** state. The rules and commands are the same. Credit notes are obsolete.
- **Fiscal Receipt/Direct Invoice/Credit Note/Return/Void Ending and TrainingModeActive:** The behaviour is the same as when training mode is deactivated. Credit notes are obsolete.

- Non-Fiscal:** The beginNonFiscal command switches the printer to this state from the **Monitor** state. In this condition, the printNormal command is used to print free text lines. Some other commands are also accepted (for printing barcodes for example). Nothing is saved to the Electronic Journal (MPD / EJ). The NON FISCALE line is automatically printed at the head and foot of the printout. The endNonFiscal command switches the printer back to the **Monitor** state.
- Report:** A transitory state checked whenever the printer is currently emitting one of the various reports. The printer switches to this state from the **Monitor** state following the receipt of a report print out command and switches back to the **Monitor** state upon termination of the printout.

The following table illustrates possible state transitions.

The "Ending" state is only possible if the printer JAVAPOS-UPOS mode has been enabled (SET 14/29 flag). These transitions are annotated with the letter "a" whilst the transitions whenever JAVAPOS-UPOS mode is disabled are annotated with the letter "b". Credit Note references removed as it is now obsolete. Fiscal receipt corresponds with commercial document and non-fiscal receipt with management document.

State	Accepted Commands
Monitor	
Fiscal Receipt/Direct Invoice/Return/Void	
Fiscal Receipt/Direct Invoice/Return/Void <b>Total</b>	
Fiscal Receipt/Direct Invoice/Return/Void <b>Ending</b>	
Document	
Monitor and TrainingModeActive	
Fiscal Receipt/Direct Invoice/Return/Void and TrainingModeActive	
Fiscal Receipt/Direct Invoice/Return/Void <b>Total</b> and TrainingModeActive	
Fiscal Receipt/Direct Invoice/Return/Void <b>Ending</b> and TrainingModeActive	
Non-Fiscal	
Report	

## 4.5. FP Operating States

EPSON fiscal printers can also be in different operating states. This is independent of the above-mentioned UPOS states. Transitions of this type are only possible via the directly attached keyboard and are used to perform operations such as programming, report printing and receipt reprinting. Please refer to the operator manual for further details.

The following operating states are possible:

- **Registration State:** Known as STATO GESTRAZIONE in Italian. The condition in which the printer behaves normally and can emit receipts / documents, invoices etc.
- **X State:** The condition whereby it is possible to print out non-fiscal / management daily and periodic reports plus view daily totals on the customer display.
- **Z State:** Whilst in this condition, important sequences can be entered to perform the following operations:
  - Fiscal closure printing and transmission
  - Printing followed by counter resetting of daily and periodic financial reports
  - Fiscal memory (MPR) data report printing
  - Electronic journal (DGFE / MPD) data reprinting
  - SD card formatting (for the Electronic Journal)
  - Retail header lines programming
- **S State:** The condition whereby printer programming can be performed

The printer can only make the transition to and from the Registration State directly to one of the other three states. It is not for example possible to jump directly from the X state to the Z state. When the printer is in a state other than the Registration State, most fiscal commands are inhibited. The 1-088 reset command can however be used at any time to return the printer to the Registration State.

## 5. DOCUMENT TYPES

The following document types are emitted:

- Commercial documents (Documenti commerciali – equivalent to previous fiscal receipts)
- Fiscal invoices (based on the last document and direct – free type is not possible)
- Commercial refund/return documents (Documenti di reso)
- Commercial void documents (Documenti di annullamento)
- Management receipts (Documenti gestionali – equivalent to previous non-fiscal receipts)
- X reports
- Z reports (for example, daily closure report – a management document)
- Box office tickets
- Configuration printouts <sup>[1]</sup>

<sup>[1]</sup> Configuration printouts generate non-fiscal or management documents, numbered and formatted just like printouts generated by the 1-063 opening command.

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## 6. PHYSICAL LEVEL

The printer interfaces for data communication are serial RS-232, USB native, USB RNDIS, LAN Ethernet or Wireless.

### 6.1 Serial RS-232

From the RS-232 connector's point of view, the printer presents itself as a DTE. The standard EPSON cable is presented as a male Cannon DB-9 pin connector. The printer uses four RS-232 signal lines – two are used to transmit and receive data whilst another two are used for RTS/CTS flow control handshaking.

Before transmitting data, the printer raises the RTS signal and (depending on the CONTROLLO RTS/CTS option) checks that CTS is high. If so, it begins transmitting. The PC must also respect the signalling in the reverse direction. All EPSON fiscal drivers enable RTS/CTS flow control.

The following serial port parameters are programmed via the keyboard:

Baud rate	115200, 57600, 38400, 19200, 9600, 4800, 2400, 1200
Parity	ODD, EVEN, NONE
Data bits	7 <sup>[1]</sup> , 8
Stop bits	1, 2
RTS /CTS flow control (CONTROLLO RTS/CTS) <sup>[2]</sup>	0 (RTS/CTS flow control deactivated) 1 (RTS/CTS flow control active) <sup>[3]</sup>

<sup>[1]</sup> If 7-bit data is set, the use of codes from 0x80 to 0x9F or from 0x80 to 0xFF is not supported. Likewise, a search in the PLU database for a barcode that contains at least one-character code > 0x7F would fail.

<sup>[2]</sup> Changes to the RTS/CTS sub-parameter take effect only after a full power reset.

<sup>[3]</sup> With RTS/CTS enabled, the PC RTS signal (CTS printer input signal) must be high otherwise the printer will not respond.

RS-232 communication is set by default with the following parameters:

- 57600, NO, 8, 1, 1.

The <SUBTOTALE> key can be used to print an interface summary sheet.

## **6.2 USB Native**

The USB PID parameter has two settings:

- USB PID TM (PID 0202h 514 decimal)
- USB PID FP (PID 0201h 513 decimal)

The USB PID FP setting is used whenever both fiscal printers and non-fiscal printers are connected to the same computer. It allows the EPSON APD non-fiscal driver to ignore fiscal printers.

The <SUBTOTALE> key can be used to print an interface summary sheet. The USB PID setting is present in the print-out.

## **6.3 USB RNDIS**

The USB Slave port can also be used in "LAN TCP/IP" mode (as described in the Manuale Operatore and Fiscal Printer Intelligent Features Guide documents). Programming is performed by SET 19 rather than SET 18 (equivalent to the 4-019 command).

## **6.4 LAN Ethernet**

The LAN parameters are described in the Manuale Operatore document. Programming is performed by SET 19 (equivalent to the 4-019 command).

The <SUBTOTALE> key can be used to print an interface summary sheet. All LAN sub-parameters are present in the print-out.

## **6.5 LAN Wireless**

The Wireless LAN parameters are described in the Manuale Operatore document. Programming is performed by SET 19 (equivalent to the 4-019 command). An EPSON WL-01 or WL-02 USB dongle (available on request) must be connected to the USB port. The dongle only supports the 2.4GHZ band.

The <SUBTOTALE> key can be used to print an interface summary sheet. All LAN sub-parameters are present in the print-out.

## 7. DATA LINK LEVEL

The data link level handles two data communication types:

- Short Message Control
- Protocol Data Unit (PDU)

### Short Message Control

#### **ACK (legacy protocol):**

The ACK character (06 hex) is transmitted by the printer to signify the correct reception of a frame response. The printer checks both the semantics and the syntax of the received frame. If errors are detected, the printer may or may not respond depending on the error. Badly formatted frames such as a missing STX header or a bad checksum are simply discarded without sending a response back. The device communicating with the printer should therefore include timeout routines. Incorrect field values or non-existent commands generate error responses as described later in this document.

ACK mode can be deactivated. Since this is a legacy mode, EPSON recommend deactivation. This is also necessary whenever converters such as LAN-RS-232 or USB/serial are used. The EpsonFp2 Active X / OCX Control driver (and consequently also EpsonFpMate/EpsonFpWizard) handle the ACK mode in a transparent way (it auto adjusts). Flag SET 14/27 controls ACK mode and can be set via the [H1=4; H2=014 – SET FLAGS](#) command. ACK is always deactivated when the LAN interface is used.

**Protocol Data Unit**

The PDU structure is as follows:

STX	CNT	IDEN	A.PDU	CKS	ETX
-----	-----	------	-------	-----	-----

**STX:** Signifies "Start of Text" and it identifies the beginning of the PDU frame. The ASCII control code is 02 hex.

**CNT:** Indicates the frame counter / PDU sequence number. Sequence numbers in frames sent to the printer run from 01 to 99. The printer responses are in the range 00 to 99. Each time a new frame is compiled, the counter should be incremented. However, in the case of retry, the same counter sequence number should be used so that the printer can interpret the frame as such. Failure to do so could result in duplicate transactions for example. Please note that the counter in the printer response frame is always incremented (assuming that a correct frame was received by the printer). This is true even in responses to a retry received by the printer. Furthermore, all printer responses to retries contain the same A.PDU data as the initial response. Therefore, whenever a retry is received by the printer, the A-PDU data is ignored. No command exists to reset the counter. Whenever communication handshaking begins, EPSON suggests sending two inconsequential commands such as a read printer status command each one with a different counter value (to "synchronise" the counter). The counter number in the first response from the printer following a printer restart is always 01.

**IDEN:** This identification field is always set to "E" meaning EPSON.

**Application PDU:** This field is divided into command and parameters each one being described in detail later in this document.

**CKS:** Specifies the numeric frame checksum. Values range from 00 to 99. The following algorithm is used:

1. Starting from the CNT field and including IDEN and all the A.PDU field data, all the decimal values of each character are added up.
2. A modulo 100 operation is performed on the total so that only the last two significant digits are extracted.
3. Two ASCII numerals are used to represent the checksum. For example, checksum 12 (numerical) = 31 and 32 hex.

**ETX:** Signifies "End of Text" and it identifies the end of the PDU frame. The ASCII control code is 03 hex.

If ACK mode has been enabled, the data link level supports the PDU retry service. If no response is received by the printer within a timeout period, a retransmission occurs. The number of retries and the timeout are programmable on the printer via the **H1=4; H2=015 – SET CONFIGURATION** command.

## 8. APPLICATION LEVEL

### 8.1 PDU Structure

The application level implements many of the functions typically available locally via the keyboard. Each one will be described in detail later in this document.

The application level includes two PDU types:

- PDU.DATA: Normal data packet exchanges
- PDU.ERR: Error reporting and one warning

#### A.PDU.DATA

The structure contains a header in two parts plus a data area:

HEADER1 (H1)	HEADER2 (H2)	DATA
--------------	--------------	------

Field	Description	Length	Range / Value
Header1	Command group number	1 byte	1 to 9
Header2	Specific command within the group	3 bytes	001 to 999
Data	command specific parameters	Variable	ASCII format

For the most part responses to commands contain the same H1-H2 pair present in the received command.

#### A-PDU ERROR

This PDU type is used by the printer to notify a printer specific error or warning in the received command:

ERR	OP	N
-----	----	---

Field	Description	Length	Range / Value
ERR	Fixed wording	3 bytes	ERR
OP	Operator number	2 bytes	01 to 12
N	Error code	2 bytes	See table further in this chapter

## **8.2 Prohibited Words in Commercial Documents and Invoices**

Italian fiscal law prohibits certain words in free descriptions when used in the abovementioned documents. The following words can never be part of the text in additional header, additional description, trailer, additional trailer and invoice client lines (in other words, messages sent via the 1-078 command). If detected, the following words are altered internally by the fiscal printer:

- **Totale becomes Total\***
- **Sconto (discount) becomes Scont\***
- **Importo (amount) becomes Import\***
- **Contante (cash) becomes Contant\***

Regarding retail header lines, sales, sale corrections (storni), refunds, discounts, surcharges and payments, only one word is prohibited:

- **Totale becomes Total\***

Via the keyboard, the printer automatically changes the wording of the following word when programming departments, internal PLUs, credit cards, tickets, operators, VAT exempt text and invoice courtesy messages:

- **Totale becomes Total\***

This is irrespective of whether lower case or upper-case characters are used or a mix of the two.

Possible sequences that include non-alphabetic characters within the word itself are also filtered. For example, "abc#O\_n5T a, N+t e§&" is prohibited as any cleaning up would reveal the word "cOnTaNte".

The filter does not apply in the following cases:

- Management document lines
- Barcode HRI textual representations
- Programming of the following descriptions via a data communication channel (the filter exists whenever the keyboard is used):
  - Departments
  - Internal PLUs
  - Credit cards
  - Tickets
  - Operator names
  - VAT exempt wordings programmed via the 4-025 command
  - Courtesy messages in invoices programmed via the 4-027 command
- External PLU descriptions
- Display messages (including promotional messages programmed to appear after a set timeout)
- Cash descriptions programmed via the 4-053 command

## 8.3 A.PDU Errors

### 8.3.1 ERROR TABLE

The following table details the individual error codes:

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 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 INFERIORE	Invalid past date entered. The date cannot be earlier than the date of the last fiscal closure report.
10	DATA ERRATA	Bad date format. For example, 33022022.
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 or barcode received does not match any PLU in the database.
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 or maximum daily total reached.
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 document 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 document 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 document 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.

CODE	ERROR	DESCRIPTION
29	MANCA MODULO	Only valid 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), codice fiscale (personal tax code) or lottery code checksum error.
34	MANCA ATTIVAZIONE	Missing activation. For example, attempt to open an invoice when invoice printing has been deactivated.
35	"SLIP: CONNESSIONE ?"	Only valid if an external Slip printer is connected to the fiscal printer via the serial port. Indicates a slip printer connection problem.
37	RIMUOVERE MODULO	Only valid 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
39	DOC già ANNULLATO	Commercial document already voided.
40	DOC già RESO	Commercial document already refunded.
41	TIPO NON VALIDO (DOC di ANNULO)	Reference document cannot be a void document. It must be a commercial sale document.
42	TIPO NON VALIDO (DOC di RESO)	Reference document cannot be a refund document. It must be a commercial sale document.
01, 04, 05, 06, 28, 31, 32, 33 e 36	NOT USED	

### 8.3.2 COMMON ERRORS

The following table details some of the most common motives for a particular error.

CONDITION	CODE
Discount type 0 on a correction (storno as previous transaction) or modifier as previous transaction	11
Surcharge type 5 on a correction (storno as previous transaction) or modifier as previous transaction	11
Payment received but already completed	11
Closure command 1-087 before payment	11
Closure command 1-087 and insufficient payment	11
Correction / void (1-027) during payment phase	11
If flag 4-014 / 03 = Si – Native command 1-050 to open the cash drawer received whilst a document is open	11
Open commercial document command 1-085 when already open	11
EFT-POS handling not enabled (4-031) and EFT-POS payment received whilst in STATO REGISTRAZIONE (1-084 type 2).	11
Display justification code outside of permitted range	11 or 16
Unit price that does not respect the Valore Imputazione (4-015 / 01) rules	13
Invalid font value (not from 1 to 4)	13
Payment type 4 (multiple tickets) and quantity (index) zero	13
Barcode CODE 128 subtype C data contains non-numeric characters or there are an odd number of digits	13
Attempt to set the same VAT percentage on more than one VAT group (other than zero percent)	13
EFT-POS payment zero	13
Operator number outside of permitted range or non-numeric	16
Department zero	16
Discount, surcharge or modifier value = zero	16
Command 1083 with types 0 and 5 when the SALES ATTRIBUTE field in the department used in the last transaction was set to 01	16
Command 1083 and types 3 and 8 when the SALES ATTRIBUTE field in the department specified in the DEP field was set to 01	16
Payment type outside of permitted range	16
Payment index outside of permitted range	16
Invalid characters in lottery code. Must be A to Z, a to z or 0 to 9	16
Sale or correction (storno) using department programmed with ATECO 000000	17
Sale or correction (storno) using department programmed with ATECO index 0 when the printer has at least one ATECO table entry different from 000000.	17
Correction (storno) in Commercial Refund document when flag 4-014/58 is set to 1	17
Correction (storno) in Commercial Void document when flag 4-014/59 is set to 1	17
Sale (1-080) in Commercial Refund document when flag 4-014/58 is set to 1	17
Sale (1-080) in Commercial Void document when flag 4-014/59 is set to 1	17
Subtotal discount when subtotal is zero or negative	17
Subtotal discount or surcharge when modifier such as a deposit (acconto) already transmitted in current document. Allowed from firmware BN 252 or greater	17
Attempt to set additional header type 1 lines with commercial document 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 whilst subtotal is negative	17

CONDITION	CODE
Subtotal obligation (flag 4-014 / 13) not respected	17
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 program a department whilst the printer is in the "Day Opened" logical state	17
Attempt to enter demo or simulation mode whilst the printer is in the "Day Opened" logical state	17
Attempt to set VAT rate whilst the printer is in the "Day Opened" logical state	17
Setting or cancelling static additional trailer lines (1-078 type 3 whilst flag 4014 / 38 RESET RIGHE PROMO incorrectly set to 1 / SI)	17
Attempt to emit invoice whilst in Demo RT mode	17
Attempt to perform operations using a VAT table that contains VAT rate duplications on firmware that does not support duplicate VAT rate programming. This can occur after a firmware update where the VAT table with duplicate rates is maintained. The solution is to reprogram the VAT table and any related departments.	17
Attempt to open the cash drawer whilst in the X, Z or SET condition	17
Attempt to program credit card names whilst commercial document open	17
Any commercial document related command such as 1-078, 1-080 or 1-085 whilst the printer is in the inactive period (periodo inattivo) condition.	17
Attempt to print barcode or QR code 1-075 with commercial document closed (STATO REGISTRAZIONE)	17
Sale, refund or correction (storno) with indicated department mapped to a VAT group from 1 to 9 and said VAT group is set to 0,00%. In this case natures should be used.	18
Attempt to open a commercial refund document when the reference document has departments later reprogrammed with a VAT group from 1 to 9 but set to 0,00%. In this case the department needs to be reprogrammed.	18
Attempt to open a commercial refund or void document where the date of the reference document (indicated in the special string) is in the future.	18
Attempt to open a commercial refund or void document where the Z number of the reference document (indicated in the special string) is greater than the current Z number. Only occurs if the fiscal serial number of the reference document matches the printer serial number.	18
Attempt to print an operator report when operator function is disabled (4-014/04 = 0)	18
Deposit deduction modifier (acconto) with indicated department programmed as a service	18
Any one of the three modifiers with open direct invoice	18
Transaction attempted in a Commercial Sale document or invoice where the indicated department is programmed with a historical VAT group. Historical VAT usage is only relevant with Commercial Refund and Void documents.	18
Zero quantity	21
Maximum daily total reached (€9.999.999.99). Perform daily closure.	21
Value of ticket payment (types 3 and 4) exceeds payment due at that moment. Change cannot be given by law.	21
Command 1-083 and types 1, 2, 6 and 7 when the SALES ATTRIBUTE fields in the departments used in the previous transactions were all set to 01	21
Sale price (unit price x quantity) greater than the programmed department limit	27

## **8.4 A.PDU.DATA Function List**

Each function is described below by command group number.

### **8.4.1 HEADER1 = 1 – COMMAND GROUP 1 FUNCTIONS**

Group 1 functions generally relate to day-to-day operations such as document emission, printer status, cash drawer opening and customer display messages. Each function in this command group is described below and is divided into similar commands.

#### **Sale related**

H1=1; H2=080 – PRINT REC ITEM  
H1=1; H2=082 – PRINT REC VOID ITEM (STORNO)  
H1=1; H2=083 – PRINT REC ADJUSTMENT  
H1=1; H2=090 – MODIFIERS  
H1=1; H2=086 – PRINT REC SUBTOTAL  
H1=1; H2=027 – VOID LAST TRANSACTION

#### **Payment related commands and cash and cheque movements**

H1=1; H2=108 – SEND ELECTRONIC PAYMENT OFFLINE TRANSACTION DETAILS  
H1=1; H2=084 – PRINT REC TOTAL  
H1=1; H2=030 – CASH CREDIT RECOVERY  
H1=1; H2=031 – CASH IN  
H1=1; H2=032 – CASH OUT  
H1=1; H2=038 – CHEQUE CREDIT RECOVERY  
H1=1; H2=039 – CHEQUE IN  
H1=1; H2=040 – CHEQUE OUT

#### **Commercial sale documents**

H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS)  
H1=1; H2=085 – BEGIN COMMERCIAL DOCUMENT

Above-mentioned sale related commands.

H1=1; H2=075 – PRINT BARCODE OR QR CODE  
H1=1; H2=060 – SEND BUSINESS TAX CODE (PARTITA IVA)  
H1=1; H2=061 – SEND PERSONAL TAX CODE (CODICE FISCALE)  
H1=1; H2=108 – SEND ELECTRONIC PAYMENT OFFLINE TRANSACTION DETAILS  
H1=1; H2=135 – SEND LOTTERY ID CODE  
H1=1; H2=137 – CUT PAPER  
H1=1; H2=084 – PRINT REC TOTAL  
H1=1; H2=028 – PRINT REC VOID  
H1=1; H2=087 – END COMMERCIAL DOCUMENT OR DIRECT INVOICE

#### **Commercial refund/return documents**

Above-mentioned Commercial sale document commands except for the refund transaction which depends on flag SET 14/58:

- 1 / SI – H1=1; H2=081 – PRINT REC REFUND (RESO)
- 0 / NO – H1=1; H2=080 – PRINT REC ITEM

**Commercial void documents**

Above-mentioned Commercial sale document commands except for the refund transaction which depends on flag SET 14/59:

- 1 / SI – H1=1; H2=081 – PRINT REC REFUND (RESO)
- 0 / NO – H1=1; H2=080 – PRINT REC ITEM

**Management documents**

H1=1; H2=063 – BEGIN MANAGEMENT DOCUMENT  
H1=1; H2=064 – PRINT REC NORMAL  
H1=1; H2=075 – PRINT BARCODE OR QR CODE  
H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS)  
H1=1; H2=065 – END MANAGEMENT DOCUMENT

**"Direct" invoices**

H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS)  
H1=1; H2=089 – OPEN DIRECT INVOICE

Above sale related commands except modifiers (note that with PRINT REC SUBTOTAL, the subtotal is not printed)

H1=1; H2=075 – PRINT BARCODE OR QR CODE  
H1=1; H2=084 – PRINT REC TOTAL  
H1=1; H2=028 – PRINT REC VOID  
H1=1; H2=087 – END COMMERCIAL DOCUMENT OR DIRECT INVOICE

**Invoices based on last commercial document**

H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS)  
H1=1; H2=052 – PRINT INVOICE BASED ON LAST COMMERCIAL DOCUMENT

**Lottery**

H1=1; H2=135 – SEND LOTTERY ID CODE  
H1=1; H2=134 – READ LOTTERY QUEUE AND TRANSMISSION STATUS

**Display**

H1=1; H2=062 – DISPLAY TEXT

**Stored lines retrieval**

H1=1; H2=278 – READ PROMO / EFT-POS LINES

**Lock/unlock keyboard**

H1=1; H2=055 – DISABLE KEYBOARD  
H1=1; H2=056 – ENABLE THE KEYBOARD

**Paper cutting and feeding**

H1=1; H2=137 – CUT PAPER  
H1=1; H2=148 – FEED PAPER

**Status**

H1=1; H2=074 – GET PRINTER STATUS  
H1=1; H2=077 – MPD (EJ / DGFE) STATUS  
H1=1; H2=134 – READ LOTTERY QUEUE AND TRANSMISSION STATUS  
H1=1; H2=136 – FILE SYSTEM DETAILS  
H1=1; H2=138 – RT STATUS

**PHP**

H1=1; H2=140 – PHP ACTIVATION

**E-mail**

H1=1; H2=146 – SEND COMMERCIAL DOCUMENT / DIRECT INVOICE / FISCAL CLOSURE BY E-MAIL

**EFT-POS**

H1=1; H2=084 – PRINT REC TOTAL  
H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS)  
H1=1; H2=108 – SEND ELECTRONIC PAYMENT OFFLINE TRANSACTION DETAILS  
H1=1; H2=278 – READ PROMO / EFT-POS LINES  
H1=1; H2=139 – EFT-POS MANAGEMENT

**Reprinting – Must be logged in**

H1=1; H2=047 – REPRINT LAST COMMERCIAL DOCUMENT

Note the some H1=3 commands also perform reprinting

**E-Receipt**

H1=1; H2=131 – READ E-RECEIPT MODE AND TRANSMISSION STATUS  
H1=1; H2=132 – SET CUSTOMER TYPE AND ID (E-RECEIPT)  
H1=1; H2=133 – SET DOCUMENT EMISSION MODE (E-RECEIPT)  
H1=1; H2=332 – READ CUSTOMER TYPE AND ID (E-RECEIPT)  
H1=1; H2=333 – READ DOCUMENT EMISSION MODE (E-RECEIPT)

**Others**

H1=1; H2=050 – OPEN DRAWER  
H1=1; H2=070 – GET COMMERCIAL DOCUMENT NUMBER  
H1=1; H2=088 – RESET PRINTER  
H1=1; H2=145 – SOUND BUZZER

## 8.4.2 HEADER1 = 2 – COMMAND GROUP 2 FUNCTIONS

Group 2 functions generally relate to totaliser report printing without any zeroing plus counter analysis. Each function in this command group is described below and is divided into similar commands.

### Daily totals printout

H1=2; H2=001 – PRINT X REPORT  
H1=2; H2=002 – PRINT DAILY PRODUCT GROUP TOTALS  
H1=2; H2=003 – PRINT DAILY DEPARTMENT TOTALS  
H1=2; H2=004 – PRINT DAILY INTERNAL PLU TOTALS  
H1=2; H2=005 – PRINT DAILY TIME PERIOD TOTALS  
H1=2; H2=006 – PRINT DAILY OPERATOR TOTALS

### Periodic totals printout

H1=2; H2=007 – PRINT PERIODIC FINANCIAL DATA TOTALS  
H1=2; H2=008 – PRINT PERIODIC PRODUCT GROUP TOTALS  
H1=2; H2=009 – PRINT PERIODIC DEPARTMENT TOTALS  
H1=2; H2=010 – PRINT PERIODIC INTERNAL PLU TOTALS  
H1=2; H2=011 – PRINT PERIODIC TIME PERIOD TOTALS  
H1=2; H2=012 – PRINT PERIODIC OPERATOR TOTALS

### Daily totals retrieval

H1=2; H2=014 – READ DAILY DEPARTMENT TOTALS  
H1=2; H2=015 – READ DAILY INTERNAL PLU TOTALS  
H1=2; H2=050 – GET DAILY DATA  
H1=2; H2=050/051 – REPLY FROM PRINTER

### Periodic totals retrieval

H1=2; H2=051 – GET PERIODICAL DATA  
H1=2; H2=050/051 – REPLY FROM PRINTER

### Grand totals retrieval

H1=2; H2=052 – READ FISCAL GRAND TOTAL

### **8.4.3 HEADER1 = 3 – COMMAND GROUP 3 FUNCTIONS**

Group 3 functions generally relate to fiscal functions such as daily reports, retail header line programming and totaliser report printing plus zeroing. Each function in this command group is described below and is divided into similar commands.

#### **Closure reports**

H1=3; H2=001 – PRINT Z REPORT  
H1=3; H2=002 – PRINT FINANCIAL DATA AND Z REPORT

#### **Daily totals printout and reset**

H1=3; H2=003 – PRINT/ZERO DAILY PRODUCT GROUP TOTALS  
H1=3; H2=004 – PRINT/ZERO DAILY INTERNAL PLU TOTALS  
H1=3; H2=005 – PRINT/ZERO DAILY TIME PERIOD TOTALS  
H1=3; H2=006 – PRINT/ZERO DAILY OPERATOR TOTALS

#### **Periodic totals printout and reset**

H1=3; H2=007 – PRINT/ZERO PERIODIC FINANCIAL DATA TOTALS  
H1=3; H2=008 – PRINT/ZERO PERIODIC PRODUCT GROUP TOTALS  
H1=3; H2=009 – PRINT/ZERO PERIODIC INTERNAL PLU TOTALS  
H1=3; H2=010 – PRINT/ZERO PERIODIC TIME PERIOD TOTALS  
H1=3; H2=011 – PRINT/ZERO PERIODIC OPERATOR TOTALS

#### **Fiscal memory reports – Must be logged in**

H1=3; H2=012 – PRINT OR SAVE GIVEN FISCAL HISTORY BASED ON A SPECIFIED SEQUENCE NUMBER RANGE  
H1=3; H2=013 – PRINT OR SAVE GIVEN FISCAL HISTORY BASED ON A SPECIFIED DATE RANGE  
H1=3; H2=014 – PRINT OR SAVE FISCAL SUMS BASED ON A SPECIFIED DATE RANGE  
H1=3; H2=015 – PRINT OR SAVE ENTIRE PRINTER HISTORY

#### **Retail header text lines**

H1=3; H2=016 – SET RETAIL HEADER LINE TEXT  
H1=3; H2=216 – GET RETAIL HEADER LINE TEXT

#### **PLUs**

H1=3; H2=019 – ZERO INTERNAL PLU DAILY TOTALS

#### **EJ format (DGFE / MPD)**

H1=3; H2=097 – EJ FORMAT

#### **Reprinting from EJ (DGFE / MPD) – Must be logged in**

H1=3; H2=098 – PRINT FROM MPD (EJ) BY NUMBER (COMMERCIAL DOCUMENTS)  
H1=3; H2=099 – PRINT FROM MPD (EJ) BY DATE (COMMERCIAL DOCUMENTS)  
H1=3; H2=103 – PRINT OR READ FROM MPD (EJ) BY DATE AND TYPE  
H1=3; H2=104 – PRINT OR READ FROM MPD (EJ) BY NUMBER AND TYPE

**EJ data retrieval – Must be logged in**

H1=3; H2=100 – READ FROM MPD (EJ) BY NUMBER (COMMERCIAL DOCUMENTS)

H1=3; H2=101 – READ FROM MPD (EJ) BY DATE (COMMERCIAL DOCUMENTS)

H1=3; H2=102 – MPD (EJ) READING TERMINATION / NO DATA INDICATION

H1=3; H2=103 – PRINT OR READ FROM MPD (EJ) BY DATE AND TYPE

H1=3; H2=104 – PRINT OR READ FROM MPD (EJ) BY NUMBER AND TYPE

**Fiscal serial number**

H1=3; H2=217 – GET FISCAL SERIAL NUMBER

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## 8.4.4 HEADER1 = 4 – COMMAND GROUP 4 FUNCTIONS

Group 4 functions generally relate to programming and parameter retrieval. Each function in this command group is described below and is divided into similar commands.

### Main

H1=4; H2=001 – SET DATE AND TIME  
H1=4; H2=201 – GET PRINTER DATE AND TIME  
H1=4; H2=002 – SET DEPARTMENT  
H1=4; H2=202 – GET DEPARTMENT PARAMETERS  
H1=4; H2=005 – SET VAT TABLE ENTRY  
H1=4; H2=205 – GET VAT TABLE ENTRY  
H1=4; H2=014 – SET FLAGS  
H1=4; H2=214 – GET FLAGS  
H1=4; H2=015 – SET CONFIGURATION  
H1=4; H2=215 – GET CONFIGURATION  
H1=4; H2=019 – SET LAN PARAMETERS  
H1=4; H2=219 – GET LAN PARAMETERS  
H1=4; H2=028 – SET BI-ANNUAL CHECK DUE WARNING DATE  
H1=4; H2=228 – GET BI-ANNUAL CHECK DUE WARNING DATE  
H1=4; H2=029 – SET KEYBOARD FUNCTION ASSOCIATIONS  
H1=4; H2=229 – GET KEYBOARD FUNCTION ASSOCIATIONS  
H1=4; H2=037 – SET ATECO TABLE ENTRY  
H1=4; H2=237 – GET ATECO TABLE ENTRY  
H1=4; H2=038 – SET AND MANAGE ACCESS CONTROL  
H1=4; H2=238 – GET ACCESS CONTROL CONFIGURATION  
H1=4; H2=055 – SET DEFERRED VAT TABLE WITH STARTING DATE  
H1=4; H2=255 – READ DEFERRED VAT TABLE WITH STARTING DATE

### Retail header line font

H1=4; H2=016 – SET HEADER LINE FONT  
H1=4; H2=216 – GET HEADER LINE FONT

### Payments

H1=4; H2=007 – SET CREDIT CARD NAMES  
H1=4; H2=207 – GET CREDIT CARD NAMES  
H1=4; H2=009 – SET CASH KEYS AND CASH LIMIT  
H1=4; H2=209 – GET CASH KEYS AND CASH LIMIT  
H1=4; H2=010 – SET TICKET DESCRIPTION AND VALUE  
H1=4; H2=210 – GET TICKET DESCRIPTION AND VALUE  
H1=4; H2=053 – SET CASH PAYMENT DESCRIPTIONS  
H1=4; H2=253 – GET CASH PAYMENT DESCRIPTIONS

### Invoices

H1=4; H2=025 – SET INVOICE PARAMETERS  
H1=4; H2=225 – GET INVOICE PARAMETERS  
H1=4; H2=027 – SET INVOICE COURTESY MESSAGE  
H1=4; H2=227 – GET INVOICE COURTESY MESSAGE

### "Intelligent" and web functions

H1=4; H2=032 – SET E-MAIL PARAMETERS  
H1=4; H2=232 – GET E-MAIL PARAMETERS  
H1=4; H2=034 – SET INTELLIGENT FEATURES PARAMETERS  
H1=4; H2=234 – GET INTELLIGENT FEATURES PARAMETERS

**PLU entries**

H1=4; H2=003 – SET INTERNAL PLU  
H1=4; H2=203 – GET INTERNAL PLU BY NUMBER  
H1=4; H2=012 – SET DIRECT INTERNAL PLU KEY ASSOCIATION  
H1=4; H2=212 – GET DIRECT INTERNAL PLU KEY ASSOCIATION  
H1=4; H2=273 – GET INTERNAL PLU BY BARCODE

**Debugging**

H1=4; H2=020 – TEST NETWORK CONNECTIVITY  
H1=4; H2=022 – TEST PRINTER  
H1=4; H2=295 – GET PRINTER MODULE USAGE COUNTERS AND STATE

**Others**

H1=4; H2=004 – SET DISCOUNT AND SURCHARGE PERCENTAGES  
H1=4; H2=204 – GET DISCOUNT AND SURCHARGE PERCENTAGES  
H1=4; H2=006 – SET CURRENCY DESCRIPTION AND EXCHANGE RATE  
H1=4; H2=206 – GET CURRENCY DESCRIPTION AND EXCHANGE RATE  
H1=4; H2=008 – SET PRODUCT GROUP NAMES  
H1=4; H2=208 – GET PRODUCT GROUP NAMES  
H1=4; H2=011 – SET MxN SALES PROMOTION KEYS  
H1=4; H2=211 – GET MxN KEY SALES PROMOTION RATE  
H1=4; H2=013 – SET OPERATOR (CASHIER) PARAMETERS  
H1=4; H2=213 – GET OPERATOR (CASHIER) PARAMETERS

**EFT-POS**

H1=4; H2=031 – SET EFT-POS PARAMETERS  
H1=4; H2=231 – GET EFT-POS PARAMETERS

## 8.4.5 HEADER1 = 9 – COMMAND GROUP 9 FUNCTIONS

Group 9 functions generally relate to special RT programming and parameter retrieval. Each function in this command group is described below and is divided into similar commands.

### Export

H1=9; H2=003 – EXPORT MPR (FISCAL MEMORY) CONTENT TO FILE  
H1=9; H2=020 – EXPORT CONTENT TO FILE

### VAT

H1=9; H2=004 – SET VAT EXEMPT TABLE ADDITIONS (NATURES)  
H1=9; H2=204 – READ VAT EXEMPT TABLE (NATURES)  
H1=9; H2=012 – SET VAT EXTENDED (HISTORICAL) TABLE DEPARTMENT OFFSETS  
H1=9; H2=212 – READ VAT EXTENDED (HISTORICAL) TABLE DEPARTMENT OFFSETS

### Certificates

H1=9; H2=007 – SET CA CERT (CERTIFICATE) URL  
H1=9; H2=008 – DOWNLOAD CA CERT (CERTIFICATE)  
H1=9; H2=207 – READ URL CA CERT (CERTIFICATE)

### Lottery

H1=9; H2=019 – SET LOTTERY MESSAGE  
H1=9; H2=218 – SEARCH AND READ LOTTERY RECEIPT STATUS  
H1=9; H2=219 – READ LOTTERY MESSAGE

### Z Reports

H1=9; H2=013 – SET AUTOMATIC Z REPORT EMISSION TIME  
H1=9; H2=213 – READ AUTOMATIC Z REPORT EMISSION TIME  
H1=9; H2=217 – READ ZREP ID ANSWER

### E-Receipt

H1=9; H2=226 – READ SPECIFIC E-RECEIPT STATUS

### Other

H1=9; H2=016 – ARCHIVE REJECTED FILES  
H1=9; H2=022 – PROGRAM URLS  
H1=9; H2=025 – MOVE FILE TO OR FROM DA-INVIARE AND RIFIUTATI FOLDERS  
H1=9; H2=205 – REQUEST VOID REFUND STATUS DOC  
H1=9; H2=207 – READ URL CA CERT (CERTIFICATE)  
H1=9; H2=222 – READ URLS

## **8.5 Fiscal Printer UPOS States and Transitions**

Fiscal Receipt term corresponds with Commercial Document.  
Non-Fiscal term corresponds with Management Document.

### **Fiscal Receipt States and State Transitions**

Fiscal printer states as far as possible adhere to the UPOS international standard as mentioned in the **Fiscal Printer Modes and States** chapter. This section describes the significance of each state.

State transitions happen or can happen according to the current active state and which commands are received. For each state, the different states that the printer can commute into together with the commands that can enable such a transition are described below. Commands that do not provoke a transition leaving the printer in the given current active condition are also listed.

#### **8.5.1 MONITOR STATE**

This is the quiescent state. When the printer receives a fiscal command whilst in the Monitor state, it can either remain in this state or can commute into one of the following five states:

- **Fiscal Receipt**
- **Fiscal Document (Obsolete free invoices which will not be covered here)**
- **Monitor and TrainingModeActive**
- **Non-Fiscal**
- **Report**

Some operations depend on the "*Day Opened*" property which will be explicitly described. The different transitions are as follows:

#### **From Monitor to Fiscal Receipt**

The transition does not depend on the "*Day Opened*" property that can be either True or False. The following messages provoke the transition:

H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS) - Only type 4  
H1=1; H2=080 – PRINT REC ITEM  
H1=1; H2=081 – PRINT REC REFUND (RESO) (This is automatically converted to a void item (storno))  
H1=1; H2=082 – PRINT REC VOID ITEM (STORNO)  
H1=1; H2=083 – PRINT REC ADJUSTMENT – Only types 3 and 8 (department discount or surcharge)  
H1=1; H2=085 – BEGIN COMMERCIAL DOCUMENT

If the "*Day Opened*" property is False, the transition to Fiscal Receipt also causes the property to change to True and remain so even after returning to the Monitor state.

**From Monitor to Monitor and Training Mode Active**

The transition is only possible if the "*Day Opened*" property is False. Training mode is activated and deactivated with the following command:

H1=4; H2=014 – SET FLAGS – The N field depends on the model and mode:

- In MF mode (obsolete) – 1 (APPRENDIMENTO) and VAL field = 1 (active)
- In any mode – 63 (Demo RT mode) and VAL field = 1 (active)

The transition does not affect the "*Day Opened*" property in any way.

**From Monitor to Non-fiscal**

The transition does not depend on the "*Day Opened*" property that can be either True or False. Only the following command can activate the transition:

H1=1; H2=063 – BEGIN MANAGEMENT DOCUMENT

The transition does not affect the "*Day Opened*" property in any way.

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**From Monitor to Report**

The transition does not depend on the "*Day Opened*" property that can be either True or False. It regards any command to do with financial report printing / reading and daily closures etc. The commands listed below are grouped together into those that set the "*Day Opened*" property to False and those that leave it unchanged.

- Commands that set the "*Day Opened*" property to False to leave it False:

H1=3; H2=001 – PRINT Z REPORT  
H1=3; H2=002 – PRINT FINANCIAL DATA AND Z REPORT

- Commands that leave the "*Day Opened*" property as is:

H1=2; H2=001 – PRINT X REPORT  
H1=2; H2=002 – PRINT DAILY PRODUCT GROUP TOTALS  
H1=2; H2=003 – PRINT DAILY DEPARTMENT TOTALS  
H1=2; H2=004 – PRINT DAILY INTERNAL PLU TOTALS  
H1=2; H2=005 – PRINT DAILY TIME PERIOD TOTALS  
H1=2; H2=006 – PRINT DAILY OPERATOR TOTALS – Operator mode must be enabled  
H1=2; H2=007 – PRINT PERIODIC FINANCIAL DATA TOTALS  
H1=2; H2=008 – PRINT PERIODIC PRODUCT GROUP TOTALS  
H1=2; H2=009 – PRINT PERIODIC DEPARTMENT TOTALS  
H1=2; H2=010 – PRINT PERIODIC INTERNAL PLU TOTALS  
H1=2; H2=011 – PRINT PERIODIC TIME PERIOD TOTALS  
H1=2; H2=012 – PRINT PERIODIC OPERATOR TOTALS – Operator mode must be enabled  
H1=2; H2=014 – READ DAILY DEPARTMENT TOTALS  
H1=2; H2=015 – READ DAILY INTERNAL PLU TOTALS  
H1=2; H2=050 – GET DAILY DATA  
H1=2; H2=051 – GET PERIODICAL DATA  
H1=2; H2=050/051 – REPLY FROM PRINTER  
H1=2; H2=052 – READ FISCAL GRAND TOTAL  
H1=3; H2=003 – PRINT/ZERO DAILY PRODUCT GROUP TOTALS  
H1=3; H2=004 – PRINT/ZERO DAILY INTERNAL PLU TOTALS  
H1=3; H2=005 – PRINT/ZERO DAILY TIME PERIOD TOTALS  
H1=3; H2=006 – PRINT/ZERO DAILY OPERATOR TOTALS – Operator mode must be enabled  
H1=3; H2=007 – PRINT/ZERO PERIODIC FINANCIAL DATA TOTALS  
H1=3; H2=008 – PRINT/ZERO PERIODIC PRODUCT GROUP TOTALS  
H1=3; H2=009 – PRINT/ZERO PERIODIC INTERNAL PLU TOTALS  
H1=3; H2=010 – PRINT/ZERO PERIODIC TIME PERIOD TOTALS  
H1=3; H2=011 – PRINT/ZERO PERIODIC OPERATOR TOTALS – Operator mode must be enabled  
H1=3; H2=012 – PRINT OR SAVE GIVEN FISCAL HISTORY BASED ON A SPECIFIED SEQUENCE NUMBER RANGE  
H1=3; H2=013 – PRINT OR SAVE GIVEN FISCAL HISTORY BASED ON A SPECIFIED DATE RANGE  
H1=3; H2=014 – PRINT OR SAVE FISCAL SUMS BASED ON A SPECIFIED DATE RANGE  
H1=3; H2=015 – PRINT OR SAVE ENTIRE PRINTER HISTORY  
H1=3; H2=098 – PRINT FROM MPD (EJ) BY NUMBER (COMMERCIAL DOCUMENTS)  
H1=3; H2=099 – PRINT FROM MPD (EJ) BY DATE (COMMERCIAL DOCUMENTS)  
H1=3; H2=100 – READ FROM MPD (EJ) BY NUMBER (COMMERCIAL DOCUMENTS)  
H1=3; H2=101 – READ FROM MPD (EJ) BY DATE (COMMERCIAL DOCUMENTS)  
H1=3; H2=102 – MPD (EJ) READING TERMINATION / NO DATA INDICATION  
H1=3; H2=103 – PRINT OR READ FROM MPD (EJ) BY DATE AND TYPE  
H1=3; H2=104 – PRINT OR READ FROM MPD (EJ) BY NUMBER AND TYPE

The Report state is merely transitory with the printer automatically returning to the Monitor State after print-out completion or after having replied to the read request.

**From Monitor to Monitor**

All remaining fiscal commands if received whilst the printer is in the Monitor state do not affect any transition. It regards programming commands, parameter configuration and retrieval, intelligent features commands etc. The commands do not affect the "*Day Opened*" property in any way. However, the following commands are only accepted if the "*Day Opened*" property is False:

H1=3; H2=016 – SET RETAIL HEADER LINE TEXT  
H1=4; H2=001 – SET DATE AND TIME  
H1=4; H2=005 – SET VAT TABLE ENTRY

**8.5.2 FISCAL RECEIPT STATE**

Fiscal Receipt term corresponds with Commercial Document.

When the printer receives a fiscal command whilst in the Fiscal Receipt state, it can either remain in this state or can commute into one of the following three states:

- **Fiscal Receipt Total**
- **Fiscal Receipt Ending**
- **Monitor**

The different transitions are as follows:

**From Fiscal Receipt to Fiscal Receipt Total**

The payment command in a commercial document activates the transition whenever the payment amount is insufficient to cover the total due and it is the first in a series of partial payments. Only the following command is relevant:

H1=1; H2=084 – PRINT REC TOTAL

**From Fiscal Receipt to Fiscal Receipt Ending**

The Fiscal Receipt Ending state can only be entered into if the JavaPOS-UPOS mode has been activated (flag Set 14/29). The single payment command in a commercial document activates the transition whenever the payment amount is sufficient to cover the total due. In other words, equal or greater than the subtotal in that moment. The special zero value can also be used since it is interpreted by the fiscal printer as the amount due. The Print Rec Void command used to cancel a commercial document also places the printer in the Fiscal Receipt Ending state. Only the following commands are relevant:

H1=1; H2=084 – PRINT REC TOTAL  
H1=1; H2=028 – PRINT REC VOID

**From Fiscal Receipt to Monitor**

The Reset command always returns the printer to the Monitor state cancelling the open commercial document in progress. In the other cases, the JavaPOS-UPOS mode must have been deactivated (flag Set 14/29). The Print Rec Void command returns the printer to the Monitor state. The single payment command in a commercial document activates the transition whenever the payment amount is sufficient to cover the total due. In other words, equal or greater than the subtotal in that moment. The special zero value can also be used since it is interpreted by the fiscal printer as the amount due. Below are listed the commands and usage:

Irrespective of JavaPOS-UPOS mode	H1=1; H2=088 – RESET PRINTER
JavaPOS-UPOS mode inactive	H1=1; H2=028 – PRINT REC VOID H1=1; H2=084 – PRINT REC TOTAL

**From Fiscal Receipt to Fiscal Receipt**

The following commands do not alter the printer Fiscal Receipt state:

H1=1; H2=027 – VOID LAST TRANSACTION  
H1=1; H2=050 – OPEN DRAWER  
H1=1; H2=055 – DISABLE KEYBOARD  
H1=1; H2=056 – ENABLE THE KEYBOARD  
H1=1; H2=060 – SEND BUSINESS TAX CODE (PARTITA IVA)  
H1=1; H2=061 – SEND PERSONAL TAX CODE (CODICE FISCALE)  
H1=1; H2=062 – DISPLAY TEXT  
H1=1; H2=070 – GET COMMERCIAL DOCUMENT NUMBER  
H1=1; H2=074 – GET PRINTER STATUS  
H1=1; H2=075 – PRINT BARCODE OR QR CODE  
H1=1; H2=077 – MPD (EJ / DGFE) STATUS  
H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS)  
H1=1; H2=080 – PRINT REC ITEM  
H1=1; H2=081 – PRINT REC REFUND (RESO)  
H1=1; H2=082 – PRINT REC VOID ITEM (STORNO)  
H1=1; H2=083 – PRINT REC ADJUSTMENT  
H1=1; H2=086 – PRINT REC SUBTOTAL  
H1=1; H2=108 – SEND ELECTRONIC PAYMENT OFFLINE TRANSACTION DETAILS  
H1=1; H2=138 – RT STATUS  
H1=1; H2=145 – SOUND BUZZER  
H1=1; H2=148 – FEED PAPER  
H1=1; H2=278 – READ PROMO / EFT-POS LINES  
H1=2; H2=014 – READ DAILY DEPARTMENT TOTALS  
H1=2; H2=015 – READ DAILY INTERNAL PLU TOTALS  
H1=2; H2=050 – GET DAILY DATA  
H1=2; H2=051 – GET PERIODICAL DATA  
H1=2; H2=050/051 – REPLY FROM PRINTER  
H1=2; H2=052 – READ FISCAL GRAND TOTAL  
H1=3; H2=019 – ZERO INTERNAL PLU DAILY TOTALS  
H1=3; H2=100 – READ FROM MPD (EJ) BY NUMBER (COMMERCIAL DOCUMENTS)  
H1=3; H2=101 – READ FROM MPD (EJ) BY DATE (COMMERCIAL DOCUMENTS)  
H1=3; H2=103 – PRINT OR READ FROM MPD (EJ) BY DATE AND TYPE  
H1=3; H2=104 – PRINT OR READ FROM MPD (EJ) BY NUMBER AND TYPE  
H1=4; H2=014 – SET FLAGS  
H1=4; H2=015 – SET CONFIGURATION

All parameter reading commands (H1=4; H2=2xx) or similar.

### 8.5.3 FISCAL RECEIPT TOTAL STATE

Fiscal Receipt term corresponds with Commercial Document.

When the printer is in this state, it can remain so or can commute into one of two possible states:

- **Fiscal Receipt Ending**
- **Monitor**

#### **From Fiscal Receipt Total to Fiscal Receipt Ending**

The Fiscal Receipt Ending state can only be entered into if the JavaPOS-UPOS mode has been activated (flag Set 14/29). The final payment command in a series of payments activates the transition whenever the payment amount is sufficient to cover the outstanding payment due. In other words, equal or greater than the subtotal in that moment. The special zero value can also be used since it is interpreted by the fiscal printer as the amount due. The Print Rec Void command used to cancel a commercial document also places the printer in the Fiscal Receipt Ending state. Only the following commands are relevant:

H1=1; H2=084 – PRINT REC TOTAL  
H1=1; H2=028 – PRINT REC VOID

#### **From Fiscal Receipt Total to Monitor**

The Reset command always returns the printer to the Monitor state cancelling the open commercial document in progress. In the other cases, the JavaPOS-UPOS mode must have been deactivated (flag Set 14/29). The Print Rec Void command returns the printer to the Monitor state. The final payment command in a series of payments activates the transition whenever the payment amount is sufficient to cover the outstanding payment due. In other words, equal or greater than the subtotal in that moment. The special zero value can also be used since it is interpreted by the fiscal printer as the amount due. Below are listed the commands and usage:

Irrespective of JavaPOS-UPOS mode	H1=1; H2=088 – RESET PRINTER
JavaPOS-UPOS mode inactive	H1=1; H2=028 – PRINT REC VOID H1=1; H2=084 – PRINT REC TOTAL

**From Fiscal Receipt Total to Fiscal Receipt Total**

The following commands do not alter the printer Fiscal Receipt Total state:

H1=1; H2=050 – OPEN DRAWER  
 H1=1; H2=055 – DISABLE KEYBOARD  
 H1=1; H2=056 – ENABLE THE KEYBOARD  
 H1=1; H2=062 – DISPLAY TEXT  
 H1=1; H2=070 – GET COMMERCIAL DOCUMENT NUMBER  
 H1=1; H2=074 – GET PRINTER STATUS  
 H1=1; H2=075 – PRINT BARCODE OR QR CODE  
 H1=1; H2=077 – MPD (EJ / DGFE) STATUS  
 H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS) – Only types 2, 3, 4 7 and 8.  
 H1=1; H2=084 – PRINT REC TOTAL with amount less than amount due  
 H1=1; H2=086 – PRINT REC SUBTOTAL only displaying and reading. Printing is not possible and generates Error 11  
 H1=1; H2=138 – RT STATUS  
 H1=1; H2=145 – SOUND BUZZER  
 H1=1; H2=148 – FEED PAPER  
 H1=1; H2=278 – READ PROMO / EFT-POS LINES  
 H1=2; H2=014 – READ DAILY DEPARTMENT TOTALS  
 H1=2; H2=015 – READ DAILY INTERNAL PLU TOTALS  
 H1=2; H2=050 – GET DAILY DATA  
 H1=2; H2=051 – GET PERIODICAL DATA  
 H1=2; H2=052 – READ FISCAL GRAND TOTAL  
 H1=3; H2=019 – ZERO INTERNAL PLU DAILY TOTALS  
 H1=3; H2=100 – READ FROM MPD (EJ) BY NUMBER (COMMERCIAL DOCUMENTS)  
 H1=3; H2=101 – READ FROM MPD (EJ) BY DATE (COMMERCIAL DOCUMENTS)  
 H1=3; H2=103 – PRINT OR READ FROM MPD (EJ) BY DATE AND TYPE (reading mode only)  
 H1=3; H2=104 – PRINT OR READ FROM MPD (EJ) BY NUMBER AND TYPE (reading mode only)  
 H1=4; H2=014 – SET FLAGS (except flags 1, 62 and 63) – Dependant on model and firmware  
 H1=4; H2=015 – SET CONFIGURATION – Dependant on model and firmware

All parameter reading commands (H1=4; H2=2xx) or similar.

**8.5.4 FISCAL RECEIPT ENDING STATE**

Fiscal Receipt term corresponds with Commercial Document.

The Fiscal Receipt Ending state can only exist if the JavaPOS-UPOS mode has been activated (flag Set 14/29). When the printer receives a fiscal command whilst in the Fiscal Receipt Ending state, it can either remain in this state or can commute into the Monitor state.

**From Fiscal Receipt Ending to Monitor**

The Reset command always returns the printer to the Monitor state cancelling the open commercial document in progress. The only other way is the standard closure command:

H1=1; H2=088 – RESET PRINTER  
 H1=1; H2=087 – END COMMERCIAL DOCUMENT OR DIRECT INVOICE

**From Fiscal Receipt Ending to Fiscal Receipt Ending**

The following commands do not alter the printer Fiscal Receipt Ending state:

All commands in the **From Fiscal Receipt Total to Fiscal Receipt Total** list apart from the 1-084 payment command (payment phase has been completed by this point).

## 8.5.5 MONITOR AND TRAININGMODEACTIVE STATE

When the printer receives a fiscal command whilst in the "Monitor and TrainingModeActive" state, it can either remain in this state or can commute into one of the following four states:

- **Fiscal Receipt and TrainingModeActive**
- **Non-Fiscal and TrainingModeActive**
- **Monitor**
- **Report and TrainingModeActive**

The "*Day Opened*" property has no relevance. The different transitions are as follows:

### **From Monitor and TrainingModeActive to Fiscal Receipt and TrainingModeActive**

The transition works in exactly the same way as described above in the "Monitor to Fiscal Receipt" section.

### **From Monitor and TrainingModeActive to Non-Fiscal and TrainingModeActive**

The transition works in exactly the same way as described above in the "Monitor to Non-Fiscal" section.

### **From Monitor and TrainingModeActive to Monitor**

Training mode is activated and deactivated with the following command:

H1=4; H2=014 – SET FLAGS – The N field depends on the model and mode:

- In MF mode (obsolete) – 1 (APPENDIMENTO) and VAL field = 0 (inactive)
- In any mode – 63 (Modalità DEMO) and VAL field = 0 (inactive)

The transition does not affect the "*Day Opened*" property in any way.

### **From Monitor and TrainingModeActive to Report and TrainingModeActive**

The transition works in the same way as described above in the "Monitor to Report" section. However, in APPENDIMENTO mode, the following reports are inhibited:

H1=3; H2=001 – PRINT Z REPORT  
H1=3; H2=002 – PRINT FINANCIAL DATA AND Z REPORT  
H1=3; H2=007 – PRINT/ZERO PERIODIC FINANCIAL DATA TOTALS  
H1=3; H2=012 – PRINT OR SAVE GIVEN FISCAL HISTORY BASED ON A SPECIFIED SEQUENCE NUMBER RANGE  
H1=3; H2=013 – PRINT OR SAVE GIVEN FISCAL HISTORY BASED ON A SPECIFIED DATE RANGE  
H1=3; H2=014 – PRINT OR SAVE FISCAL SUMS BASED ON A SPECIFIED DATE RANGE  
H1=3; H2=015 – PRINT OR SAVE ENTIRE PRINTER HISTORY

### **From Monitor and TrainingModeActive to Monitor and TrainingModeActive**

Functions in exactly the same way as described above in the "Monitor to Monitor" section. However, the following commands are never accepted in APPENDIMENTO mode:

H1=3; H2=016 – SET RETAIL HEADER LINE TEXT  
H1=4; H2=001 – SET DATE AND TIME

## 8.5.6 FISCAL RECEIPT AND TRAININGMODEACTIVE STATE

Fiscal Receipt term corresponds with Commercial Document.

When the printer receives a fiscal command whilst in the Fiscal Receipt and TrainingModeActive state, it can either remain in this state or can commute into one of the following three states:

- **Fiscal Receipt Total and TrainingModeActive**
- **Fiscal Receipt Ending and TrainingModeActive**
- **Monitor and TrainingModeActive**

The "*Day Opened*" property has no relevance. The different transitions are as follows:

### **From Fiscal Receipt and TrainingModeActive to Fiscal Receipt Total and TrainingModeActive**

The transition works in exactly the same way as described above in the "Fiscal Receipt to Fiscal Receipt Total" section.

### **From Fiscal Receipt and TrainingModeActive to Fiscal Receipt Ending and TrainingModeActive**

The transition works in exactly the same way as described above in the "Fiscal Receipt to Fiscal Receipt Ending" section.

### **From Fiscal Receipt and TrainingModeActive to Monitor and TrainingModeActive**

The transition works in exactly the same way as described above in the "Fiscal Receipt to Monitor" section.

### **From Fiscal Receipt and TrainingModeActive to Fiscal Receipt and TrainingModeActive**

The printer functions in exactly the same way as described above in the "Fiscal Receipt to Fiscal Receipt" section.

## 8.5.7 FISCAL RECEIPT TOTAL AND TRAININGMODEACTIVE STATE

Fiscal Receipt term corresponds with Commercial Document.

When the printer is in this state, it can remain so or can commute into one of two possible states:

- **Fiscal Receipt Ending and TrainingModeActive**
- **Monitor and TrainingModeActive**

The "*Day Opened*" property has no relevance. The different transitions are as follows:

### **From Fiscal Receipt Total and TrainingModeActive to Fiscal Receipt Ending and TrainingModeActive**

The transition works in exactly the same way as described above in the "Fiscal Receipt Total to Fiscal Receipt Ending" section.

**From Fiscal Receipt Total and TrainingModeActive to Monitor and TrainingModeActive**

The transition works in exactly the same way as described above in the "Fiscal Receipt Total to Monitor" section.

**From Fiscal Receipt Total and TrainingModeActive to Fiscal Receipt Total and TrainingModeActive**

The printer functions in exactly the same way as described above in the "Fiscal Receipt Total to Fiscal Receipt Total" section.

### **8.5.8 FISCAL RECEIPT ENDING AND TRAININGMODEACTIVE STATE**

Fiscal Receipt term corresponds with Commercial Document.

When the printer receives a fiscal command whilst in the Fiscal Receipt Ending and TrainingModeActive state, it can either remain in this state or can commute into the Monitor and TrainingModeActive state. The "*Day Opened*" property has no relevance.

**From Fiscal Receipt Ending and TrainingModeActive to Monitor and TrainingModeActive**

The transition works in exactly the same way as described above in the "Fiscal Receipt Ending to Monitor" section.

**From Fiscal Receipt Ending and TrainingModeActive to Fiscal Receipt Ending and TrainingModeActive**

The printer functions in exactly the same way as described above in the "Fiscal Receipt Ending to Fiscal Receipt Ending" section.

### **8.5.9 NON-FISCAL STATE**

Non-Fiscal term corresponds with Management Document.

When the printer receives a non-fiscal command whilst in the "Non-fiscal" state, it can either remain in this state or can commute into the Monitor state. The "*Day Opened*" property has no relevance.

**From Non-Fiscal to Monitor**

The Reset command always returns the printer to the Monitor state cancelling the open management document in progress. The only other way is the end management document closure command:

H1=1; H2=088 – RESET PRINTER

H1=1; H2=065 – END MANAGEMENT DOCUMENT

**From Non-Fiscal to Non-Fiscal**

The following commands do not alter the printer "Non-Fiscal" state:

H1=1; H2=050 – OPEN DRAWER  
H1=1; H2=055 – DISABLE KEYBOARD  
H1=1; H2=056 – ENABLE THE KEYBOARD  
H1=1; H2=062 – DISPLAY TEXT  
H1=1; H2=070 – GET COMMERCIAL DOCUMENT NUMBER  
H1=1; H2=074 – GET PRINTER STATUS  
H1=1; H2=075 – PRINT BARCODE OR QR CODE (as many as you like)  
H1=1; H2=077 – MPD (EJ / DGFE) STATUS  
H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS) – Types 7 and 8 only.  
H1=1; H2=138 – RT STATUS  
H1=1; H2=145 – SOUND BUZZER  
H1=1; H2=148 – FEED PAPER  
H1=1; H2=278 – READ PROMO / EFT-POS LINES  
H1=2; H2=014 – READ DAILY DEPARTMENT TOTALS  
H1=2; H2=015 – READ DAILY INTERNAL PLU TOTALS  
H1=2; H2=050 – GET DAILY DATA  
H1=2; H2=051 – GET PERIODICAL DATA  
H1=2; H2=052 – READ FISCAL GRAND TOTAL  
H1=3; H2=019 – ZERO INTERNAL PLU DAILY TOTALS  
H1=3; H2=100 – READ FROM MPD (EJ) BY NUMBER (COMMERCIAL DOCUMENTS)  
H1=3; H2=101 – READ FROM MPD (EJ) BY DATE (COMMERCIAL DOCUMENTS)  
H1=3; H2=103 – PRINT OR READ FROM MPD (EJ) BY DATE AND TYPE (reading mode only)  
H1=3; H2=104 – PRINT OR READ FROM MPD (EJ) BY NUMBER AND TYPE (reading mode only)  
H1=4; H2=014 – SET FLAGS (except flags 1, 62 and 63) – Dependant on model and firmware  
H1=4; H2=015 – SET CONFIGURATION – Dependant on model and firmware

All parameter reading commands (H1=4; H2=2xx) or similar.

### 8.5.10 REPORT STATE

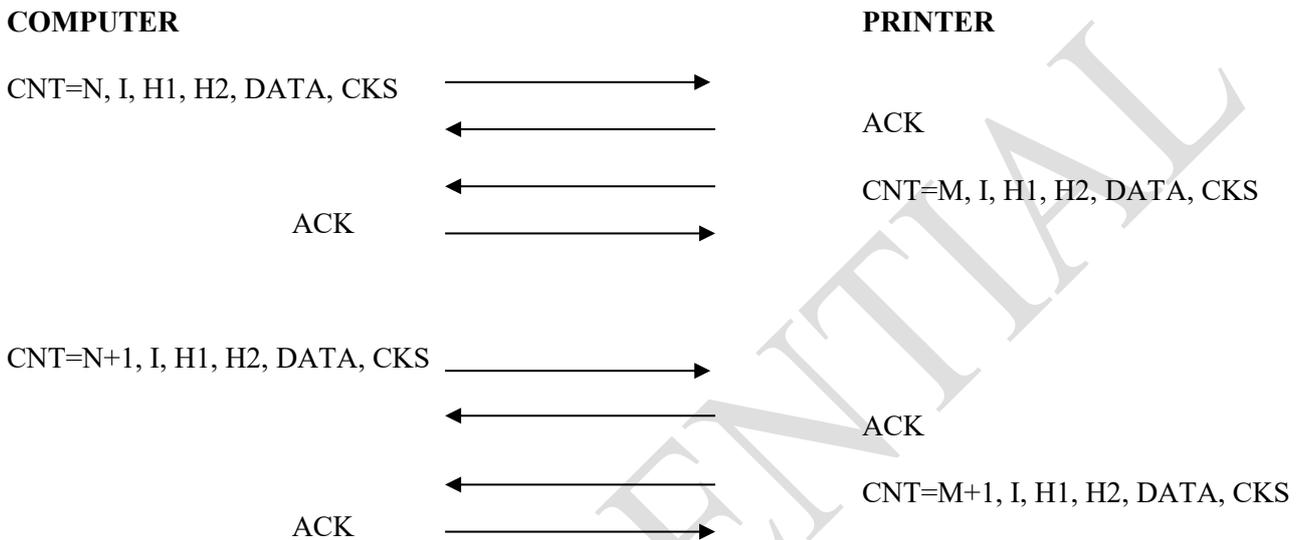
The Report state is merely transitory with the printer automatically returning to the Monitor State after print-out completion or after having replied to the read request. The different reports are described in the Monitor to Report section.

## 8.6 Data Communication Exchanges

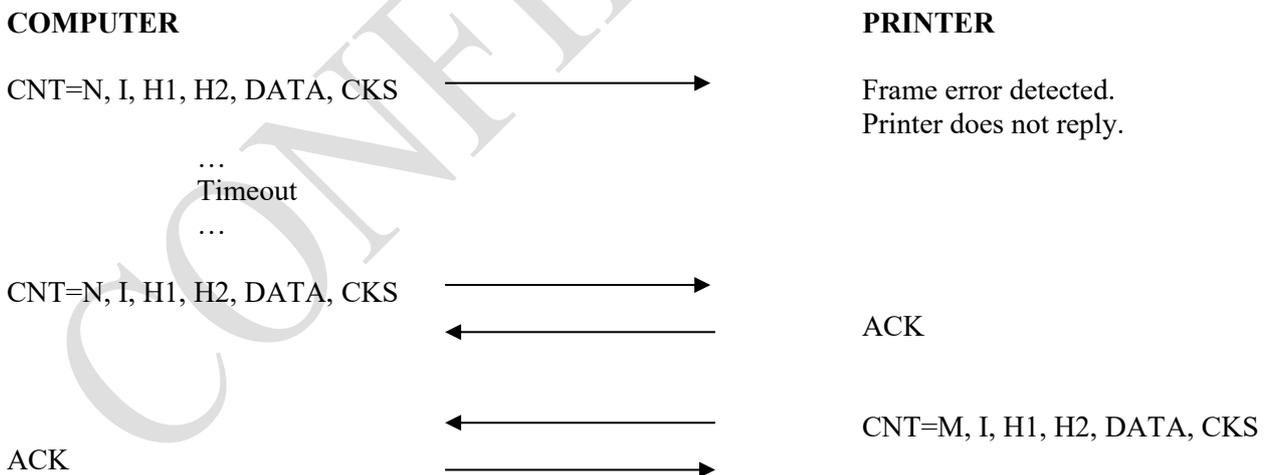
The first set of sequences illustrate exchanges when the SET 14/27 ACK TX/RX P.C. flag is enabled (1 – SI) and the second set when it is deactivated (0 – NO). ACK (hex code 0x06) handling is a relic from the past and EPSON recommend disabling it. ACK is always deactivated when the LAN interface is used.

### 8.6.1 COMMUNICATION WITH ACKNOWLEDGEMENT (ACK)

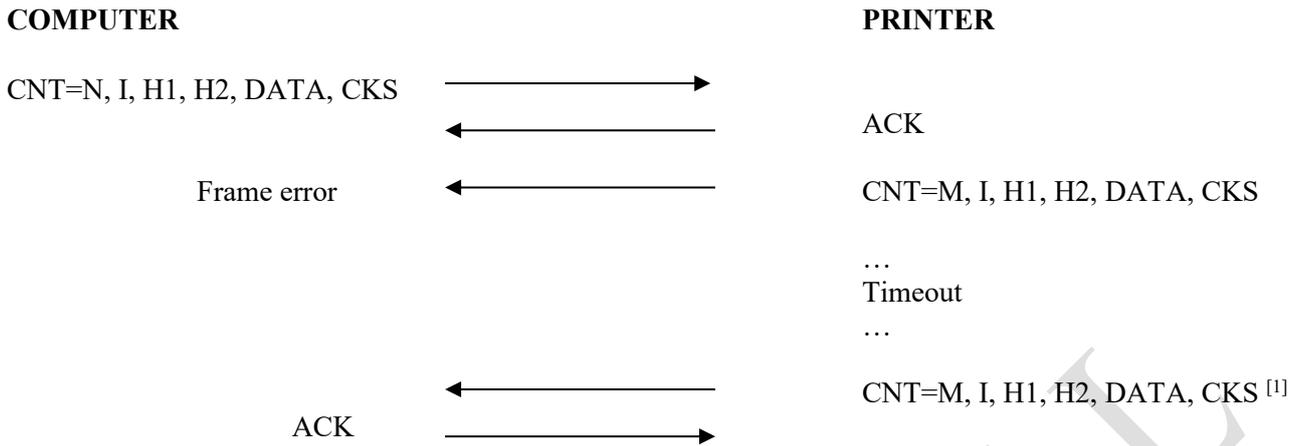
- Normal exchanges (no errors):



- Error in the first frame sent from computer to printer:

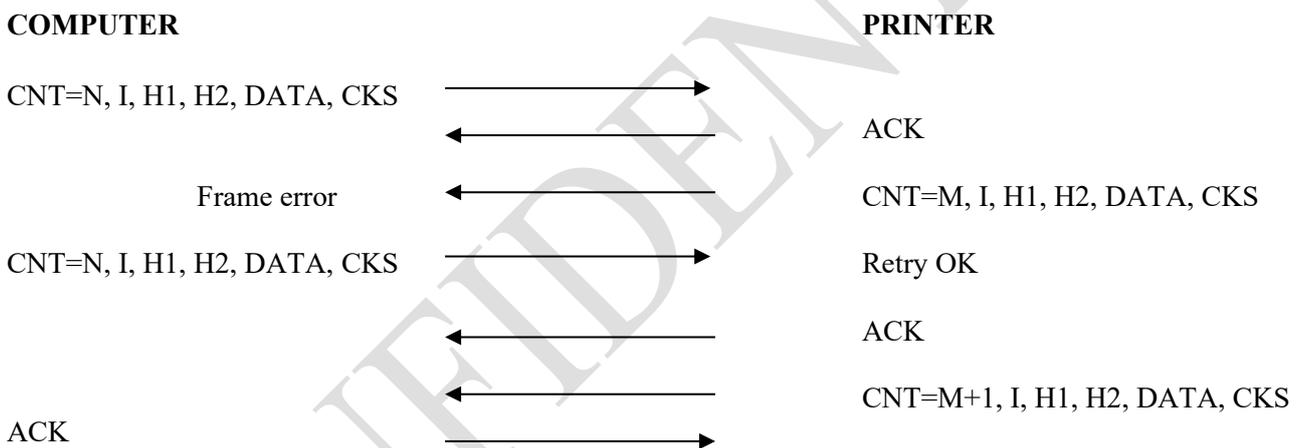


• **Error in the frame sent from printer to computer with retransmission to computer:**

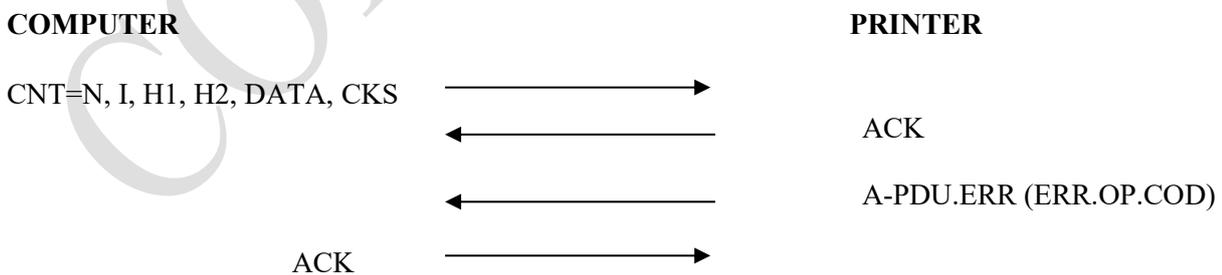


<sup>[1]</sup> The retransmission to the computer only happens if the SET 15/5 (NUM. RITRASMISSIONI) parameter > 1. The value of the SET 15/6 (TEMPO RITRASMISSIONE) parameter indicates the timeout in seconds. See the 4-015 command.

• **Error in the frame sent from printer to computer without retransmission to computer:**



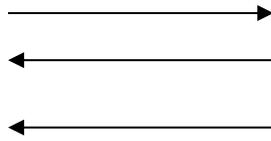
• **Command error:**



- **Missing ACK from PC:**

**COMPUTER**

CNT=N, I, H1, H2, DATA, CKS



**PRINTER**

ACK

CNT=M, I, H1, H2, DATA, CKS or  
A-PDU.ERR (ERR.OP.COD)

Display "P.C. NON CONNESSO"

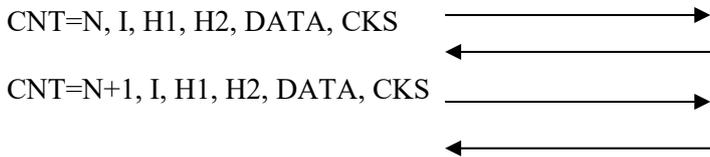
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**8.6.2 COMMUNICATION WITHOUT ACKNOWLEDGEMENT (ACK)**

- **Normal exchanges (no errors):**

**COMPUTER**

**PRINTER**



CNT=M, I, H1, H2, DATA, CKS

CNT=M+1, I, H1, H2, DATA, CKS

- **Error in the first frame sent from computer to printer:**

**COMPUTER**

**PRINTER**



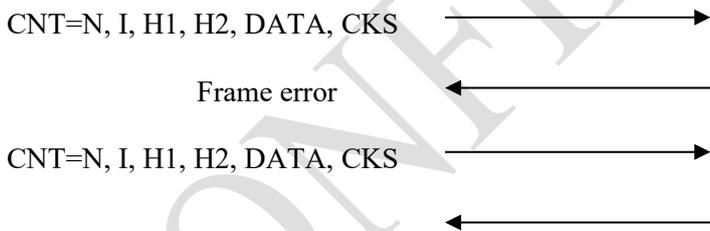
Frame error detected.  
Printer does not reply.

CNT=M, I, H1, H2, DATA, CKS

- **Error in the frame sent from printer to computer:**

**COMPUTER**

**PRINTER**



CNT=M, I, H1, H2, DATA, CKS

Retry OK

CNT=M+1, I, H1, H2, DATA, CKS

- **Command error:**

**COMPUTER**

**PRINTER**

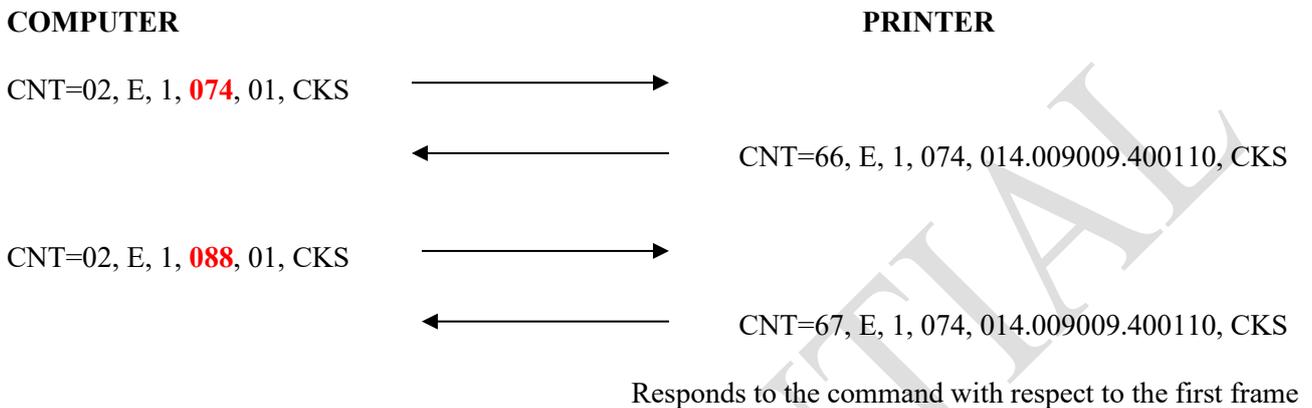


A-PDU.ERR (ERR.OP.COD)

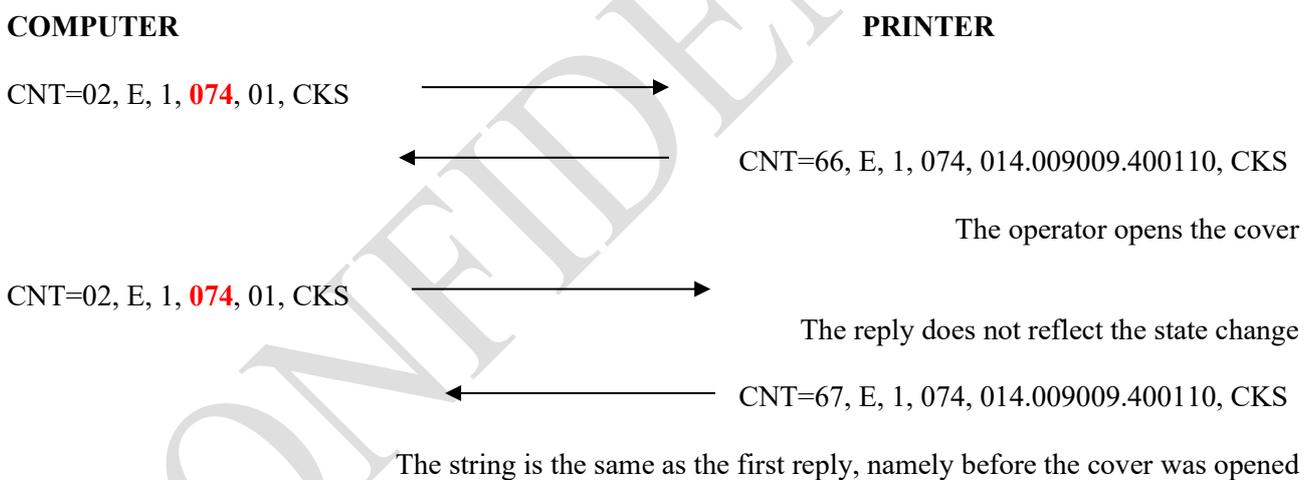
### 8.6.3 CONSIDERATIONS

Whenever the counter is the same in the successive frame from the PC, the H1, H2 and DATA fields are ignored by the printer. Furthermore, in the frame to the PC, the H1, H2 and DATA values in the second reply are always the same as those of the first reply. With regards to the get status command for example, this is true even if the printer status has actually changed.

The following example contains a different command from the PC:



The following example demonstrates that the reply is not updated:



## 9. DOCUMENT LAYOUTS

### 9.1 Commercial Document Layout

Below is a commercial document example illustrating all the different printouts.

NB:

- By default, whenever the quantity is equal to 1, the transaction only contains the total. Adding a 50 offset to the operator number activates the unit price / quantity line printing in all cases.
- For each transaction, apart from subtotal discounts and surcharges, the VAT rate relative to the indicated department or the deemed VAT rate in the case of for example a discount based on the last transaction is printed.
- Commercial documents indicate the total VAT (di cui IVA line). They do not contain a VAT breakdown.
- By law, payment sums and change are subdivided into totals according to the type and index used in the 1-084 payment command. The following headings are used:
  - Pagamento contante – The sum of type 0 (cash) payments irrespective of the index and type 1 (cheques) payments.
  - Pagamento elettronico – The sum of type 2 (credit card) payments but only with indexes from 01 to 10.
  - Non riscosso – The sum of type 2 index 0 payments (credits) and type 5 (not paid) payments irrespective of the index.
  - Ticket – The sum of type 3 (single vouchers) payments irrespective of the index and type 4 (multi vouchers) payments.
  - Resto – Change due. Only valid for Pagamento contante and Pagamento elettronico payments.
  - Sconto a pagare – The sum of type 6 (payment discount) payments irrespective of the index.
  - Importo pagato – Amount paid. The sum of Pagamento contante and Pagamento elettronico payments minus the change due.

Apart from Importo pagato, lines are not printed if the sum is equal to zero. This is also true of change.

- The commercial document number (DOCUMENTO N.) is managed by the printer and cannot be modified.
- A list of each payment can be optionally printed between the fiscal serial number and the type 2 trailer lines under the "DETTAGLIO FORME di PAGAMENTO" heading. The SET 14/57 RT PAGAMENTI flag activates and deactivates this function. A maximum of 19 payments can be listed. Further payments are still possible; they are simply not printed or saved in the MPD.
- Only one barcode or QR code can be printed per commercial document unless the 1-137 cut paper command is used.



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Additional header  
Up to 9 lines of up to 46 characters

DOCUMENTO COMMERCIALE  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
Sale description up to 38 characters 5 x 10,00	ES*	10,00
Sale description up to 38 characters > STORNO <	22,00%	50,00
Refund auto converted to storno	22,00%	-1,00
> CORREZIONE <		
> STORNO <	22,00%	1,00
Refund auto converted to storno	22,00%	-1,00
> STORNO <	22,00%	-1,00
Storno (sale cancel) desc up to 38	22,00%	-1,00
Discount description up to 38 chars	22,00%	-1,00
Additional body description up to 38		
SUBTOTALE		58,00
TOTALE COMPLESSIVO di cui IVA		58,00 8,66
Pagamento contante Importo pagato		58,00 58,00

\*ES = Esente

25-05-2021 12:59  
DOCUMENTO N. 0353-0021

C.F. Cliente ABCDEF12G34H567S

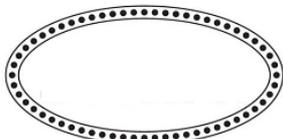
RT 99IEB000202

DETTAGLIO FORME di PAGAMENTO  
Payment description up to 38 chars 58,00

NUMERO CONFEZIONI 5  
99 Trailer lines up to 46 chars

NUMERO CASSA 3

99 Promo lines up to 46 chars



COUPON

**LOGO:** (max 256KB) printable as a header or footer. In this example it is HEADER GRAFICO 4-015 / 09. Index 0 deactivates printing.

**RETAIL HEADER:**  
Printed automatically (max 16 lines) whenever a comm doc is opened via:  

- 1-085 open command or 1-078 type 4 free text command.
- Any sale, refund, storno, modifier, discount or surcharge command.
- 1-078 Type 4 command except for refund and void documents.

**ADDITIONAL HEADER:** Preloaded using 1-078 Type 1 command before doc opening, first transaction or 1-078 Type 4 message.

**FIXED LINES.** Automatically generated by the printer.

**SALE:** 1-080 command indicating department associated with 0% VAT (ESENTE nature).

**SALE:** 1-080 command with quantity different from 1 indicating department associated with 22% VAT.

**REFUND:** 1-081 command misused when returning a product. Converted to storno automatically in a sale document.

**VOID:** 1-027 command used to cancel last transaction.

**STORNO:** 1-082 command used to cancel a previous sale.

**DISCOUNT:** 1-083 command based on either the last sale, the subtotal or a specific department. Also used with surcharges.

**BODY LINES:** 1-078 Type 4 command.

**SUBTOTAL:** 1-086, used to print, display and read the subtotal.

**DOCUMENT TOTAL AND VAT:** Automatically generated by the printer.

**PAYMENT TOTALS AND CHANGE:** Fixed lines based on 1-084 payments. Change calculated automatically by the printer. Sufficient payment closes the doc (if JAVAPOS-UPOS mode is deactivated). Importo pagato always printed and others only if non-zero.

**NATURE DESCRIPTION:** Automatically generated by the printer.

**DATE AND TIME AND DOCUMENT NUMBER:** Automatically generated by the printer.

**PERSONAL TAX CODE:** 1-061 command for chemist "parlanti" docs. Space also reserved for 1-135 lottery code and 1-060 business tax code but only one of the three codes can be present in a single doc.

**PAYMENT BREAKDOWN:** Optional. If 4-014 / 57 = 1, a line is printed for each 1-084 command received.

**ITEM COUNT:** Optional, printed automatically if flag 4-014 / 08 = 1.

**TRAILER LINES:** 1-078 Type 2. Any EFT-POS lines are added after.

**TILL NUMBER:** Optional, printed automatically if 4-015 / 15 > 0.

**OPERATOR NUM AND NAME:** Would be present if flag 4-014/04 and 4-014/07 were both 1.

**PROMO LINES:** 1-078 Type 3.

**BARCODE OR QR CODE:** 1-075 (single barcode or QR code only).

**LOGO:** (max 256KB) printable as a header or footer. In this example it is FOOTER GRAFICO 4-015 / 10. Index 0 deactivates printing.

**COUPON:** Printed either from a file residing in the www/graphic directory or via reserved commands.

## 9.2 Management Document Layout

Below is a management document example illustrating all the different printouts.

NB:

- Additional header 1-078 type 1 lines are supported.
- Any number of barcodes and QR codes can be printed.
- Any number of coupons can be printed.
- Retail header line printing can be deactivated (SET 14/45 flag).

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20092 Cinisello Balsamo (MI)

Additional header  
Up to 9 lines of up to 46 characters

DOCUMENTO GESTIONALE

Additional body description up to 46 character

COUPON

1234567890123

COUPON

NUMERO CASSA 3

26-03-2019 18:34  
DOCUMENTO N. 0246-0003

99MEY000004

**EPSON**  
EXCEED YOUR VISION

→ **LOGO:** (max 256KB, printable as a header or footer. In this example it is HEADER GRAFICO 4-015 / 09. Index 0 deactivates printing.

→ **RETAIL HEADER LINES:**  
Printed automatically (max 16 lines) upon receipt opening. Printing can be deactivated setting flag 4-014 / 45 to zero.

→ **ADDITIONAL HEADER:** Preloaded using 1-078 Type 1 command before management document opening.

→ **FIXED LINE**

→ **ADDITIONAL BODY LINE:** 1-064 command. All four fonts are supported.

→ **COUPON:** Printed via reserved commands.

→ **BARCODE:** 1-075, used to print both barcodes and QR codes.  
  
Any number of them can be printed.

→ **COUPON:** Printed from file residing in the www/graphic directory

→ **TILL NUMBER:**  
Optional, printed automatically if 4-015 / 15 > 0

→ **DATE AND TIME AND DOCUMENT NUMBER:**  
Automatically generated by the printer. It is independent of the commercial document number.

→ **LOGO:** (max 256KB), printed as a header or a footer. In this example it is FOOTER GRAFICO 4-015 / 10. Index 0 deactivates printing.

### **9.3 Invoice Layouts**

All invoice layouts are described in the Invoice Management document. However, since the document is written in Italian, the direct invoice layout has been included in this document below.

NB:

- The last column in the invoice body indicates the VAT group for the specified transaction shown as a letter. This ranges from "A" (1) to "I" (9) and depends on the department (native command 4-002 "VAT GRP" field) programming. Asterisk (\*) is used with VAT group 0 (exempt nature) and J to R are used with VAT groups 10 to 18 all of which are natures. The lettering scheme is maintained, whether Ventilazione is active or not.
- The last six digits of the fiscal serial number are added after the "NUM REGISTRATORE:" heading as indicated below.

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Intestazione aggiuntiva fattura  
Fino a 20 righe da 46 caratteri

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Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

Cliente/Destinatario:

Intestazione cliente  
Fino a 5 righe da 46 caratteri

FATTURA N. 1/2021  
DATA 25-05-21 ORA 18:36

		EURO
kg	1 I void copiati sulla fattura	1,00 A
		CORREZIONE < <
kg	1 I void copiati sulla fattura	-1,00 A
kg	5,150 x 10,00	
	- - - - Vendita light a 37 caratteri	51,50 A
kg	1 Descrizione corta	10,00 B
kg	1 - - - - Vendita light a 37 caratteri	10,00 *
	1 IVA Esente	10,00 A
		S T O R N O < <
kg	1 - - - - Storno light a 37 caratteri	-1,00 A
	- - - - Sconto light a 37 caratteri	-1,00
	- Riga aggiuntiva nel corpo a 37 car	

ALIQ.	IMPONIBILE	IVA
A 22,00%	48,77	10,73
B 10,00%	9,09	0,91
-----		
TOT.	57,86	11,64
*ES.	10,00	art.25

CORRISPETTIVO PAGATO	44,50
CORRISPETTIVO NON PAGATO	35,00
TOTALE EURO	79,50

NUM. REGISTRATORE: 000202

Messaggio cortesia fattura  
Fino a 2 righe da 46 caratteri

\*\*\* COPIA PER L'ESERCENTE \*\*\*



**LOGO:** (max 256KB), Header or footer separate from fiscal receipts. Here it is the "HEADER GRAF. FATTURE" native 4-015 command sub-parameter 19. The value zero deactivates printing.

**ADDITIONAL HEADER:** Preloaded with native command 1-078 Type 5 before the invoice opening command. The number of lines also depends on the native 4-025 command "ADD HEAD" field. Max 20 lines.

**RETAIL HEADER:** Printed if native 4-025 command "HEADERS" field equals 1. The number of printed lines depends on native command 4-015 sub-parameter 17. The font is always normal.

**CLIENT LINES:** Preloaded with native 1-078 command Type 6 before the invoice opening command. Max five lines. Native 4-025 command "HEADERS" field must be equal to 1.

**INVOICE NUMBER:** Managed by the printer if the value zero is passed otherwise managed by the retail application. An eventual prefix/suffix (/2022) depends on the native 4-025 command "PREF/SUFF" and "POS" fields.

**LINES IN THE BODY:** Corrections are printed. "kg" is the unit of measure if present on the specific department (native command 4-002 "MU" field). The quantity is always printed. The unit price is printed if native command 4-014 sub-parameter 44 equals 1.

**VAT BREAKDOWN:** Automatically printed according to the departments used, the VAT table (native command 4-005) and the cross-references (native command 4-002 VAT GRP field). "art.25" is an indicative personalised phrase that regards zero-rated sales (VAT group 0). It is programmed with the EXEMPT TEXT field in the 4-025 native command.

**PAYMENT:** The payment description indicated in the payment command is not printed. In the case of ticket payments, the two extra CORRISPETTIVO lines are printed.

**COURTESY MESSAGE:** Printed automatically if programmed via native command 4-027. Max two lines.

**FIXED LINE:** Retail outlet copy. The other copy for the client reads "\*\*\*\*\* COPIA PER IL CLIENTE \*\*\*\*\*"

**LOGO:** (max 256KB), Header or footer separate from fiscal receipts. Here it is the "FOOTER GRAF. FATTURE" native 4-015 command sub-parameter 20. The value zero deactivates printing.

**BARCODE OR QR CODE:** 1-075 (single barcode or QR code only). Present of both copies.

**9.4 Commercial Refund Document Layout**

See Special Documents section below.

**9.5 Commercial Void Document Layout**

See Special Documents section below.

**9.6 Lottery Receipt**

**EPSON ITALY SPA**  
 Via M. Viganò de Vizzi  
 20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE**  
 di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
1 x 10 REP 1	22,00%	10,00
<b>TOTALE COMPLESSIVO</b>		<b>10,00</b>
di cui IVA		1,80
Pagamento elettronico		10,00
Importo pagato		10,00

26-05-2021 12:17  
 DOCUMENTO N. 0354-0039

**Codice Lotteria: ABCDEFGN**

RT 99IEB000202

**DETTAGLIO FORME di PAGAMENTO**

Carta di Credito 1	10,00
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CONFIDENTIAL

Only traceable payments currently qualify for lottery draws.

**LOTTERY CODE:** 1-135 command sent prior to payment command.

**9.7 Commercial Document with Ventilazione**

**EPSON ITALY SPA**  
 Via M. Viganò de Vizzi  
 20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE  
 di vendita o prestazione**

DESCRIZIONE	IVA	Prezzo(€)
BENE	VI*	122,00
SERVIZIO	22,00%	122,00
<b>TOTALE COMPLESSIVO</b>		<b>244,00</b>
<b>di cui IVA</b>		<b>22,00</b>
Pagamento contante		244,00
Importo pagato		244,00

**GOODS:** Ventilazione is applied to goods transactions and VI\* is printed instead of the VAT rate.

**SERVICES:** Ventilazione is never applied to services. The VAT rate is printed.

**VAT amount:** Ventilazione transactions are not included in VAT amount.

\*VI = Ventilazione

**\*VI:** Extended description.

25-05-2021 11:48  
 DOCUMENTO N. 0352-0003

RT 99IEB000202

**DETTAGLIO FORME di PAGAMENTO**

Contante	244,00
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CONFIDENTIAL

**9.8 Commercial Document with Rounding****Rounding Down**

EPSON ITALY SPA  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

DOCUMENTO COMMERCIALE  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
1 x 1,02 REP 6	22,00%	1,02
TOTALE COMPLESSIVO		1,02
di cui IVA		0,18
Pagamento contante		1,00
Sconto a pagare		0,02
Importo pagato		1,00

25-05-2021 11:50  
DOCUMENTO N. 0352-0004

R7 99IEB000202

**DETTAGLIO FORME di PAGAMENTO**

Contante	1,00
Arrot. DL N.50/2017	0,02

**Rounding Up**

EPSON ITALY SPA  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

DOCUMENTO COMMERCIALE  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
1 x 1,03 REP 6	22,00%	1,03
TOTALE COMPLESSIVO		1,03
di cui IVA		0,19
Pagamento contante		1,05
Importo pagato		1,05

25-05-2021 11:50  
DOCUMENTO N. 0352-0005

R7 99IEB000202

**DETTAGLIO FORME di PAGAMENTO**

Contante	1,05
di cui Arrot. DL N.50/2017	0,02

CONFIDENTIAL

**9.9 Deposit and Balance (Acconto e Saldo)**

**EPSON ITALY SPA**  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE**  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
DEPOSIT	22,00%	50,00
<b>TOTALE COMPLESSIVO</b>		<b>50,00</b>
di cui IVA		9,02
Pagamento contante		50,00
Importo pagato		50,00
25-05-2021 12:16 DOCUMENTO N. 0353-0011		
RT 99IEB000202		
<b>DETTAGLIO FORME di PAGAMENTO</b>		
Contante		50,00

**DEPOSIT:** 1-080 sale command.

**EPSON ITALY SPA**  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE**  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
ACCONTO	22,00%	-50,00
DEPOSIT PAID		
PRODUCT	22,00%	70,00
<b>TOTALE COMPLESSIVO</b>		<b>20,00</b>
di cui IVA		3,61
Pagamento contante		20,00
Importo pagato		20,00
26-05-2021 12:18 DOCUMENTO N. 0354-0040		
RT 99IEB000202		
<b>DETTAGLIO FORME di PAGAMENTO</b>		
BALANCE TO PAY		20,00

**DEPOSIT PAYMENT ADJUSTMENT:** 1-090 type 00 modifier command with same VAT rate as the first commercial document.

CONFIDENTIAL

**9.10 Free of Charge (Omaggio)**

**EPSON ITALY SPA**  
 Via M. Viganò de Vizzi  
 20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE**  
 di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
1 x 122 REP 1	22,00%	122,00
OMAGGIO	22,00%	-122,00
FREE OF CHARGE		
<b>TOTALE COMPLESSIVO</b>		<b>0,00</b>
di cui IVA		22,00
Importo pagato		0,00

**FREE OF CHARGE DEDUCTION:** 1-090 type 01 modifier command with same VAT rate as product to which it refers.

**VAT:** Free of Charge (Omaggio) sales do not reduce VAT amount.

26-05-2021 13:01  
 DOCUMENTO N. 0354-0041

RT 99IEB000202

DETTAGLIO FORME di PAGAMENTO	
NO PAYMENT DUE	0,00

**CONFIDENTIAL**

**9.11 Payment with Ticket – Vouchers billed to third parties (ticket restaurant, buoni celiachia or buoni promozionali etc.)**

EPSON ITALY SPA  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

DOCUMENTO COMMERCIALE  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
LUNCH	10,00%	10,00
TOTALE COMPLESSIVO		10,00
di cui IVA		0,91
Ticket		10,00
Importo pagato		0,00

26-05-2021 13:09  
DOCUMENTO N. 0354-0042

RT 99IEB000202

DETTAGLIO FORME di PAGAMENTO  
TWO 5 EURO TICKETS 10,00

**9.12 Single-use Voucher Purchase and Redemption**

**EPSON ITALY SPA**  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE**  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
SINGLE USE VOUCHER PURCHASE	22,00%	25,00
<b>TOTALE COMPLESSIVO</b>		<b>25,00</b>
di cui IVA		4,51
Pagamento contante		25,00
Importo pagato		25,00
25-05-2021 12:13 DOCUMENTO N. 0353-0010  RT 99IEB000202		
<b>DETTAGLIO FORME di PAGAMENTO</b>		
Contante		25,00

**VOUCHER PURCHASE:** 1-080 sale command.

**EPSON ITALY SPA**  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE**  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
BUONO MONOUSO	22,00%	-25,00
SINGLE USE VOUCHER REDEMPTION PRODUCT	22,00%	40,00
<b>TOTALE COMPLESSIVO</b>		<b>15,00</b>
di cui IVA		2,70
Pagamento contante		15,00
Importo pagato		15,00
25-05-2021 12:21 DOCUMENTO N. 0353-0014  RT 99IEB000202		
<b>DETTAGLIO FORME di PAGAMENTO</b>		
BALANCE TO PAY		15,00

**VOUCHER REDEMPTION:**  
1-090 type 02 modifier  
command with same VAT  
rate as the first commercial  
document.

**PRODUCT:** 1-080 sale  
command with same VAT  
rate as voucher.

**9.13 Multi-use Voucher Purchase and Redemption**

**EPSON ITALY SPA**  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE**  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
MULTI USE VOUCHER PURCHASE	NS*	20,00
<b>TOTALE COMPLESSIVO</b>		<b>20,00</b>
di cui IVA		0,00
Pagamento contante		20,00
Importo pagato		20,00

\*NS = Non soggetta

25-05-2021 12:24  
DOCUMENTO N. 0353-0015

RT 99IEB000202

**DETTAGLIO FORME di PAGAMENTO**

Contante 20,00

**EPSON ITALY SPA**  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

**DOCUMENTO COMMERCIALE**  
di vendita o prestazione

DESCRIZIONE	IVA	Prezzo(€)
1 x 10 REP 1	22,00%	10,00
1 x 10 REP 2	10,00%	10,00
1 x 10 REP 3	ES*	10,00
<b>TOTALE COMPLESSIVO</b>		<b>30,00</b>
di cui IVA		2,71
Pagamento contante		10,00
Sconto a pagare		20,00
Importo pagato		10,00

\*ES = Esente

25-05-2021 12:26  
DOCUMENTO N. 0353-0016

RT 99IEB000202

**DETTAGLIO FORME di PAGAMENTO**

MULTI USE VOUCHER REDEMPTION 20,00  
BALANCE TO PAY 10,00

**VOUCHER PURCHASE:** 1-080 sale command with indicated department pre-programmed with NS (Non Soggetta) nature group 11.

**VOUCHER REDEMPTION:** 1-084 type 6 index 01 payment command. Increments Sconto a pagare. Does not increment Importo pagato.

**SALES:** Sales with different VAT rates permitted.

## 10. SPECIAL DOCUMENTS

### 10.1. Commercial Refund/Return Documents

This type of document is the RT equivalent of the obsolete credit note. However, whereas a credit note could have no reference to an original print out, a commercial refund/return document must have one. Therefore, this information must be passed to the RT printer instead of the old "PRATICA DI RESO " string. When the reference is a commercial document, it must be a normal sale variant – it cannot be a commercial refund/return or void document.

If the reference document was emitted prior to RT activation, the relative fiscal receipt can still be used as a reference using the special ND keyword. If the Z report number and/or SF number are not known, use 0000. In this case, no amounts such as VAT can be verified against the original receipt.

#### 10.2.1 COMMERCIAL REFUND/RETURN DOCUMENT OPENING

The document is opened with the same command that was used with obsolete credit notes:

- [H1=1; H2=078 – PRINT REC TEXT \(HEADERS/FREE/PROMO/EFT-POS\)](#)

Again, type 1 or 4 must be used. The string must contain the above-mentioned reference. There are four possible formats:

- **Normal commercial sale document with RT fiscal serial number reference:**
  - REFUND zzzz nnnn ddmmyyyy 99\$%%ssssss
- **Point of Sale device receipt (POS):**
  - REFUND zzzz nnnn ddmmyyyy POS
- **Return of empty bottles etc (VR – vuoti a rendere):**
  - REFUND zzzz nnnn ddmmyyyy VR
- **Any other reason not covered by first three cases or fiscal receipt (ND – Non definito):**
  - REFUND zzzz nnnn ddmmyyyy ND

Add spaces so that the TEXT field length is 46. The following format is deprecated:

- RESO MERCE N. zzzz-nnnn del dd-mm-yyyy

In the first case (normal commercial document), the original reference to which this document refers is expressed as follows:

- zzzz Z report number (must be four digits).
- nnnn Daily document sequence number (must be four digits).
- dd Day of the month (must be two digits).
- mm Month (must be two digits).
- yyyy Year (must be four digits).
- 99\$%%ssssss Fiscal serial number of the printer that issued the original document (\$ = RT device type, %% = EPSON model ID and ssssss = six digits. For example, 99IEC123456).

In the other cases, the original reference is expressed as follows:

- zzzz Z report or equivalent number if known otherwise 0000 (must be four digits).
- nnnn Daily document sequence number or equivalent number if known otherwise 0000 (must be four digits).
- dd Day of the month (must be two digits).
- mm Month (must be two digits).
- yyyy Year (must be four digits).
- POS VR or ND Fixed keyword. There must be a space between this and the date.

Any possible additional header (type 1) lines must be transmitted before this special opening command.

A commercial document that has already been fully refunded on the same RT printer with the same MPD cannot subsequently be referred to. The printer will return an error. Any mismatched totals such as a refund value that exceeds the reference document sales or different VAT groups will generate errors at the payment phase.

### **10.2.2 COMMANDS PERMITTED WITHIN COMMERCIAL REFUND/RETURN DOCUMENTS**

Once a commercial refund/return document has been opened, the same commands as a normal commercial document are accepted but there can be exceptions depending on the 4-014 / 58 RT RESO MERCE=Ndc flag setting as follows:

- 0 / NO – The behaviour is the same as a commercial document. The 1-080 sale command is therefore used, and the 1-081 refund command is automatically converted to a correction (storno). The 1-060 and 1-061 commands can be used.
- 1 / SI – The behaviour is generally the same as for obsolete credit notes. The 1-081 refund is used. The 1-080 sale and 1-082 correction (storno) commands are inhibited and will return error 17. Furthermore, the 1-060 and 1-061 commands will return error 17 with firmware prior to 10.01 (modified) / 6.01 (native).

In both cases, partial payments are allowed but the DETTAGLIO FORME di PAGAMENTO list is never printed.

### **10.2.3 COMMANDS NOT PERMITTED WITHIN COMMERCIAL REFUND/RETURN DOCUMENTS**

As indicated in the previous section, the same commands as a normal commercial document are accepted but there can be exceptions depending on the 4-014 / 58 RT RESO MERCE=Ndc flag setting and firmware version.

The 1-135 lottery code command cannot be used with commercial refund and void documents in which the POS, VR or ND keyword was used in the opening command.

**10.2.4 COMMERCIAL REFUND/RETURN DOCUMENT EXAMPLES**

The following example does not show the RT printer serial number because the indicated reference document is on the very same printer.

**EPSON**

EXCEED YOUR VISION

EPSON ITALY SPA

Via M. Vignano' de Vizzi 93/95

20092 Cinisello Balsamo (MI)

www.epson.it

Additional header type 1 line max 46 chars

DOCUMENTO COMMERCIALE  
emesso per RESO MERCE

Documento di riferimento:  
N.0002-0004 del 16-03-2019

DESCRIZIONE	IVA	Prezzo(€)
2 x 1,00 TEST REFUND	22,00%	2,00
Free text type 4 line max 38 chars		
TOTALE COMPLESSIVO		2,00
di cui IVA		0,36

27-03-2019 11:40  
DOCUMENTO N. 0247-0001

C.F. Cliente ABCDEF12G34H567S

NUMERO CONFEZIONI	RT 99MEY000004	2
Trailer type 2 line max 46 chars		
NUMERO CASSA	3	

Additional trailer type 3 line max 46 chars

The following example shows an RT printer serial number because the indicated reference document is on a different printer.

EPSON ITALY SPA  
Via M. Viganò de Vizzi  
20092 Cinisello Balsamo (MI)

DOCUMENTO COMMERCIALE  
emesso per RESO MERCE

Documento di riferimento:  
N.0354-0056 del 26-05-2021  
99IEB123456

DESCRIZIONE	IVA	Prezzo(€)
REFUND FROM OTHER SHOP	22,00%	10,00
TOTALE COMPLESSIVO		10,00
di cui IVA		1,80

26-05-2021 17:05  
DOCUMENTO N. 0354-0057  
RT 99IEB000202

## 10.2. Commercial Void Documents

As with commercial refund/return documents, a commercial void document must have a reference to the original print out. Therefore, a special string with this information must be passed to the RT printer. The string has a similar format as the one for commercial refund/return documents. When the reference is a commercial document, it must be a normal sale variant – it cannot be a commercial refund/return or void document. Cancelling of zero value reference documents is possible.

If the reference document was emitted prior to RT activation, the relative fiscal receipt can still be used as a reference using the special ND keyword. If the Z report number and/or SF number are not known, use 0000. In this case, no amounts such as VAT can be verified against the original receipt.

### 10.3.1 COMMERCIAL VOID DOCUMENT OPENING/REPRINTING

The document is opened with the same command that was used with obsolete credit notes:

- [H1=1; H2=078 – PRINT REC TEXT \(HEADERS/FREE/PROMO/EFT-POS\)](#)

Again, type 1 or 4 must be used. The string must contain the above-mentioned reference. There are four possible formats:

- **Normal commercial sale document with RT fiscal serial number reference:**
  - VOID zzzz nnnn ddmmyyyy 99\$%%sssss
- **Point of Sale device receipt (POS):**
  - VOID zzzz nnnn ddmmyyyy POS
- **Return of empty bottles etc (VR – vuoti a rendere <sup>[1]</sup>):**
  - VOID zzzz nnnn ddmmyyyy VR
- **Any other reason not covered by first three cases or fiscal receipt (ND – Non definito Undefined):**
  - VOID zzzz nnnn ddmmyyyy ND

Add spaces so that the TEXT field length is 46. The following format is deprecated:

- ANNULLAMENTO N. zzzz-nnnn del dd-mm-yyyy

<sup>[1]</sup> A commercial refund VR document emitted on the same RT printer cannot be subsequently voided. The VR void option is valid for other VR scenarios.

The string to indicate the original commercial document to which this document refers is expressed in the same manner as for commercial refund/return documents described above.

The printer will attempt to void the document automatically if all the following is true:

- Void type is a normal commercial sale document with RT fiscal serial number reference.
- RT fiscal serial number reference matches the printer serial number.
- Date is on or after the printer went in service.
- Date is on or after current MPD format date.
- Flag 4-014 / 68 ANNULLO SEMI MAN. = 0/NO.

When searching in the MPD journal memory, if found and automatic printing is enabled, it will increment the operator value by 50 in the command reply. Therefore:

- Operator 01 to 12 – Document not found in MPD. Automatic printing not performed. Or document found in MPD but flag 4-014 / 68 ANNULLO SEMI MAN. = 1/SI. Commercial void document remains open.
- Operator 51 to 62 – Document found in MPD and flag 4-014 / 68 ANNULLO SEMI MAN. = 0/NO. Automatic printing performed. Commercial void document is closed.

The automatically printed document will not contain any 1-078 types 1, 2 or 3 lines, individual payments, payment classifications, barcodes or QR codes printed in the original document.

Any possible additional header (type 1) lines must be transmitted before this special opening command. They are printed even if automatic printing occurs.

A commercial document that has already been voided on the same RT printer with the same MPD cannot subsequently be referred to. The printer will return an error.

If the document was found in the MPD and flag 4-014 / 68 ANNULLO SEMI MAN. = 1/SI, the void document must be fiscally identical. This option allows for example the printing of additional lines or a barcode or QR code not present in the original reference document.

### **10.3.2 COMMANDS PERMITTED WITHIN COMMERCIAL VOID DOCUMENTS**

If the reference document was not on the same RT printer, was on the same RT printer but with a previous MPD, was automatic printing will not have occurred and the commercial void document will remain open ready to accept commands. In this case, the same commands as a normal commercial document are accepted but there can be exceptions depending on the 4-014 / 59 RT ANNULLAM.=Ndc flag setting as follows:

- 0 / NO – The behaviour is the same as a commercial document. The 1-080 sale command is therefore used, and the 1-081 refund command is automatically converted to a correction (storno). The 1-060 and 1-061 commands can be used.
- 1 / SI – The behaviour is generally the same as for obsolete credit notes. The 1-081 refund is used. The 1-080 sale and 1-082 correction (storno) commands are inhibited and will return error 17. Furthermore, the 1-060 and 1-061 commands will return error 17 with firmware prior to 10.01 (modified) / 6.01 (native).

In both cases, partial payments are allowed but the DETAGLIO FORME di PAGAMENTO list is never printed.

### **10.3.3 COMMANDS NOT PERMITTED WITHIN COMMERCIAL VOID DOCUMENTS**

As indicated in the previous section, the same commands as a normal commercial document are accepted but there can be exceptions depending on the 4-014 / 59 RT ANNULLAM.=Ndc flag setting and firmware version.

The 1-135 lottery code command cannot be used with commercial refund and void documents in which the POS, VR or ND keyword was used in the opening command.

**10.3.4 COMMERCIAL VOID DOCUMENT EXAMPLE**

Please note the following example is a manually generated one (not automatically printed from the MPD). The 1-078 free text lines would otherwise be filtered out in an automatic print.

**EPSON**

EXCEED YOUR VISION

EPSON ITALY SPA

Via M. Vigano' de Vizzi 93/95  
20092 Cinisello Balsamo (MI)

www.epson.it

Additional header type 1 line max 46 chars

DOCUMENTO COMMERCIALE  
emesso per ANNULLAMENTO

Documento di riferimento:  
N.0006-0007 del 17-03-2019

DESCRIZIONE	IVA	Prezzo(€)
2 x 1,00		
SALE	22,00%	2,00
Free text type 4 line max 38 chars		
TOTALE COMPLESSIVO		2,00
di cui IVA		0,36

27-03-2019 12:56  
DOCUMENTO N. 0247-0017

C.F. Cliente ABCDEF12G34H567S

RT 99MEY000004

NUMERO CONFEZIONI 2  
Trailer type 2 line max 46 chars

NUMERO CASSA 3

Additional trailer type 3 line max 46 chars

## 11. LIST OF COMMANDS

### 11.1. HEADER1=1 Commands

Commands have already been grouped together according to varying functions above. This section will merely show the commands in numerical order.

- H1=1; H2=027 – VOID LAST TRANSACTION

Cancel the last transaction be it a sale, correction (storno), refund (reso), modifier, discount or surcharge. Cannot be used during the payment phase. Increments 2-050 index 04 counter.

TX 

1	027	OP
---	-----	----

RX 

1	027	OP
---	-----	----

TX and RX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

- H1=1; H2=028 – PRINT REC VOID

Cancel the current commercial document or direct invoice. The commercial document number is still incremented. If the JAVAPOS-UPOS flag has been activated, the closure 1-087 command is still required. Increments 2-050 index 04 counter.

TX 

1	028	OP
---	-----	----

RX 

1	028	OP	TF	TNF	DATE	TIME	FR.N
---	-----	----	----	-----	------	------	------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX (Total PDU length 45 bytes)

OP	Same as TX Operator	2 bytes	01 to 12
TF	Fiscal subtotal	9 bytes	000000000 to 999999999 -000000001 to -999999999
TNF	Non-fiscal subtotal <sup>[1]</sup>	9 bytes	000000000
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Min)	4 bytes	HHMM
FR.N	Commercial document or direct invoice number	4 bytes	0001 to 9999

<sup>[1]</sup> The TNF field is no longer in use. The value is always "000000000".

- [H1=1; H2=030 – CASH CREDIT RECOVERY](#)

Specifies the cash amount to recover. A management document is automatically printed. Transactions of this nature do not appear on the daily closure report and are not transmitted to the tax authority. They do however appear on X financial reports.

TX 

1	030	OP	AMOUNT
---	-----	----	--------

RX 

1	030	OP	AMOUNT	DATE	TIME	NFR.N
---	-----	----	--------	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
AMOUNT	Amount	9 bytes	000000001 to 999999999

RX (Total PDU length 36 bytes)

OP	Same as TX		
AMOUNT	Same as TX		
DATE	Current date	6 bytes	DDMMYY
TIME	Current time	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- [H1=1; H2=031 – CASH IN](#)

Specifies a cash amount to deposit in the cash drawer (i.e., carried out by the operator). A management document is automatically printed. Transactions of this nature do not appear on the daily closure report and are not transmitted to the tax authority. They do however appear on X financial reports.

TX 

1	031	OP	AMOUNT
---	-----	----	--------

RX 

1	031	OP	AMOUNT	DATE	TIME	NFR.N
---	-----	----	--------	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
AMOUNT	Amount	9 bytes	000000001 to 999999999

RX (Total PDU length 36 bytes)

OP	Same as TX		
AMOUNT	Same as TX		
DATE	Current date	6 bytes	DDMMYY
TIME	Current time	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=1; H2=032 – CASH OUT**

Specifies a cash amount to withdraw from the cash drawer (i.e., carried out by the operator). A management document is automatically printed. Transactions of this nature do not appear on the daily closure report and are not transmitted to the tax authority. They do however appear on X financial reports.

TX 

1	032	OP	AMOUNT
---	-----	----	--------

RX 

1	032	OP	AMOUNT	DATE	TIME	NFR.N
---	-----	----	--------	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
AMOUNT	Amount	9 bytes	000000001 to 999999999

RX (Total PDU length 36 bytes)

OP	Same as TX		
AMOUNT			
DATE	Current date	6 bytes	DDMMYY
TIME	Current time	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=1; H2=038 – CHEQUE CREDIT RECOVERY**

Specifies the cheque amount to recover. A management document is automatically printed. Transactions of this nature do not appear on the daily closure report and are not transmitted to the tax authority. They do however appear on X financial reports.

TX 

1	038	OP	AMOUNT
---	-----	----	--------

RX 

1	038	OP	AMOUNT	DATE	TIME	NFR.N
---	-----	----	--------	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
AMOUNT	Amount	9 bytes	000000001 to 999999999

RX (Total PDU length 36 bytes)

OP	Same as TX		
AMOUNT			
DATE	Current date	6 bytes	DDMMYY
TIME	Current time	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=1; H2=039 – CHEQUE IN**

Specifies a cheque amount to deposit in the cash drawer (i.e., carried out by the operator). A management document is automatically printed. Transactions of this nature do not appear on the daily closure report and are not transmitted to the tax authority. They do however appear on X financial reports.

TX 

1	039	OP	AMOUNT
---	-----	----	--------

RX 

1	039	OP	AMOUNT	DATE	TIME	NFR.N
---	-----	----	--------	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
AMOUNT	Amount	9 bytes	000000001 to 999999999

RX (Total PDU length 36 bytes)

OP	Same as TX		
AMOUNT	Same as TX		
DATE	Current date	6 bytes	DDMMYY
TIME	Current time	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=1; H2=040 – CHEQUE OUT**

Specifies a cheque amount to withdraw from the cash drawer (i.e., carried out by the operator). A management document is automatically printed. Transactions of this nature do not appear on the daily closure report and are not transmitted to the tax authority. They do however appear on X financial reports.

TX 

1	040	OP	AMOUNT
---	-----	----	--------

RX 

1	040	OP	AMOUNT	DATE	TIME	NFR.N
---	-----	----	--------	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
AMOUNT	Amount	9 bytes	000000001 to 999999999

RX (Total PDU length 36 bytes)

OP	Same as TX		
AMOUNT	Same as TX		
DATE	Current date	6 bytes	DDMMYY
TIME	Current time	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=1; H2=047 – REPRINT LAST COMMERCIAL DOCUMENT**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

Reprints the last emitted commercial document (including refund/return and void variants). By law the printout is always "encapsulated" in a management document with the content being read from the EJ / MPD.

The command cannot be used with a non-fiscalised printer or whenever training mode is activated but can be used if demo or simulation mode is active.

TX 

1	047	OP
---	-----	----

RX 

1	047	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX (Total PDU length 27 bytes)

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Min)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=1; H2=050 – OPEN DRAWER**

Cash drawer opening command. If flag 4-014 14/03 is set to "1 / SI", a management document is emitted. If a document is open at the time, it cannot emit a separate a management document and therefore returns Error 11. If this command is received whilst the printer is in the box office mode, the "APERTURA CASSETTO" (open cash drawer) wording is not displayed.

TX 

1	050	OP
---	-----	----

The printer accepts three further optional fields:

TX 

1	050	OP	DRW NUM	PULSE ON	PULSE OFF
---	-----	----	---------	----------	-----------

RX 

1	050	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

TX (When the three DRW NUM, PULSE ON and PULSE OFF optional fields are employed):

Field	Description	Length	Range / Value
OP	As above		
DRW NUM	Drawer number	1 byte	1 (DK pin 2) 2 (DK pin 5)
PULSE ON	Drawer activation time mS x 2	3 bytes	000 to 255 (0mS to 510mS)
PULSE OFF	Drawer deactivation time mS x 2	3 bytes	000 to 255 (0mS to 510mS)

RX (In both cases) (Total PDU length 27 bytes)

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Min)	4 bytes	HHMM
<b><u>If flag 4-014 / 03 (Cash drawer opening printouts) is set to 0 / NO (no printing)</u></b>			
NFR.N	Fixed	4 bytes	0000
<b><u>If flag 4-014 / 03 is set to 1 / SI (printing)</u></b>			
NFR.N	Management document number	4 bytes	0001 to 9999

If the fields are not present in the frame, the following default values are used:

- DRW NUM – 1
- PULSE ON – 15 (30mS)
- PULSE OFF – 15 (30mS)

The PULSE OFF field is only relevant if this command is used consecutively. In this case EPSON recommends setting the value equal to double the PULSE ON value. If PULSE OFF < PULSE ON, internally the printer automatically sets the PULSE OFF value the same as the PULSE ON value.

- **H1=1; H2=052 – PRINT INVOICE BASED ON LAST COMMERCIAL DOCUMENT**

Invoices are inhibited if the printer is in Demo RT mode. Modifiers are not supported (see 1-090 command).

Prints an invoice based on the last emitted commercial document. The INV field value must be greater or equal to the number of the last invoice + 1. The INV field can be zero. In this case, the invoice number will be the number programmed via the **H1=4; H2=025 – SET INVOICE PARAMETERS** command incremented thereafter for each invoice emitted. Invoices are not supported if the printer is in Demo RT mode.

The printer returns Error 17 if the last commercial document had been cancelled (via 1-028 all void or 1-088 reset commands). Furthermore, the invoice cannot be based on a commercial void or refund document (Error 17 is returned).

An invoice can also be printed whenever the commercial document on which it is based has a zero total.

TX 

1	052	OP	INV
---	-----	----	-----

RX 

1	052	OP	DATE	TIME	INV <sup>[1]</sup>
---	-----	----	------	------	--------------------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
INV	Invoice number	5 bytes	00000 or 00001 to 99999

RX (Total PDU length 27 bytes)

OP	Same as TX		
DATE	Date (day, month, year)	6 bytes	DDMMYY
TIME	Time (hour, minute)	4 bytes	HHMM
INV	Invoice number	4 bytes	0001 to 9999 <sup>[1]</sup>

<sup>[1]</sup> The response is always four bytes long. If the invoice number is  $\geq 10,000$  the most significant digit is omitted.

If barcodes or QR codes are present in the commercial document, these are not printed on the invoice.

Any line types 1 and 3 of the 1-078 command printed on the commercial document are not printed on the invoice.

1-078 type 4 free text lines in the body of the commercial document are printed.

1-078 type 2 trailer lines are printed but the font is always "normal".

This command returns Error 17 if the LINES field in the 4-025 / 4-225 command is less than 18.

- **H1=1; H2=055 – DISABLE KEYBOARD**

Disables the keyboard.

TX 

1	055	OP
---	-----	----

RX 

1	055	OP
---	-----	----

TX and RX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

Please bear in mind that the keyboard is automatically unblocked in the following cases:

- Power on
- 1-088 reset command
- Management document 1-065 closure command
- Whenever an expected ACK is not received ("P.C. NON CONNESSO" displayed). In this case CL / CLEAR must be pressed to render the keyboard usable.

Unlocking does not occur in other cases such as with commercial documents for example.

- **H1=1; H2=056 – ENABLE THE KEYBOARD**

Unblock a previously blocked keyboard.

TX 

1	056	OP
---	-----	----

RX 

1	056	OP
---	-----	----

TX and RX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

Please bear in mind that the keyboard is automatically unblocked in the cases described above in the 1-055 command.

- **H1=1; H2=060 – SEND BUSINESS TAX CODE (PARTITA IVA)**

Memorises the client's business tax code number for printing. Only valid for commercial documents. The IT prefix should be omitted.

If the 4-014 / 58 RT RESO MERCE=Ndc flag is set to 0 / NO, this command can also be used with commercial refund/return documents. Likewise, if 4-014 / 59 RT ANNULLAM.=Ndc is set to 0 / NO, it can be used with commercial void documents. However, from firmware 10.01 (modified) / 6.01 (native), it is permitted even if set to 1 / SI.

The single line is printed between DOCUMENTO N and the fiscal serial number.

If trailer lines have also been memorised (1-078 command type 2), the business tax code is printed above.

This command can be transmitted whilst the printer is in either the commercial document open or closed condition but before payment completion. In JavaPOS mode however, it can be sent after the payment phase is complete.

The memorised code is only valid for the current print-out. It is not possible to print both the business tax code and the personal tax code (codice fiscale 1-061 command) or the lottery code (1-135 command).

The printer acts on the last of the three commands received. Finally, the printer checks the accuracy (congruence) of the business tax code number and if an error is found responds with Error 30 – CHECKSUM ERRATO (bad checksum).

TX 

1	060	OP	CODE
---	-----	----	------

RX 

1	060	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
CODE	Business tax code number	11 bytes	Numeric

RX

OP	Same as TX
----	------------

- **H1=1; H2=061 – SEND PERSONAL TAX CODE (CODICE FISCALE)**

Memorises the client's personal tax code number for "parlanti" printouts. Only valid for commercial documents.

If the 4-014 / 58 RT RESO MERCE=Ndc flag is set to 0 / NO, this command can also be used with commercial refund/return documents. Likewise, if 4-014 / 59 RT ANNULLAM.=Ndc is set to 0 / NO, it can be used with commercial void documents. However, from firmware 10.01 (modified) / 6.01 (native), it is permitted even if set to 1 / SI.

The single line is printed between DOCUMENTO N and the fiscal serial number.

If trailer lines have also been memorised (1-078 command type 2), the personal tax code is printed above them.

This command can be transmitted whilst the printer is in either the commercial document open or closed condition but before payment completion. In JavaPOS mode however, it can be sent after the payment phase is complete.

The memorised code is only valid for the current print-out. It is not possible to print both the personal tax code and the business tax code (partita IVA 1-060 command) or the lottery code (1-135 command).

The firmware checks the code accuracy (congruence). Firstly, string length is checked which must also not contain any spaces. Then the checksum is verified. In both cases, if an error is found, it responds with Error 30 – CHECKSUM ERRATO (bad checksum).

TX 

1	061	OP	CODE
---	-----	----	------

RX 

1	061	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
CODE	Personal tax code number	16 bytes	Alphanumeric

RX

OP	Same as TX
----	------------

- **H1=1; H2=062 – DISPLAY TEXT**

Sends a message destined for the customer / line display either for immediate visualisation or for programming of timeout promotional message. Typical uses are for sales, greetings, courtesy messages, advertising or other. Messages can also be sent whenever the printer is in the offline condition ("STAMPANTE OFF-LINE").

TX 

1	062	OP	DIS	TEXT	CURS <sup>[4]</sup>
---	-----	----	-----	------	---------------------

RX 

1	062	OP
---	-----	----

TX (Total PDU length 56 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DIS	Display ID	1 byte	0 = Real time message 1 to 2 = Obsolete values 3 to 5 = Promotional message <sup>[1]</sup>
TEXT	Text to display	40 bytes <sup>[2]</sup>	Alphanumeric
CURS <sup>[3]</sup>	Cursor position (Lower line only)	2 bytes	00 to 20 No cursor 21 to 40 Cursor <sup>[4]</sup>

RX

OP	Same as TX
----	------------

<sup>[1]</sup> The 3, 4 and 5 values are used to program a "delayed" advertising message. There is no functional difference between 3, 4 or 5. The delay timer in seconds can be programmed via 4-015 /13.

<sup>[2]</sup> With box office tickets, the limit is 20 bytes, but the field length should still be 40 bytes adding spaces after the desired text. The message is only displayed on the upper line since the lower line is reserved for the box office fixed BIGLIETTERIA wording. In all other cases the limit is 40 bytes.

<sup>[3]</sup> The larger FD-210 display does not support the cursor function.

<sup>[4]</sup> The value 21 positions the cursor in the first position and the value 40 in the last position to the right (lower line only). "Delayed" promotional messages do not manage the cursor.

- **H1=1; H2=063 – BEGIN MANAGEMENT DOCUMENT**

Open a management document (documento gestionale). This type of document is allowed whenever the printer is in the "Periodo Inattivo" condition. It is not allowed when the printer is in the pre-Censimento condition (Certificati Caricati for example).

Disables the keyboard.

TX 

1	063	OP
---	-----	----

RX 

1	063	OP
---	-----	----

TX and RX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

- **H1=1; H2=064 – PRINT REC NORMAL**

Transmits a data line to print on management documents.

TX 

1	064	OP	FONT	TEXT
---	-----	----	------	------

RX 

1	064	OP
---	-----	----

TX (Total PDU length 60 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
FONT	Font type	1 byte	1= Normal 2= Bold 3= Double height 4= Double height plus bold
TEXT	String to print	46 bytes	Alphanumeric right padded with spaces

RX

OP	Same as TX
----	------------

- **H1=1; H2=065 – END MANAGEMENT DOCUMENT**

Close a management document.

TX 

1	065	OP
---	-----	----

RX 

1	065	OP
---	-----	----

TX and RX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

This command also unblocks the keyboard if it was previously blocked via the 1-055 command.

- **H1=1; H2=070 – GET COMMERCIAL DOCUMENT NUMBER**

If it is open, the current number is returned.

If it is closed, the number of the next commercial document is returned.

The number returned corresponds with the second half of the document number after the hyphen, that is without the Z report daily closure reference number.

TX 

1	070	OP
---	-----	----

RX 

1	070	OP	FR.N	O/C
---	-----	----	------	-----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
FR.N	Document number	4 bytes	0001 to 9999 <sup>[1]</sup>
O/C	Printer condition (Commercial document open or closed)	1 byte	0 or 1

RX

OP	Same as TX
----	------------

<sup>[1]</sup> Depends on O/C value as follows:

If O/C = 0 ->: FR.N corresponds with the current print-out.

If O/C = 1 ->: FR.N corresponds with the number of the next print-out.

- [H1=1; H2=074 – GET PRINTER STATUS](#)

Returns printer status and diagnostic information.

TX 

1	074	OP
---	-----	----

RX 

1	074	OP	CPU	MF STAT	MF REL	STATUS
---	-----	----	-----	---------	--------	--------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX (Total PDU length 28 bytes)

OP	Same as TX		
CPU	Fiscal firmware version	5 bytes	Alphanumeric
MF STAT	Fiscal memory status (MPR)	1 byte	0 = OK 1 = Error 2 = Full <sup>[1]</sup> 3 = Overflow
MF REL	Fiscal memory firmware version (MPR)	4 bytes	Alphanumeric
STATUS	Printer status	5 bytes	Alphanumeric

<sup>[1]</sup> The condition "Full" is also returned when the current fiscal day will be the last possible one. In other words, after the fiscal daily closure, the printer will deactivate as it will have reached its end of life.

**STATUS Field:**

Val	Byte 1 Printer	Byte 2 EJ / MPD	Byte 3 Cash Drawer	Byte 4 Commercial Document <sup>[4]</sup> / Invoice	Byte 5 Operative
0	Printer OK	EJ / MPD OK	Open	Commercial document open	Stato Registrazione (MONITOR)
1		Nearly full <sup>[1]</sup>	Closed <sup>[3]</sup>	No current open document (STATO REGISTRAZIONE)	X State
2	Paper roll or SLIP station nearly empty	Unformatted		Management document open	Z State
3	Printer offline (No paper or cover open)	Previous		Payment in progress (Commercial document)	S State
4		From another fiscal printer		Commercial document – Error whilst transmitting ESC/POS commands (at ending phase) <sup>[5]</sup>	Box office
5		Full <sup>[2]</sup>		Negative subtotal (Commercial document)	
6				Management document – Error whilst transmitting ESC/POS commands <sup>[5]</sup>	
7				JavaPOS-UPOS mode – Awaiting closure command (Commercial document)	
8				Direct invoice open <sup>[6]</sup>	
9					
A				Box office ticket open	
B				Box office ticket closed	

<sup>[1]</sup> On all FP-81 II RT variants, the warning limit is 15 days.

<sup>[2]</sup> On all FP-81 II RT variants, the limit adjusts according to the maximum number of closures.

<sup>[3]</sup> The "1 – closed" indication appears if no cash drawer is connected or if one is connected that has no sensor.

<sup>[4]</sup> Includes refund and manual (non-automatic) void documents.

<sup>[5]</sup> The ESC/POS error condition is cleared whenever a new commercial or management document is opened, or the reset command is received. Typical errors are paper out, initial timeout expired, or inter-character timeout expired.

<sup>[6]</sup> Byte 4 is always 8 for open direct invoices irrespective of subtotal, payment or JavaPOS conditions.

- **H1=1; H2=075 – PRINT BARCODE OR QR CODE**

Requests the printing of a barcode or QR code. The type, size and properties can be personalised. The command works with commercial and management documents, invoices and box-office tickets (titoli d'accesso).

### **Commercial Documents**

Traditionally, a single barcode or QR code is printed at the foot of the print-out between the promotional lines (1-078 command type 3) and the footer logo (FOOTER GRAFICO). The single command is transmitted after the document opening command but before the closure command or before the payment command whenever the JAVAPOS-UPOS mode is deactivated. The printer memorises it. An eventual successive command is accepted and overwrites the previous one.

However, the command can be sent as many times as you like after document closure whenever paper cutting is suspended with the 1-137 paper cutter handling command. This allows multiple codes to be printed on a single commercial document.

### **Management Documents**

In this case you can always print as many barcodes and QR codes as you wish. They are printed as soon as the command is received.

### **Invoices**

In this case it is only possible to print a single barcode or QR code at the foot of the print-out on both copies after the footer logo (FOOTER GRAF. FATTURE). The single command is transmitted after the document opening command but before the closure command or before the payment command whenever the JAVAPOS-UPOS mode is deactivated. The printer memorises it. An eventual successive command is accepted and overwrites the previous one.

TX (classic barcode) 

1	075	OP	POS	W	H	HRI	HRI-F	NU	TYPE	DATA
---	-----	----	-----	---	---	-----	-------	----	------	------

TX (QR code) 

1	075	OP	POS	NU	SIZ	DATA	TYPE	E-COR	NU	TYPE	DATA
---	-----	----	-----	----	-----	------	------	-------	----	------	------

RX 

1	075	OP
---	-----	----

NU = Not used

**COMMAND FIELDS**

TX (Max total PDU length 299 bytes)

Field	Description		Length	Range / Value	
	Classic Barcode	QR Code		Classic Barcode	QR Code
OP	Operator		2 bytes	01 to 12	
POS	Starting horizontal barcode position in dots	Horizontal position	3 bytes	000 to 512 900 = Left 901 = Centred 902 = Right	000 = Left 001 = Centred 002 = Right
W (BC only)	Individual bar width in dots	Not used	1 byte	1 to 6 Wmax (Limits based on barcode type and data length). See tables 4 and 5	Not used
H (BC) SIZ (QR)	Barcode height in dots	QR code size	3 bytes	001 to 255	001 to 016
HRI (BC) DATA TYPE (QR)	HRI textual representation	Data type	1 byte	0 = Do not print 1 = Print above 2 = Print below 3 = Print above and below	9 = Binary data <sup>[2]</sup> !9 = Alphanumeric data
HRI-F (BC) E-COR (QR)	HRI character font <sup>[1]</sup>	Error correction level	1 byte	0 = Font A 1 = Font B	0=Low (7%) 1=Medium low (15%) 2=Medium high (25%) 3=High (30%)
NU	Not used		2 bytes		
TYPE	Barcode type	QR code type	2 bytes	See table 1	91 QR type 1 92 QR type 2 <sup>[3]</sup>
DATA	Barcode data	QR code data	Based on barcode type. See table 1 (BC)  Max 256 bytes (QR)	Based on barcode type.	Variable length alphanumeric string or binary data <sup>[2]</sup>

## RX

OP	Same as TX
----	------------

<sup>[1]</sup> The HRI line does not print possible “{”, “|” and “}” characters that form part of CODE 39, CODE 128 GS1-128 barcodes.

<sup>[2]</sup> If the DATA-TYPE field is equal to 9, the DATA field contains a hexadecimal sequence. For example, HELLO = 48454C4C4F. The letters A to F can also be lower case. Allows binary QR code printing.

<sup>[3]</sup> EPSON recommends type 2 (92) as it is more compatible with Smartphones.

**TABLE 1 – CLASSIC BARCODES SUMMARY**

Type	System	Data field	
		Code length	Characters permitted
00 65	UPC-A	12	0 to 9
01 66	UPC-E	12	0 to 9 (First character = 0)
02 67	JAN 13 / EAN 13	13	0 to 9
03 68	JAN 8 EAN 8	8	0 to 9
04 69	CODE39	1 to 34	0 to 9, A to Z, space, \$, %, *, +, -, ,, / [1]
05 70	ITF	2 to 62 (There must be an even number of characters)	0 to 9
06 71 [2]	CODABAR (NW7)	1 to 47	0 to 9, A to D, a to d, \$, +, -, ,, /, :
72	CODE93	1 to 59	00h to 07Fh The followed are excluded: 07Bh (“{“ 07Ch (“ ” 07Eh (“}”)
73	CODE128	1 to 98 (3 to 100) The first two characters {A, {B or {C identify the subset [3]	00h to 07Fh Based on the indicated subset. See tables 2 and 3. The followed are excluded: 07Bh (“{“ 07Ch (“ ” 07Eh (“}”)
74	GS1-128	2 to 96	00h to 07Fh The followed are excluded: 07Bh (“{“ 07Ch (“ ” 07Eh (“}”)
75	GS1 DataBar Omnidirectional	13	0 to 9
76	GS1 DataBar Truncated	13	0 to 9
77	GS1DataBar Limited	13	0 to 9 The first digit must be 0 or 1
78	GS1 DataBar Expanded	2 to 70	0 to 9, A to D, a to d SP, !, ", %, \$, ', ( ) , *, +, ,, -, ., /, : ; , <, =, >, ? , _ {

<sup>[1]</sup> Code 39 asterisk start and stop characters are always included automatically. If the first and/or last character in the barcode string is an asterisk, it is interpreted as a start and/or stop character.

<sup>[2]</sup> The string must contain the start and stop characters otherwise no code is printed, and it could block the printer. The start and stop characters that must not exist elsewhere are A, B, C, D, a, b, c, d. For example: A123456789A and B987654321D.

<sup>[3]</sup> The first two characters are not printed – they merely identify the desired subset (CODE A, CODE B or CODE C) as indicated in table 2 below.

**TABLE 2 – CODE 128 SUB TYPES**

Sub Type	Prefix Pair	Supported Characters	
CODE A	{A	Printable characters	From 20h (space) to 5Fh ( )
		Control characters	From 00h to 1Fh
		Special characters	FNC 1; FNC 2; FNC 3; FNC 4; SHIFT; CODE B; CODE C. Two characters must be sent: “{” followed by the relative function character
CODE B	{B	Printable characters	From 20h to 7Fh
		Control characters	FNC 1; FNC 2; FNC 3; FNC 4; SHIFT; CODE A; CODE C
CODE C <sup>[1]</sup>	{C	Numeric data (0 to 9)	There must be an even number of digits. For example: “12345678”
		Special characters	FNC 1; CODE A; CODE B.

<sup>[1]</sup> With type C, a data sanity check is performed. If the data contains non-numeric characters or there are an odd number of digits, the printer responds with Error 13.

**TABLE 3 – CODE 128 SPECIAL CHARACTERS**

Special character	Sequence	Special character	Sequence
FNC 1	{1	FNC 2	{2
FNC 3	{3	FNC 4	{4

**TABLE 4 – MAXIMUM W FIELD VALUES**

Type	System	Maximum individual bar width (W field) for each paper width	
		57/58	80
00 65	UPC-A	4	6
01 66	UPC-E	6	6
02 67	JAN 13 EAN 13	4	6
03 68	JAN 8 EAN 8	6	6
75	GS1 DataBar Omnidirectional	4	6
76	GS1 DataBar Truncated	4	6
77	GS1 DataBar Limited	5	6

The indicated values are without any offset (POS field equal to either 000, 900, 901 or 902).  
The limits can vary slightly according to the digits in the barcode.

**TABLE 5 – MAXIMUM NUMBER OF PRINTABLE CHARACTERS**

Type	System	W	Maximum number of printable characters for each paper width	
			57/58	80
04 69	CODE39	6	2	4
		5	3	5
		4	5	8
		3	7	10
		2	12	17
		1	24	34
05 70	ITF	6	6	11
		5	8	13
		4	10	17
		3	14	23
		2	24	35
		1	40	63
06 71	CODABAR (NW7)	6	5	7
		5	7	10
		4	9	12
		3	12	16
		2	18	26
		1	34	47
72	CODE93	6	3	6
		5	5	8
		4	7	11
		3	11	17
		2	19	27
		1	42	59
73	CODE128 Types A and B	6	3	5
		5	4	7
		4	6	9
		3	9	14
		2	15	23
		1	35	49
	CODE128 Type C	6	6	10
		5	8	14
		4	12	18
		3	18	28
		2	30	46
		1	70	98

Type	System	W	Maximum number of printable characters for each paper width	
			57/58	80
74	GS1-128	6	4	8
		5	6	12
		4	10	16
		3	16	26
		2	28	44
		1	68	96
78	GS1 DataBar Expanded	6	0	0
		5	0	8
		4	8	12
		3	12	19
		2	22	32
		1	50	70

The indicated values are without any offset (POS field equal to either 000, 900, 901 or 902).  
The limits can vary slightly according to the digits in the barcode.

#### Maximum W and barcode lengths note

Possible start and stop characters that are printed must be taken into consideration when determining maximums. Since the two-character CODE 128 prefixes are not printed, they are not taken into consideration.

If the settings for dimension, length, position and paper width do not permit the barcode to be printed, there could be whitespace or the human readable string in the expected position.

- [H1=1; H2=077 – MPD \(EJ / DGFE\) STATUS](#)

Returns the status of the electronic journal.

TX 

1	077	OP
---	-----	----

RX 

1	077	OP	STAT	%	NUM	SIZE	NU
---	-----	----	------	---	-----	------	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX (Total PDU length 20 bytes)

OP	Same as TX		
STAT	MPD (EJ) status	1 byte	0 = OK 1 = Nearly full <sup>[2]</sup> 2 = Unformatted 3 = Previous card inserted 4 = Belongs to another EPSON fiscal printer 5 = Full <sup>[3]</sup> 6 = Missing / Not inserted
%	MPD (EJ) percentage utilisation	2 bytes	00 to 99 In Demo RT mode, the value reflects the usage in the reserved Demo portion.
NUM	MPD (EJ) card sequence number	2 bytes	00 to 99 <sup>[1]</sup>
SIZE	Size	1 byte	RT standalone models: <ul style="list-style-type: none"> <li>• 0 = 16 Megabytes</li> <li>• 1 = 32 Megabytes</li> <li>• 2 = 64 Megabytes</li> <li>• 3 = 128 Megabytes</li> <li>• 4 = 256 Megabytes</li> <li>• 5 = 512 Megabytes</li> <li>• 6 = 1 Gigabyte</li> <li>• 7 = 2 Gigabytes</li> <li>• 8 = 3 Gigabytes</li> <li>• 9 &gt; 3 Gigabytes</li> </ul> The above sizes are the DGFE (MPD) partition.  RT server: <ul style="list-style-type: none"> <li>• 0 = &lt;=16 Gigabytes</li> <li>• 1 = 32 Gigabytes</li> <li>• 2 = 64 Gigabytes</li> </ul> The above sizes are the SD card.
NU	Not used	1 byte	Fixed at 0

<sup>[1]</sup> 00 whenever an unformatted card is present.

<sup>[2]</sup> The threshold is reached when the MPD is 90% full (10% free space).

<sup>[3]</sup> The limit depends on the maximum number of closures.

- **H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS)**

Used with commercial documents and invoices to print headers, promotional and additional description lines. Also used to open commercial refund/return documents and commercial void documents. See [Commercial Refund/Return Documents](#) and [Commercial Void Documents](#) chapters for more information. Furthermore, used to print or clear the EFT-POS buffered data previously received from the POS terminal and set JSON customerId identifier.

TX	1	078	OP	TYPE	ROW	CLR EFT BUF	FONT	TEXT
----	---	-----	----	------	-----	-------------	------	------

RX	1	078	OP
----	---	-----	----

The TYPE field indicates the line type as indicated in the following list:

- TYPE = 1: Additional header (pre-loaded)
- TYPE = 2: Trailer (pre-loaded)
- TYPE = 3: Additional trailer / promo (pre-loaded plus can also be static for all subsequent commercial documents)
- TYPE = 4: Additional description in document body or during partial payment phase <sup>[1]</sup>
- TYPE = 5: Additional invoice header
- TYPE = 6: Invoice client lines
- TYPE = 7: Store / shop account reference number (for JSON file – not printed)
- TYPE = 8: Print EFT-POS buffered lines

<sup>[1]</sup> Type 4 rows are printed between "di Cui IVA" and the payment lines (for example, Pagamento Contante).

**COMMAND FIELDS**

TX (Max total PDU length 82 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
TYPE	Additional string type	1 byte	1 to 8
ROW	Row number	2 bytes	01 to 09 (Type 1) 01 to 99 (Type 2) 01 to 99 (Type 3) 00 (Types 3 <sup>[1]</sup> , 4, 7 and 8) 01 to 20 (Type 5) 01 to 05 (Type 6)
CLR EFT BUF	Print or erase EFT-POS buffer	1 byte	0 = Print buffer 1 = Erase buffer (without printing)
FONT	Character font <sup>[2]</sup>	1 byte	1= Normal 2= Bold 3= Double height 4= Double height plus bold
TEXT	Additional string	0 bytes 1 to 37 bytes 1 to 38 bytes 1 to 46 bytes <sup>[3]</sup> 1 to 64 bytes	Alphanumeric <sup>[4]</sup>

RX

OP	Operator	2 bytes	01 to 12 51 to 62 <sup>[5]</sup>
----	----------	---------	-------------------------------------

<sup>[1]</sup> The value 00 in ROW only has significance when promo lines are configured as static (SET 14/38 = "0 / NO"). The value 00 instructs the printer to erase the entire 99-line buffer. FONT has no significance but must still be in the range from 1 to 4.

<sup>[2]</sup> FONT – Regarding types 4, 5, 6, 7 and 8, the font is always normal – the field has no significance but must be within range.

Regarding type 8, the FONT setting is ignored as the font for each line is determined by the POS terminal.

<sup>[3]</sup> TEXT – In the case of the special refund and void wording, add spaces so that the field length is 46.

<sup>[4]</sup> TEXT – The maximum lengths depend on the line type and document type. Regarding type 8, it could also be zero bytes since the data to print is already memorised in the printer.

<sup>[5]</sup> A 50-operator offset in the response indicates that a commercial void document was automatic.

**Type 1:**

The lines are printed as indicated below. The command must be sent before opening command. The maximum of nine lines are memorized one time only for the "about to be opened" commercial document. The maximum length is 46 characters. Valid for:

- Commercial documents (including return/refund and void types) – Between retail header lines and fixed DOCUMENTO COMMERCIALE line
- Management documents – Between retail header lines and fixed DOCUMENTO GESTIONALE line

Not valid for:

- Invoices (in the case of an invoice based on the last emitted commercial document, the lines printed on the commercial document are simply not printed on the relative invoice)
- Cash in
- Cash out

Types 1 and 4 are also used to open a refund/return or void document. See type 4 description to see how to manage these documents.

**Type 2:**

Only commercial documents (including return/refund and void types). On commercial documents, the lines are printed after the fiscal serial number. The command must be sent after the opening command. The lines are only memorised once for the current document. Also called trailer lines. Type 2 lines in commercial documents are printed in invoices based on them and are also managed in direct invoices. The font is always normal. The maximum length is 46 characters.

Type 2 lines can be sent after commercial document closure whenever paper cutting is suspended with the 1-137 paper cutter handling command. In this case, the index field has no significance but must not be zero. Lines are not stored in the MPD (EJ / DGFE).

**Type 3:**

Only commercial documents (including return/refund and void types). The lines are printed after the fiscal serial number. Also called additional trailer lines or promotional lines. The maximum length is 46 characters. The RESET RIGHE PROMO (SET 14/38) parameter changes the behaviour as follows:

- Value = "0 / NO" – The command is transmitted either whilst the printer is in the STATO REGISTRAZIONE condition or whilst a document is open. The lines are immediately memorised and the printouts from this point on contain the promotional lines even if the printer is power cycled. If they are programmed whilst a document is open, they are still printed. The value 00 instructs the printer to erase the entire 99-line buffer.
- Value = "1 / SI" – The command is transmitted only after the opening of a commercial document otherwise Error 17 is returned. The lines are not memorised and are only printed on the current print-out.

In the case of an invoice based on the last emitted fiscal receipt / commercial document, the lines printed on the original print-out are simply not printed on the relative invoice.

**Type 4:**

Document body or during partial payment phase. Not possible after full payment. Regarding the additional description, the maximum string length is 38 bytes for commercial documents, whilst for invoices the maximum is 37 bytes. The protocol allows a length up to 46 bytes but prints only the first 38 or 37 bytes. Furthermore, if the string length is > 25, the extra characters are printed on a new line by default. However, if flag 4-014 / 60 OVERLAP is set to 1, extra characters are printed on the same line.

If the printer is in the closed condition, the reception of this line type will automatically open a new commercial document plus print the desired string after the fixed "DESCRIZIONE IVA Prezzo(€)" line.

Type 4 is also used to open refund/return or void documents. See [Commercial Refund/Return Documents](#) and [Commercial Void Documents](#) chapters for more information.

The font is only normal therefore the FONT field has no significance but must be within range. Furthermore, the ROW field has no significance.

Compatible with:

- Commercial documents (including return/refund and void types – Initially for opening and then for printing additional description lines)
- Direct invoices
- Invoices based on the last emitted commercial document <sup>[1]</sup>

Incompatible with:

- Management documents (documenti gestionali)
- Cash in
- Cash out

<sup>[1]</sup> An eventual 38-character description printed on a commercial document is truncated to 37 on the relative invoice.

**Type 5:**

Only valid with invoices. The lines are printed above the retail header lines. **Important:** The value of the "RIGHE INIZIO FATTURA" (SET 25) parameter must at least coincide with the value of the ROW field. The default value is 0 that effectively deactivates printing of type 5 lines even if the printer accepts the 1-078 command without any error. The command must be transmitted before the invoice opening command. Only the normal font is supported. If the "INTEST. FATTURA" (SET 25) parameter is set to NO, type 5 lines are still printed. The character limit is 46.

**Type 6:**

Only valid with invoices. The lines are printed below the retail header lines. They are the same client lines that can also be filled out when invoices are emitted via the keyboard. The command must be transmitted before the invoice opening command. Only the normal font is supported. If the "INTEST. FATTURA" (SET 25) parameter is set to NO, type 6 client lines are not printed at all and furthermore the printer does not leave a space to handwrite them. The character limit is 46.

**Type 7:**

The sole type 7 line can be used to set the customerId in the www/json\_files/rec.json file. The limit is 64 bytes. This file can be used with automatic PHP scripts that are programmed via the 4-034 command when CAT=02.

**Type 8:**

Only commercial and management documents. The command must be transmitted after the document opening command. The buffered EFT-POS lines from the POS terminal are printed or if the CLR EFT BUF flag = 1, the same buffer is erased without printing. With management documents, the lines are printed immediately. With commercial documents, the lines are later printed after any possible type 2 lines. From firmware 9.01 (native) and 11.04 (modified) onwards, the "\* MODALITA' ONLINE \*" wording is automatically saved into the MPD (DGFE) after the EFT-POS lines and will be seen only when either reprinting or reading.

**Invoice notes:**

- Types 1, 2, and 3 are not valid with invoices.
- The 38-character limit is reduced to 37.
- Type 4 is valid for direct invoices.
- Types 5 and 6 are valid for both invoices based on the last emitted commercial document and direct invoices.

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- **H1=1; H2=080 – PRINT REC ITEM**

Performs a sale. Valid for commercial documents and direct invoices. Not valid for commercial refund/return and commercial void documents when respective flags 4-014 / 58 and 59 are set to NdC mode (1 / SI). From one to three lines are printed depending on the description text length and quantity. Flag 4-014 / 60 can also affect the number of printed lines. If the printer is in the STATO REGISTRAZIONE condition, a new commercial document will be opened automatically. Can also actively manage weighing scales operations.

If the ATECO code table has been configured, all transactions in a single commercial document or direct invoice must use the same ATECO code. It is not possible to mix ATECO codes in a single print-out. Furthermore, any departments programmed with ATECO index 0 are deactivated.

TX 

1	080	OP	DESCR	QTY / TARE	PRICE	DEP	L/R
---	-----	----	-------	------------	-------	-----	-----

RX 

1	080	OP
---	-----	----

TX (Max total PDU length 70 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12 51 to 62 <sup>[1]</sup>
DESCR	Description	1 to 38 bytes <sup>[2]</sup>	Alphanumeric
QTY / TARE	Quantity / Scales Tare	7 bytes <sup>[3]</sup>	0000001 to 9999999 0000000 to 0009999
PRICE	Unit price in cents or Price per kilo	9 bytes <sup>[4]</sup>	000000000 to 999999999 000000001 to 999999999
DEP	Department	2 bytes	01 to 99 <sup>[5]</sup>
L/R	Display text alignment	1 byte <sup>[6]</sup>	1 = Display first 20 characters 2 = Display last 20 characters 3 = Weighing scales sale (1) 4 = Weighing scales sale (2)

RX

OP	Operator	2 bytes	01 to 12 (Offset not present in reply)
----	----------	---------	---

<sup>[1]</sup> By default, the quantity line is not printed if it is equal to 1. By adding an offset of 50 to the OP field, the quantity line is always printed. On direct invoices it has no effect.

<sup>[2]</sup> DESCR – 1 to 37 bytes in the case of direct invoices. Furthermore, invoices based on the last emitted commercial document (1-052 command) have the same line length limits.

<sup>[3]</sup> QTY / TARE – For normal sales, quantity ranges from 0000.001 to 9999.999 to three decimal places. For example, whole number 1 is written as 0001000. Cannot be zero. For weighing scales operations, Tare is expressed in grams (max 9999 and can be zero).

<sup>[4]</sup> PRICE – For normal sales, the unit price can be zero. In this case, the VAT and price column values are blanked out. For weighing scales operations, the price per kilo must be at least 1 cent.

<sup>[5]</sup> Departments programmed with a historical VAT group can only be used with commercial refund and void documents.

<sup>[6]</sup> 3 and 4 activate weighing scales operations. In this case, SET 17 must be set to BILANCIA. 3 sets display alignment to the left and 4 to the right.

- **H1=1; H2=081 – PRINT REC REFUND (RESO)**

Performs a refund operation. Valid for commercial refund/return and commercial void documents. Not valid for normal commercial documents and direct invoices but in this case the command is accepted with the transaction being converted automatically to a correction (Storno). Furthermore, when respective flags 4-014 / 58 and 59 are set to commercial document mode (0 / NO), refunds are converted to corrections (storni) in commercial refund/return and commercial void documents. If the printer is in the STATO REGISTRAZIONE condition, a new commercial document will be opened automatically with the transaction being converted automatically to a correction (Storno).

TX 

1	081	OP	DESCR	QTY	PRICE	DEP	L/R
---	-----	----	-------	-----	-------	-----	-----

RX <sup>[1]</sup>

1	081	OP
---	-----	----

RX <sup>[2]</sup>

1	082	OP
---	-----	----

<sup>[1]</sup> 1081 is never returned in Commercial Sale documents and is only returned in Commercial Refund documents whenever 4-014 / 58 = 1 and Commercial Void documents whenever 4-014 / 59 = 1.

<sup>[2]</sup> 1082 is always returned in Commercial Sale documents and is only returned in Commercial Refund documents whenever 4-014 / 58 = 0 and Commercial Void documents whenever 4-014 / 59 = 0. H=1 and H2=082 indicates that the transaction has been converted to a correction (storno).

TX (Max total PDU length 70 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12 51 to 62 <sup>[1]</sup>
DESCR	Description	1 to 38 bytes <sup>[2]</sup>	Alphanumeric
QTY	Quantity	7 bytes <sup>[3]</sup>	0000001 to 9999999
PRICE	Unit price in cents	9 bytes <sup>[4]</sup>	000000000 to 999999999
DEP	Department	2 bytes	01 to 99
L/R	Display text alignment	1 byte	1 = Display first 20 characters 2 = Display last 20 characters

RX

OP	Operator	2 bytes	01 to 12 (Offset not present in reply)
----	----------	---------	---

<sup>[1]</sup> By default, the quantity line is not printed if it is equal to 1. By adding an offset of 50 to the OP field, the quantity line is always printed. On direct invoices it has no effect.

<sup>[2]</sup> DESCR – 1 to 37 bytes in the case of direct invoices. Furthermore, invoices based on the last emitted commercial document (1-052 command) have the same line length limits.

<sup>[3]</sup> Quantity 0000.001 to 9999.999 to three decimal places. For example, whole number 1 is written as 0001000. Cannot be zero.

<sup>[4]</sup> PRICE – The unit price can be zero. The minus sign must not be used as the printer automatically prints it when necessary.

- **H1=1; H2=082 – PRINT REC VOID ITEM (STORNO)**

Cancels or adjusts a previous sale. Valid for commercial documents and direct invoices. Not valid for commercial refund/return and commercial void documents when respective flags 4-014 / 58 and 59 are set to NdC mode (1 / SI). If the printer is in the STATO REGISTRAZIONE condition, a new commercial document will be opened automatically.

TX 

1	082	OP	DESCR	QTY	PRICE	DEP	L/R
---	-----	----	-------	-----	-------	-----	-----

RX 

1	082	OP
---	-----	----

TX (Max total PDU length 70 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12 51 to 62 <sup>[1]</sup>
DESCR	Description	1 to 38 bytes <sup>[2]</sup>	Alphanumeric
QTY	Quantity	7 bytes <sup>[3]</sup>	0000001 to 9999999
PRICE	Unit price in cents	9 bytes <sup>[4]</sup>	000000000 to 999999999
DEP	Department	2 bytes	01 to 99
L/R	Display text alignment	1 byte	1 = Display first 20 characters 2 = Display last 20 characters

RX

OP	Operator	2 bytes	01 to 12 (Offset not present in reply)
----	----------	---------	---

<sup>[1]</sup> By default, the quantity line is not printed on commercial documents if it is equal to 1. By adding an offset of 50 to the OP field, the quantity line is always printed. On direct invoices it has no effect.

<sup>[2]</sup> DESCR – 1 to 37 bytes in the case of direct invoices. Furthermore, invoices based on the last emitted commercial document (command 1-052) have the same line length limits.

<sup>[3]</sup> Quantity 0000.001 to 9999.999 to three decimal places. For example, whole number 1 is written as 0001000. Cannot be zero.

<sup>[4]</sup> PRICE – The unit price can be zero. The minus sign must not be used as the printer automatically prints it when necessary.

- **H1=1; H2=083 – PRINT REC ADJUSTMENT**

Applies a discount or surcharge. Only fixed amounts can be used. Percentage discounts/surcharges should be managed by your retail application software. The discount/surcharge can be applied either to a specific department, based on the last transaction or based on the subtotal. It cannot be zero. If TYPE = 3 or 8 and the printer is in the STATO REGISTRAZIONE condition, a new commercial document will be opened automatically.

TX 

1	083	OP	DESCR	AMN	TYPE	DEP	L/R
---	-----	----	-------	-----	------	-----	-----

RX 

1	083	OP
---	-----	----

TX (Max total PDU length 64 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DESCR	Description	1 to 38 bytes	Alphanumeric
AMN	Discount/surcharge amount	9 bytes	000000001 to 999999999
TYPE	Discount/surcharge type	1 byte	0 = Discount on last sale or refund 1 = Discount on subtotal with subtotal line printed. 2 = Discount on subtotal without subtotal line printed. 3 = Discount on a specific department 5 = Surcharge on last sale or refund 6 = Surcharge on subtotal with subtotal line printed. 7 = Surcharge on subtotal without subtotal printed 8 = Surcharge on a specific department.
DEP	Department	2 bytes	01 to 99
L/R	Display text alignment	1 byte	1 = Display first 20 characters 2 = Display last 20 characters

RX

OP	Same as TX
----	------------

### **Important Notes**

1. The amount cannot be zero.
2. In the case of discounts, the minus sign must not be used. The printer automatically prints it.
3. Types 0 and 5. If the last transaction was a cancellation (storno) or a modifier, Error 11 is returned. If the SALES ATTRIBUTE field in the department used in the last transaction was set to 01, Error 16 is returned.
4. Types 1 and 6. The subtotal line is printed before the discount or surcharge.
5. Types 1 and 2. If the subtotal is zero or negative, Error 17 is returned.
6. Types 1, 2, 6 and 7. If a modifier transaction (1-090) precedes this command, firmware BN 252 or greater is required otherwise Error 17 is returned. If the SALES ATTRIBUTE fields in the departments used in the previous transactions were all set to 01, Error 21 is returned.
7. The Department field only has relevance with types 3 and 8.
8. Types 3 and 8. These types can be used as the first operation to automatically open a commercial document. If the SALES ATTRIBUTE field in the department specified in the DEP field was set to 01, Error 16 is returned.

- **H1=1; H2=084 – PRINT REC TOTAL**

Used in two payment scenarios:

1. Internal payments with commercial documents and direct invoices
2. EFT-POS "Online" payments

### **1. Internal payments with commercial documents and direct invoices**

This mode is activated automatically whenever one of the two aforementioned documents is open. EFT-POS payments on the other hand require that the printer be in the STATO REGISTRAZIONE condition.

If the JavaPOS-UPOS mode has been deactivated (flag 4-014 / 29 = 0), with sufficient payment in the case of a commercial document (including refund/return and void types) or a direct invoice, the command closes the current document and cuts the paper. See 1-087 command for closing print details.

If the JavaPOS-UPOS mode has been activated, following payment completion the document remains open and is closed with the 1-087 command.

If the payment more than covers the amount due including any rounding up or is the special zero figure, the reply indicates the change amount (in the case of rounding, this amount is rounded up or down). If payment is insufficient, the reply indicates the remaining payment due. The amount due figure is always without any rounding applied because the printer cannot foresee what the next payment type would be. If the payment exactly covers the amount due including any rounding, the reply indicates zero change. The display messages update according to the amount:

- Amount < amount due, DIFFERENZA (difference) is displayed
- Amount > amount due, RESTO (change) is displayed
- Amount = amount due, the personalised description is displayed
- Amount = 0, the personalised description is displayed

TX	1	084	OP	DESCR	AMN	TYPE	IND	L/R
----	---	-----	----	-------	-----	------	-----	-----

RX depends on the condition after having received the payment command, as follows:

RX with AMOUNT < amount due (more payment is required):

1	084	OP	CMP = 0	MIS
---	-----	----	---------	-----

RX with AMOUNT = zero or AMOUNT = amount due (commercial documents):

1	084	OP	CMP = 1	000000000	DATE	TIME	FRN
---	-----	----	---------	-----------	------	------	-----

RX with AMOUNT = zero or AMOUNT = amount due (direct invoices):

1	084	OP	CMP = 1	000000000	DATE	TIME	INV <sup>[1]</sup>
---	-----	----	---------	-----------	------	------	--------------------

RX with AMOUNT > amount due (commercial documents):

1	084	OP	CMP = 1	CHG	DATE	TIME	FRN
---	-----	----	---------	-----	------	------	-----

RX with AMOUNT > amount due (direct invoices):

1	084	OP	CMP = 1	CHG	DATE	TIME	INV <sup>[1]</sup>
---	-----	----	---------	-----	------	------	--------------------

TX (Max total PDU length 64 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DESCR	Description <sup>[1]</sup>	1 to 20 bytes <sup>[1]</sup> 1 to 38 bytes	Alphanumeric
AMN	Amount <sup>[2]</sup> <sup>[3]</sup>	9 bytes	000000000 to 999999999
TYPE	Payment type	1 byte	0 = Cash 1 = Cheque 2 = Credit or Credit Card 3 = Single Ticket <sup>[4]</sup> 4 = Multiple Tickets <sup>[4]</sup> 5 = Not paid 6 = Payment Discount
IND	Index (Depends on payment type)	2 bytes	See table below
L/R	Display text alignment	1 byte	1 = Display first 20 characters 2 = Display last 20 characters

RX with AMOUNT &lt; amount due (more payment is required):

OP	Same as TX		
CMP	Payment complete?	1 byte	0 = Payment phase in progress
MIS	Amount outstanding	9 bytes	000000001 to 999999999 <sup>[5]</sup>

RX in other cases (Max total PDU length 37 bytes)

OP	Same as TX		
CMP	Payment complete?	1 byte	1 = Payment phase complete
CHG	Change due	9 bytes	000000000 to 999999999
DATE	Current date	6 bytes	DDMMYY
TIME	Current time (hour and minute)	4 bytes	HHMM
The last field depends on the emission type:			
FRN	Commercial document number	4 bytes	0001 to 9999
INV	Invoice number <sup>[6]</sup>	4 bytes	0000 <sup>[6]</sup> 0001 to 9999 <sup>[6]</sup>

**Notes**

If the subtotal is negative or any of the VAT totals are negative, Error 17 is returned.

As soon as the payment phase starts, the following two lines are printed on commercial documents:

TOTALE COMPLESSIVO	(total amount due including VAT)
di cui IVA	(VAT amount)

## References

[1] With direct invoices the DESC field wording is not printed. It is only shown on the customer display when amount is zero or equal to the payment due. The limit is reduced to 20 characters.

[2] Amount = 0; The payment is deemed to be the remaining payment due.

[3] With the multiple ticket payment type, amount should be the unit value and not the sum of all tickets.

[4] Ticket means vouchers billed to third parties (ticket restaurant, buoni celiachia or buoni promozionali etc.). With at least one ticket payment (either single type 3 or multiple type 4) on a direct invoice or invoice based on a commercial document, the following two lines are printed before the "TOTALE EURO" line:

- CORRISPETTIVO PAGATO (Sum of all non-ticket payments).
- CORRISPETTIVO NON PAGATO (Sum of all ticket payments).

[5] In the case of rounding, the amount outstanding is the figure without any rounding applied as the printer cannot foresee what the next payment type would be.

[6] The response always contains four bytes for INV. Whenever the real invoice number is > 10000, it does not contain the most significant digit. 0000 could mean 10000, 20000 etc.

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**Payment Methods Table**

<b>Payment Type</b>	<b>Description</b>	<b>Index</b>	<b>Description</b>
0	Cash	00	Appears in fixed CONTANTI description in X-01 report.
		01 to 05	Cash with description payment. Command 4-053 can be used to program the five cash description names to appear in the financial X-01 report.
1	Cheque	N/A	Appears in fixed ASSEGNI description in X-01 report.
2	Credit or Credit Card	00	Credit. No longer appears in fixed CREDITI description in X-01 report. Now interpreted in the same manner as Payment Type 5 Index 00. <sup>[2]</sup>
		01 to 10	Credit Card. <sup>[3]</sup> Command 4-007 can be used to program the ten credit card names to appear in the financial X-01 report.
3	Single Ticket <sup>[1]</sup>	01 to 10	Index indicates the ticket number. Command 4-010 can be used to program the ten ticket names to appear in the financial X-01 report.
4	Multiple Tickets <sup>[1]</sup>	01 to 99	Index indicates the quantity. Cannot be zero. Ticket totaliser number = 1 (same as Payment Type 3 Index 01). Command 4-010 can be used to program the name to appear in the financial X-01 report.
5	Not paid (Non riscosso)	00	Goods and Services (Beni e Servizi). <sup>[2][4]</sup>
		01	Goods only (Beni). <sup>[5][6]</sup>
		02	Services only (Servizi). <sup>[5][6]</sup>
		03	Invoice based on commercial document (Segue fattura). <sup>[7]</sup>
		04	RT invoice (TBD).
		05	SSN (pharmacies only). <sup>[7]</sup>
6	Payment Discount (Sconto a Pagare)	00	Generic. <sup>[2]</sup>
		01	Multi-use voucher (Buono multiuso). <sup>[2]</sup>

## References

[1] If ticket total exceeds subtotal, Error 13 is returned. This is true for both single and multiple tickets. Ticket means vouchers billed to third parties (ticket restaurant, buoni celiachia or buoni promozionali etc.).

[2] Types 2 and 5 index 00 and type 6. If the payment amount is greater than the amount due, Error 21 is returned.

[3] With credit card payments, from firmware 9.01 (native) and 11.04 (modified) onwards, the "Online"/"Offline" annotation and possible other data are automatically saved in the MPD (DGFE) according to the following logic:

- If a request to print buffered EFT-POS lines was received [8], the "\* MODALITA' ONLINE \*" wording is automatically saved after the EFT-POS lines.
- If **no** request to print buffered EFT-POS lines was received [8], the "\* MODALITA' OFFLINE \*" wording and associated data are automatically saved after any possible type 2 lines. See [H1=1; H2=108 – SEND ELECTRONIC PAYMENT OFFLINE TRANSACTION DETAILS](#) command for associated data details.

The printer allows partial "Online" and "Offline" payments in the same commercial document. In this case, the "online" payment sequence must be sent first.

[4] Type 5 index 00. With partial payments, priority is given to goods. For example:

GOODS SALE	€4,00
SERVICES SALE	€6,00
TOTAL	€10,00
NOT PAID GOODS AND SERVICES	€5,00
CASH	€5,00
INTERPRETED AS NOT PAID GOODS	€4,00
INTERPRETED AS NOT PAID SERVICES	€1,00
INTERPRETED AS CASH	€5,00

[5] Type 5 indexes 01 and 02. If the payment is incompatible (for example, not paid goods payment type when sales are all services and vice versa), Error 18 is returned.

[6] Type 5 indexes 01 and 02. If the payment amount is greater than the amount due, Error 18 is returned.

Error 11 is returned in the following circumstances:

- Document already closed (STATO REGISTRAZIONE) (unless EFT-POS payment is requested).
- If JAVAPOS-UPOS mode has been activated and sufficient payment already received.
- [7] Invoice based on commercial document (Segue Fattura – payment type 5 index 03) or SSN (payment type 5 index 05) payments attempted when other payment methods have already been received.

[7] Invoice based on commercial document (Segue Fattura) can be the only payment in the whole commercial document or invoice. Amount is ignored. Same for SSN.

[8] The following command is used to request the printing of buffered EFT-POS lines:

- 1-078
- [Type 8](#)

**2. EFT-POS "Online" payments**

After having programmed a POS device connection (SET 31), this command can also manage electronic "Online" payments. The printer must be in the STATO REGISTRAZIONE condition. Make sure that you set long timeouts in your retail application to allow time for PIN insertion etc. The SET 31 timeout value (default 60 seconds) could be used. EFT-POS lines are buffered in the printer memory and can be printed on request in both commercial and management documents (see 1-078 command [Type 8](#)).

TX	1	084	OP	DESCR	AMN	TYPE = 2	IND	L/R
----	---	-----	----	-------	-----	----------	-----	-----

RX	1	084	OP	CMP = 1	CHG	DATE	TIME	NFR.N	RES
----	---	-----	----	---------	-----	------	------	-------	-----

TX (Max total PDU length 64 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DESCR	Description	1 to 38 bytes	Not used
AMN	Amount	9 bytes	000000001 to 999999999 If zero, Error 13 is returned
TYPE	Payment type	1 byte	Must be equal to 2 (Credit or credit card)
IND	Index	2 bytes	Not used but the value must be between 00 and 10
L/R	Display text alignment	1 byte	Not used but the value must be equal to 1 or 2

RX (Max total PDU length 159 bytes)

OP	Same as TX		
CMP	Payment complete?	1 byte	1 Always 1 with EFT-POS
CHG	Change due	9 bytes	000000000 Always zero with EFT-POS
DATE	Current date	6 bytes	DDMMYY
TIME	Current time (Hour and minute)	4 bytes	HHMM
NFR.N	Next management document number	4 bytes	0001 to 9999
RES	Transaction result (Frame received from POS with possible trailing spaces)	Variable (Max 122 bytes)	Alphanumeric: Ingenico: 71 bytes Ingenico with currency: 117 bytes SET-EFI: 122 bytes

- **H1=1; H2=085 – BEGIN COMMERCIAL DOCUMENT**

Begin a commercial document. The retail header is printed automatically followed by eventual additional header lines. The fixed "DOCUMENTO COMMERCIALE..." line is printed.

TX 

1	085	OP
---	-----	----

RX 

1	085	OP
---	-----	----

TX and RX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

- **H1=1; H2=086 – PRINT REC SUBTOTAL**

Read, print, display or print and display the document or payment due subtotal. With direct invoices the subtotal cannot be printed. Furthermore, commercial documents in either the payment phase (partial payments) or the ending state can only display or read the subtotal (amount left to pay).

TX 

1	086	OP	P/D	N.USED
---	-----	----	-----	--------

RX 

1	086	OP	TYPE	AMN
---	-----	----	------	-----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
P/D	Request type	1 byte	0 = Print and display <sup>[1]</sup> 1 = Print only <sup>[1]</sup> 2 = Display only 3 = Read subtotal (no print or display)
N.USED	Spare bytes (not used)	2 bytes	00

RX

OP	Same as TX		
TYPE	Subtotal or outstanding (during payment)	1 byte	0 = Subtotal 1 = Amount outstanding
AMN	Subtotal amount or outstanding amount (during payment)	9 bytes <sup>[2]</sup>	-9999999 to 999999999

<sup>[1]</sup> If printing is attempted whilst in the payment phase or ending state, Error 11 is returned.

<sup>[2]</sup> 9 digits for zero or positive amounts, minus sign (-) and 8 digits for negative values.

If flag 4-014 / 13 ("OBBLIGO SUBTOTAL" – mandatory subtotal call) is set to 1 (active), this command or the older 1-051 command must be used to display the subtotal on the customer display (request type 0 or 2), otherwise the commercial document or direct invoice cannot be closed.

- **H1=1; H2=087 – END COMMERCIAL DOCUMENT OR DIRECT INVOICE**

Ends a commercial document or direct invoice. Payment must have already been completed. The following conditions must be true:

- The JAVAPOS-UPOS flag must be enabled. See native command 4-014 flag 29.
- Payment must have already been completed.
- Any possible partial payments must have all been completed.
- Alternatively, if the print-out is to be cancelled, all void (native command 1-028) must have been received.
- Payments or all voids via the keyboard are not valid with this command.

Upon command reception, the document is closed. The following lines are printed:

**Commercial documents:**

- Payment sums and change which are subdivided into totals according to the type and index used in the 1-084 payment command and possible cash rounding. The following headings are used:
  - Pagamento contante
  - Pagamento elettronico
  - Non riscosso
  - Ticket
  - Resto – Change due
  - Sconto a Pagare
  - Importo Pagato

See commercial document layout chapter for how amounts are calculated. Apart from "Importo Pagato", lines are not printed if the sum is equal to zero.

- The date and time.
- The commercial document number (ZZZZ-xxxx).
- One of two types of tax code or lottery code if preloaded with 1-060, 1-061 or 1-135 command. With older firmware and commercial refund/return documents, the use of the three commands is only possible if the 4-014 / 58 RT RESO MERCE=Ndc flag is set to 0 / NO. Likewise with older firmware, commercial void documents and the 4-014 / 59 RT ANNULLAM.=Ndc flag.
- RT logotype and fiscal serial number.
- DETTAGLIO FORME di PAGAMENTO line with itemised payments if flag 4-014 / 57 set to 1 / SI. Max 19 payments.
- NUMERO CONFEZIONI (Number of pieces) line if flag 4-014 flag 08 = 1.
- Trailer lines if preloaded with command 1-078 line type 2.
- NUMERO CASSA (Till number) line if 4-015 sub-parameter 15 is > 000.
- Additional trailer lines if preloaded with command 1-078 line type 3.
- Barcode or QR codes if preloaded with command 1-075.
- Graphic footer if parameter 4-015 sub-parameter 10 has been programmed with a value different from 0.
- Coupon if preloaded.

**Invoices:**

- The VAT breakdown
- The invoice total
- The fiscal serial number
- Up to two trailer lines if pre-programmed via command 4-027.
- "COPIA PER ..." (copy for ...) line – One to identify the client copy (COPIA PER IL CLIENTE) and another for the retail outlet (COPIA PER L'ESERCENTE).
- Graphic footer if parameter 4-015 sub-parameter 20 has been programmed with a value different from 0.
- Barcode or QR codes if preloaded with command 1-075.

If the JAVAPOS-UPOS flag is disabled, the printer responds with Error 16.

If the JAVAPOS-UPOS flag is enabled, the printer responds with Error 11 in the following cases:

- Document already closed (STATO REGISTRAZIONE).
- Open document with no payment or negative subtotal.
- Commercial document or direct invoice open and payment insufficient.

TX 

1	087	OP
---	-----	----

RX 

1	087	OP
---	-----	----

TX and RX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

- [H1=1; H2=088 – RESET PRINTER](#)

The printer reset command carries out the following operations:

- Places the printer in the "STATO REGISTRAZIONE" condition irrespective of the current state
- Closes any open management document
- Cancels any open commercial document (including refund/return and voids variants) incrementing 2-050 index 04 counter.
- Cancels any open direct invoice printing two copies
- Cancels any open box office ticket furthermore switching the printer into commercial document mode
- Unblocks the keyboard previously blocked via the 1-055 command
- Erases the keyboard buffer
- Terminates an eventual SET 22 printer test condition

TX 

1	088	OP
---	-----	----

RX 

1	088	OP
---	-----	----

TX and RX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

- **H1=1; H2=089 – OPEN DIRECT INVOICE**

Invoices are inhibited if the printer is in Demo RT mode. Modifiers are not supported (see 1-090 command below).

Opens a direct invoice (fattura diretta di vendita). The INV field value must be greater or equal to the number of the last invoice + 1. The INV field can be zero. In this case, the print-out invoice number will be the number programmed via the 4-025 command incremented thereafter for each invoice emitted. Once open, the same commands as employed with commercial sale documents are used with some exceptions (see below). The invoice is also closed in the same manner (for example, 1-084). In JavaPOS-UPOS mode, the 1-087 command is used.

TX 

1	089	OP	INV
---	-----	----	-----

RX 

1	089	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
INV	Invoice number	5 bytes	00000 00001 to 99999

RX

OP	Same as TX
----	------------

Line types 1, 2 and 3 of the 1-078 command are not printed.

This command returns Error 17 if the LINES field in the 4-025 / 4225 command is less than 18.

### **Inhibited or ignored commands**

H1=1; H2=060 – SEND BUSINESS TAX CODE (PARTITA IVA)

H1=1; H2=061 – SEND PERSONAL TAX CODE (CODICE FISCALE)

H1=1; H2=090 – MODIFIERS

H1=1; H2=078 – PRINT REC TEXT (HEADERS/FREE/PROMO/EFT-POS) – Types 1, 2, 3 and 8

H1=1; H2=135 – SEND LOTTERY ID CODE

H1=1; H2=137 – CUT PAPER

- **H1=1; H2=090 – MODIFIERS**

Performs either a deposit deduction (acconto), free of charge (omaggio) or single use voucher (buono monouso) modifier operation. Valid for commercial documents including refund/return and void printouts. Not valid for invoices (see below). One or two lines are printed. The first line contains one of the three fixed wordings described below together with the IVA and amount. The fixed wordings are a legal requirement and cannot be altered or omitted. If the description field is only spaces, the second line is omitted. The description text length is not important and flag 4-014 / 60 has no effect. If the printer is in the STATO REGISTRAZIONE condition, a new commercial document will be opened automatically.

TX 

1	090	OP	DESCR	AMN	MOD	DEP	L/R
---	-----	----	-------	-----	-----	-----	-----

RX 

1	090	OP
---	-----	----

TX (Max total PDU length 65 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DESCR	Description	1 to 38 bytes	Alphanumeric <sup>[1]</sup>
AMN	Modifier deduction amount	9 bytes	000000001 to 999999999 <sup>[2]</sup>
MOD	Modifier type	2 bytes	00 = Deposit deduction (Acconto) 01 = Free of Charge (Omaggio) 02 = Single use voucher (Buono Monouso)
DEP	Department	2 bytes	01 to 99 <sup>[3]</sup>
L/R	Display text alignment	1 byte	1 = Display first 20 characters 2 = Display last 20 characters

RX

OP	Same as TX
----	------------

<sup>[1]</sup> The description passed in the DESCR field is only printed (second line). If the text is all spaces, the line is omitted. The printer automatically prints (first line) and displays the following wordings by law:

- MOD = 00: ACCONTO
- MOD = 01: OMAGGIO
- MOD = 02: BUONO MONOUSO

<sup>[2]</sup> The minus sign must not be used. The printer automatically prints it. Furthermore, amount cannot be zero. The printer returns Error 16.

<sup>[3]</sup> If the chosen department has been configured for services, MOD 00 cannot be used – the printer returns Error 18.

Once a modifier operation has been carried out, it will not be possible to perform a subtotal discount or surcharge in the current open document (1-083 types 1, 2, 6 and 7) unless the printer firmware is BN 252 or greater otherwise Error 17 is returned.

Discount or surcharge 1-083 types 0 and 5 cannot follow this command.

If the command is received whilst a direct invoice is open, Error 18 is returned. Invoices based on the last commercial document will print-out but will be incomplete. This should be avoided.

- [H1=1; H2=108 – SEND ELECTRONIC PAYMENT OFFLINE TRANSACTION DETAILS](#)

From firmware 9.01 (native) and 11.04 (modified), "Offline" electronic payment transaction details are saved into the MPD (DGFE). The term "Offline" refers to any electronic payment not directly controlled by the RT printer. "Online" refers to cases where the electronic payment was directly controlled by the RT printer (see [2. EFT-POS "Online" payments](#) chapter). "Offline" data includes the following:

1. Date and time
2. Amount
3. Channel description or STAN reference number
4. "\* MODALITA' OFFLINE \*" fixed wording line

Saving occurs whenever a subsequent [H1=1; H2=084 – PRINT REC TOTAL](#) payment command is deemed electronic. This is only the case when TYPE = 2 and IND = 1 to 10. Data is not printed but can be viewed by either reprinting or reading from the MPD (DGFE). By default, the "Offline" transaction details are set as follows:

1. Date and time – Printer clock
2. Amount – AMN field value in the relative payment command. If zero, the payment due amount is saved
3. Channel description type is used and the wording is taken from the DESCR field in the relative payment command

This optional command allows customised "Offline" electronic payment transaction details to be used instead and it should only be sent if the subsequent payment command is deemed electronic and "Offline" as indicated above. Data is pre-loaded in the printer ready for saving automatically at payment time. Not valid for Commercial Refund and Void documents (returns Error 17) as no "Offline" data is saved in these cases. When this command is used, the amount must match the same payment (or payment due) in the relative [H1=1; H2=084 – PRINT REC TOTAL](#) command. The same above behaviour is true when "Offline" electronic payments are carried out via the keyboard (See Manuale Operatore document).

TX 

1	108	OP	DATE	TIME	AMN	TRANS	CODE	TYPE	TRANS	CODE	SPARE
---	-----	----	------	------	-----	-------	------	------	-------	------	-------

RX 

1	108	OP
---	-----	----

TX (Max total PDU length 98 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DATE	Date of offline transaction	6 bytes	DDMMYY
TIME	Time of offline transaction	6 bytes	HHMMSS
AMN	Amount	9 bytes	000000000 to 999999999
TRANS CODE TYPE	Offline transaction code identifier type to use	2 bytes	00 = Other (Channel description) 01 = STAN
TRANS CODE	Offline transaction code identifier	1 to 46 bytes <sup>[1]</sup>	STAN transaction number or other description <sup>[1]</sup>
SPARE	For future use	16 bytes	Currently fixed at 0000000000000000

RX

OP	Same as TX
----	------------

<sup>[1]</sup> The TRANS CODE string is handled in the following manner:

- When TRANS CODE TYPE = 01 (STAN), the printer checks to see if the value is numerical. If not, Error 16 is returned. POS terminals currently set the STAN to a six digit number. The printer will however accept fewer or more digits.
- When TRANS CODE TYPE = 00 (Other), the printer will accept up to 46 bytes but will save a maximum of 38 in the MPD (DGFE).

CONFIDENTIAL

- **H1=1; H2=131 – READ E-RECEIPT MODE AND TRANSMISSION STATUS**

FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 8.xxx. Returns the general E-Receipt status based on the Z report number and date.

TX	1	131	OP	TILL ID	Z REP NUM	DATE	REQUEST TYPE
----	---	-----	----	---------	-----------	------	--------------

RX	1	131	OP	TILL ID	Z REP NUM	DATE	REQUEST TYPE	FILES TO SEND	SENT FILES	REJ FILES
	DOC TYPES		TBD							

TX (Total PDU length 33 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
TILL ID	Till identifier (not currently relevant).	8 bytes	RT: 00000000 Server RT: Not currently supported
Z REP NUM	Not currently used. Fixed at 0000.	4 bytes	0000
DATE	E-Receipts emission date.	6 bytes	DDMMYY
REQUEST TYPE	For future use (fixed to zero).	2 bytes	00

RX (Total PDU length 67 bytes)

OP	Same as TX		
TILL ID			
Z REP NUM			
DATE			
REQUEST TYPE			
FILES TO SEND	Number of E-Receipt files waiting to be sent to the E-Receipt server.	4 bytes	0000 to 9999
SENT FILES	Number of E-Receipt files sent.	4 bytes	0000 to 9999
REJ FILES	Number of E-Receipt files rejected by the E-Receipt server. The folder itself will also contain the companion files which are not included in the total. The return value is irrespective of the DATE input field value. The Archive Rejected folder is not included in the calculation.	4 bytes	0000 to 9999
DOC TYPES	Current status. Indicates one or both types together.	2 bytes	00 = Paper only 01 = Digital only 02 = Paper and Digital
TBD	Spare bytes.	20 bytes	000000000000

- **H1=1; H2=132 – SET CUSTOMER TYPE AND ID (E-RECEIPT)**

FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 8.xxx. The printer must be in the STATO REGISTRAZIONE condition. Firstly, it specifies the method to use when sending the next E-Receipt (Scontrinosmart). Secondly in the case of non-anonymous methods, the details of the specific customer should be included.

TX 

1	132	OP	CUST TYPE	CUSTOMER ID
---	-----	----	-----------	-------------

RX 

1	132	OP
---	-----	----

TX (Total PDU length 271 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
CUST TYPE	E-Receipt Customer Type	2 bytes	00 = Registered ID 01 = E-mail address 02 = Telephone number (for future use) 03 = Anonymous type 1 (UUID) <sup>[1]</sup> 04 = Anonymous type 2 (PASS phrase) <sup>[2]</sup>
CUSTOMER ID	Customer details or all spaces when anonymous  Must be 256 bytes long being right padded with spaces as required	256 bytes	Alphanumeric string

RX

OP	Same as TX
----	------------

<sup>[1]</sup> If this command is not received, the printer defaults to CUST TYPE 03 Anonymous type 1.

<sup>[2]</sup> Anonymous type 2 for future use.

- **H1=1; H2=133 – SET DOCUMENT EMISSION MODE (E-RECEIPT)**

FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 8.xxx. The printer must be in the STATO REGISTRAZIONE condition. Specifies the emission mode and whether the mode should relate to the next emission or persist. Digital means E-Receipt / Scontrinosmart. E-Receipts are also supported if the printer is in Demo RT or Simulation modes.

TX 

1	133	OP	DOC TYPES	VALIDITY
---	-----	----	-----------	----------

RX 

1	133	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DOC TYPES	Choose one or both types together	2 bytes	00 = Paper only 01 = Digital only 02 = Paper and Digital
VALIDITY	Specifies whether the mode should relate the next emission or persist	2 bytes	01 = Apply to all subsequent emissions 02 = Apply to next emission only <sup>[1]</sup>

RX

OP	Same as TX
----	------------

<sup>[1]</sup> Returns to paper only mode after emission.

- **H1=1; H2=134 – READ LOTTERY QUEUE AND TRANSMISSION STATUS**

Returns the general status of the lottery database based on the Z report number and date. In Demo RT mode, queued documents in the LOTTERY REC COUNT field are counted as usual but then later when the queue is emptied all other values are zero. From firmware 10.01 (modified) / 6.01 (native).

TX 

1	134	OP	TILL ID	Z REP NUM	DATE	REQUEST TYPE
---	-----	----	---------	-----------	------	--------------

RX 

1	134	OP	TILL ID	Z REP NUM	DATE	REQUEST TYPE	FILES TO SEND	OLD FILES	REJ FILES
LOTTERY REC COUNT			LOTTERY REC TO SEND		LOTTERY REC OK	LOTTERY REC REJ	TBD		

TX (Total PDU length 33 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
TILL ID	Till identifier (only relevant for Server RT).	8 bytes	RT: 00000000 Server RT: 00000001 to FFFF9999
Z REP NUM	Lottery receipt Z report number on a specific date.	4 bytes	0001 to 3650
DATE	Lottery receipt date.	6 bytes	DDMMYY
REQUEST TYPE	For future use (fixed to zero).	2 bytes	00

## RX (Total PDU length 73 bytes)

OP	Same as TX		
TILL ID			
Z REP NUM			
DATE			
REQUEST TYPE			
FILES TO SEND	Number of daily files waiting to be sent to the tax authority. Parameter 4-015/23 sets the retry interval. The return value is irrespective of the DATE input field value.	4 bytes	0000 to 9999
OLD FILES	Number of daily files waiting to be sent to the tax authority older than a configurable number of days. Parameter 4-015/25 sets the warning period in days. The return value is irrespective of the DATE input field value.	4 bytes	0000 to 9999
REJ FILES	Number of files rejected by the tax authority. The folder itself will also contain the companion files which are not included in the total. The return value is irrespective of the DATE input field value. The Archive Rejected folder is not included in the calculation.	4 bytes	0000 to 9999
LOTTERY REC COUNT	Number of queued Lottery receipts (in 100 file array) due to be sent. This indicates the number of receipts currently in the array and so therefore the Z REP NUM and DATE input fields have no relevance.	4 bytes	0000 to 0100
LOTTERY REC TO SEND	Number of Lottery receipts contained within files in the TO SEND folder matching the indicated Z REP NUM and DATE input field values.	4 bytes	0000 to 9999
LOTTERY REC OK	Number of Lottery receipts accepted by the TA matching the indicated Z REP NUM and DATE input field values.	4 bytes	0000 to 9999
LOTTERY REC REJ	Number of Lottery receipts rejected by the TA matching the indicated Z REP NUM and DATE input field values.	4 bytes	0000 to 9999
TBD	Spare bytes.	12 bytes	000000000000

- **H1=1; H2=135 – SEND LOTTERY ID CODE**

From firmware 10.01 (modified) / 6.01 (native). The memorised code is only valid for the current print-out. It is not possible to print both the lottery code and the business tax code (partita IVA 1-060 command) or the personal tax code (codice fiscale 1-061 command).

This command cannot be used with commercial refund and void documents in which the POS, VR or ND keyword was used in the opening command.

TX 

1	135	OP	ID CODE	NU
---	-----	----	---------	----

RX 

1	135	OP
---	-----	----

TX (Total PDU length 33 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
ID CODE	Lottery ID code	16 bytes	Length can be from 2 to 16 with check digit. <sup>[1]</sup> Last byte must be a space but there must be no spaces within the code itself. Alphanumeric only (A-Z, a-z and 0-9) <sup>[2]</sup>
NU	Not used Spare bytes	4 bytes	0000

RX

OP	Same as TX
----	------------

<sup>[1]</sup> The check digit function has not been adopted by the tax authority.

<sup>[2]</sup> Codes with invalid characters generate Error 16.

12345678901234567890  
Example: 113501ABCDEFGN                      0000

4-014/29 UPOS FLAG ON	4-014/29 UPOS FLAG OFF
Before or after document opening	Before or after document opening
Before 1-087 (endFiscalReceipt)	Before payment or last partial payment 1-084 (printRecTotal)

**Lottery ID Code Check Digit Calculation**

This section is only relevant if the check digit function will be adopted by the tax authority in the future. The check digit is calculated in the same way as the Fiscal Tax Code (Codice Fiscale).

1. Convert the alphanumeric character to a number using the following table for EVEN or ODD position

<b>Conversion for EVEN position characters</b>				
A or 0 = 0	F or 5 = 5	K = 10	P = 15	U = 20
B or 1 = 1	G or 6 = 6	L = 11	Q = 16	V = 21
C or 2 = 2	H or 7 = 7	M = 12	R = 17	W = 22
D or 3 = 3	I or 8 = 8	N = 13	S = 18	X = 23
E or 4 = 4	J or 9 = 9	O = 14	T = 19	Y = 24
				Z = 25

<b>Conversion for ODD position characters</b>				
A or 0 = 1	F or 5 = 13	K = 2	P = 3	U = 16
B or 1 = 0	G or 6 = 15	L = 4	Q = 6	V = 10
C or 2 = 5	H or 7 = 17	M = 18	R = 8	W = 22
D or 3 = 7	I or 8 = 19	N = 20	S = 12	X = 25
E or 4 = 9	J or 9 = 21	O = 11	T = 14	Y = 24
				Z = 23

2. Sum all the numbers and divide the result by modulo 26. To determine the check digit, convert the remainder using the following table:

<b>Remainder conversion</b>				
0 = A	5 = F	10 = K	15 = P	20 = U
1 = B	6 = G	11 = L	16 = Q	21 = V
2 = C	7 = H	12 = M	17 = R	22 = W
3 = D	8 = I	13 = N	18 = S	23 = X
4 = E	9 = J	14 = O	19 = T	24 = Y
				25 = Z

Example:

ID LOTTERY CODE: ABCDEFG

After conversion: 1 1 5 3 9 5 15

<b>Position</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>CHECK DIGIT</b>
Input string	A	B	C	D	E	F	G	
Converted	1	1	5	3	9	5	15	39 (addition)
Remainder								13 (39 minus 26)
With check digit	A	B	C	D	E	F	G	N

- [H1=1; H2=136 – FILE SYSTEM DETAILS](#)

This command is used to read partition information. Excludes the partition dedicated to the MPD (EJ / DGFE). Available from the following firmware versions:

- Standalone RT 7.02 / 11.02
- RT Server 3.00

TX 

1	136	OP	INDEX
---	-----	----	-------

RX 

1	136	OP	INDEX	Space	USED DISK	Space	FREE DISK	Space	USED INODE	Space	FREE INODE	Space
---	-----	----	-------	-------	-----------	-------	-----------	-------	------------	-------	------------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
INDEX	Partition	1 byte	2 = Fiscal partition 3 = User partition

RX (Total PDU length 71 bytes)

OP	Same as TX		
INDEX			
Space	Fixed separator	1 byte	20 hex (space)
USED DISK	Disk used	13 bytes	Number of bytes used
Space	Same as first Space		
FREE DISK	Free disk space	13 bytes	Number of free bytes
Space	Same as first Space		
USED INODE	I-nodes used	13 bytes	Number of I-nodes used
Space	Same as first Space		
FREE INODE	Free I-nodes	13 bytes	Number of free I-nodes
Space	Same as first Space		

- **H1=1; H2=137 – CUT PAPER**

This command is generally used to suspend and then reactivate paper cutting. It permits the controlled closure of a commercial document consequently removing some content management limitations. To correctly use this command, it should be sent twice whilst a commercial document is in progress. The command can be used irrespective of the JAVAPOS-UPOS mode. The first transmission should first disable paper cutting (CUT MODE = 0). This means that after payment has been completed and the document has been closed (if JAVAPOS-UPOS mode is activated) plus any possible automatic content has been printed, the paper is not cut. At this point, free text trailer lines (1-078 type 2) with desired font plus barcodes and QR codes can be printed without limit. In this case the 1-078 INDEX field has no significance but must not be zero. Lines are not stored in the MPD (DGFE). Once all the desired extra content has been printed, this command should be sent again with CUT MODE = 1 and the paper duly cut. If this second transmission is omitted, upon opening the successive document, the paper is first fed but not cut until closure of the successive document.

TX 

1	137	OP	CUT MODE
---	-----	----	----------

RX 

1	137	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
CUT MODE	Desired cut mode	1 byte	0= Cut disabled 1= Cut enabled

RX

OP	Same as TX
----	------------

- [H1=1; H2=138 – RT STATUS](#)

TX 1 138 OP

RX 1 138 OP TYPE MAIN SUB DAY OPENED NWP

FILES TO SEND	OLD FILES	REJ FILES	CD EXPIRY DATE	CA EXPIRY DATE	FW BUILD NUM
---------------	-----------	-----------	----------------	----------------	--------------

DGFE FILE SYSTEM	TRAINING / SIMULATION / DEMO MODE	LAST FW UPDATE RESULT
------------------	-----------------------------------	-----------------------

ARCHIVED REJ FILES	OUT OF SERVICE	RECOVERY CERTIFICATE	SPARE
--------------------	----------------	----------------------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX (Total PDU length 58 bytes)

Field	Description	Length	Range / Value
OP			Same as TX
TYPE	RT type	1 byte	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
MAIN	Main status	2 bytes	1 = Not in service (MF) 2 = In service (RT)
SUB	Sub status	2 bytes	2 = No producer certificates 3/4 = Incomplete producer certificates 5 = Producer certificates loaded and ready to register (Da Censire) 6 = Registered (Censito) – Unique device certificate loaded in MPR (Fiscal memory) 7 = Activated (Attivato) 8 = Switch date set (Programmato RT) 9 = End of Life (DisMESSo)
DAY OPENED	Daily Open	1 byte	0 = Daily Open False 1 = Daily Open True
NWP	Non-working period	1 byte	0 = Disabled 1 = Z report must be performed
FILES TO SEND	Number of files to send	4 bytes	Number of daily files waiting to be sent to the tax authority. Parameter 4-015/23 sets the retry interval.
OLD FILES	Number of files considered old	4 bytes	Number of daily files waiting to be sent to the tax authority older than a configurable number of days. Parameter 4-015/25 sets the warning period in days.
REJ FILES	Number of rejected files	4 bytes	Number of files rejected by the tax authority. The folder itself will also contain the companion files which are not included in the total. Does not include archived files.
CD EXPIRY DATE	Device certificate expiry date	6 bytes	DD/MM/YY
CA EXPIRY DATE	CA communication certificate expiry date	6 bytes	DD/MM/YY
FW BUILD NUM	Firmware build number	4 bytes	From 0000 to 9999

DGFE FILE SYSTEM	MPD / DGFE file system type	1 byte	0 = Non RT 1 = RT Type A 2 = RT Type B
TRAINING / SIMULATION / DEMO MODE	Training / simulation / demo mode current state	1 byte	Indicates whether one of the following special modes is active: <ul style="list-style-type: none"> <li>• Training (apprendimento) – 4-014 / 01 (obsolete)</li> <li>• Simulation (simulazione) – 4-014 / 62</li> <li>• Demo mode – 4-014 / 63</li> </ul> 0 = None of the three modes are active (all inactive). 1 = One of the three modes is active.
LAST FW UPDATE RESULT	Result / outcome of last firmware update attempt	1 byte	0 = No error 1 = Download error 2 = Digital signature error 3 = Write error
ARCHIVED REJ FILES	Number of archived rejected files	4 bytes	Total number of files in the rejected archive folder excluding the companion files. Files are moved here via the 9-016 native command.
OUT OF SERVICE	Out of Service condition	1 byte	0 = No 1 = Yes <sup>[1]</sup>
RECOVER CERTIFICATE	"RIPRISTINO CERTIFICATO" condition	1 byte	0 = Recovery state not active 1 = Recovery state active  Whilst in the active state, only read commands are permitted.
SPARE		1 byte	TBD (depending on the above field and firmware version) Currently 0

<sup>[1]</sup> Also enters this state whenever Demo RT mode was activated and the previous state was "In Service". In this case, exiting Demo RT mode on its own does not set reset this indication to zero until such time as the next fiscal daily closure is performed.

- **H1=1; H2=139 – EFT-POS MANAGEMENT**

This command has two functions:

1. Execute POS terminal closure.
2. Request POS terminal totals.

There are three response structures. They depend on the chosen input command and (only in the case of POS terminal closures) two possible outcomes.

TX	1	139	OP	TERM ID	SPARE 1	FUNC	TILL ID	SPARE 2	SPARE 3
----	---	-----	----	---------	---------	------	---------	---------	---------

POS Daily Closure (Positive Outcome OK):

RX	1	139	OP	TERM ID	SPARE 1	FUNC	OUTCOME	TERM TOTAL	HOST TOTAL
----	---	-----	----	---------	---------	------	---------	------------	------------

POS Daily Closure (Negative Outcome KO):

RX	1	139	OP	TERM ID	SPARE 1	FUNC	OUTCOME	ERROR DESC	ACTION CODE	SPARE 4
----	---	-----	----	---------	---------	------	---------	------------	-------------	---------

POS Daily Total:

RX	1	139	OP	TERM ID	SPARE 1	FUNC	OUTCOME	TERM TOTAL	SPARE 5
----	---	-----	----	---------	---------	------	---------	------------	---------

TX (Total PDU length 39 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
TERM ID	SET 31 POS terminal ID setting	8 bytes	00000000 to 99999999
SPARE 1	Fixed value	1 byte	0
FUNC	One of two POS functions	1 byte	C = Execute POS daily closure T = Request POS daily totals
TILL ID	Fiscal printer ID	8 bytes	Not related to fiscal serial number Normally zeroes (00000000)
SPARE 2	Fixed value	1 byte	0
SPARE 3	Fixed value	7 bytes	0000000

RX (First common portion):

OP	Same as TX		
TERM ID			
SPARE 1			
FUNC			
OUTCOME	Command result	2 bytes	00 = OK 01 = KO

RX (Variable portion) (Max total PDU length 57 bytes):

TERM TOTAL	POS terminal total	16 bytes	In cents right justified and padded with zeroes
HOST TOTAL	Host total	16 bytes	In cents right justified and padded with zeroes
ERROR DESC	POS error description	19 bytes	Reason for error. Text is right justified and padded with spaces
ACTION CODE	POS specific code	3 bytes	See POS terminal literature
SPARE 4	Fixed value	10 bytes	0000000000
SPARE 5	Fixed value	6 bytes	000000

- [H1=1; H2=140 – PHP ACTIVATION](#)

Launches the PHP script programmed via the 4-014 command where PARAM=02 and INDEX = 03. The PHP service must already be active.

TX 

1	140	OP	IND	SPARE
---	-----	----	-----	-------

RX 

1	140	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
IND	Index	1 byte	For future use but value must be from 1 to 9
SPARE	Spare bytes	4 bytes	0000

RX

OP	Same as TX
----	------------

- [H1=1; H2=145 – SOUND BUZZER](#)

Sounds the fiscal board buzzer (beep). A successive reception of the command interrupts the sounding in progress.

TX 

1	145	OP	NUM	LEN	FREQ
---	-----	----	-----	-----	------

RX 

1	145	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
NUM	Number of cycles	2 bytes	01 to 99
LEN	Pulse length in 10mS units. The same setting is used for the pulse interval.	3 bytes	000 sound continuously 001 to 999
FREQ	Frequency in Hertz	4 bytes	0020 to 9999

RX

OP	Same as TX
----	------------

- **H1=1; H2=146 – SEND COMMERCIAL DOCUMENT / DIRECT INVOICE / FISCAL CLOSURE BY E-MAIL**

Instructs the fiscal printer to transmit the next emitted document via e-mail to the recipient indicated in this command or one of the previously programmed default recipients. The instruction is only valid for the next document. E-mail parameters must first be programmed via the 4-032 command. This command has nothing to do with the E-Receipt function.

TX 

1	146	OP	DOCTYPE	ENA	SEL	ADDR	SPARE
---	-----	----	---------	-----	-----	------	-------

RX 

1	146	OP
---	-----	----

TX (Total PDU length 146 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DOCTYPE	Document type	2 bytes	Fixed 00 (Commercial documents, direct invoices and fiscal closures)
ENA	Activate / deactivate	1 byte	0 = OFF 1 = ON
SEL	Recipient selection	2 bytes	00 = E-mail address in the ADDR field of this command 01 = "Dest Addr Fisc" programmed address (4-032 command index 008) 02 = "Dest Addr Notif" programmed address (4-032 command index 009)
ADDR	E-mail address	64 bytes	Alphanumeric
SPARE	Free bytes	64 bytes	

RX

OP	Same as TX
----	------------

- **H1=1; H2=148 – FEED PAPER**

Instructs the printer to feed the paper. The paper is fed 3cm. The command can be used repeatedly if a larger feed distance is required. The command can be used whilst the printer is in the "STATO REGISTRAZIONE" condition or with an open commercial document. The command can be used with other open document types.

TX 

1	148	OP	DEST
---	-----	----	------

RX 

1	148	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DEST	Paper destination	1 byte	1 to 3 <sup>[1]</sup>

RX

OP	Same as TX
----	------------

<sup>[1]</sup> This is a historical field from when fiscal printers were fitted with two paper rolls. One of the three values has to be used (there is no functional difference between them). Other values will generate an Error 16 response and the paper will not be fed.

- **H1=1; H2=278 – READ PROMO / EFT-POS LINES**

Read promotion lines or EFT-POS buffered response lines generated by the EFT-POS terminal. Lines are read one by one.

TX 

1	278	OP	TYPE	ROW
---	-----	----	------	-----

RX 

1	278	OP	TYPE	ROW	NU	FONT	TEXT
---	-----	----	------	-----	----	------	------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
TYPE	Line type	1 byte	3 = Promo or 8 = EFT-POS buffer
ROW	Row number	2 bytes	01 to 99

RX (Max total PDU length 64 bytes)

OP	Same as TX		
TYPE			
ROW			
NU	Not used	1 byte	Fixed at 0
FONT	Character font	1 byte	0 = No data <sup>[1]</sup> 1 = Normal 2 = Bold 3 = Double height 4 = Double height plus bold
TEXT	Line content	40 / 46 bytes	Alphanumeric

If the printer is in either the X, Z, SET modes or has an open management document, Error 17 is returned.

<sup>[1]</sup> 0 (No data) can be used to ascertain passing the last row, if used in a loop routine.

- **H1=1; H2=332 – READ CUSTOMER TYPE AND ID (E-RECEIPT)**

FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 8.xxx. Indicates the method to use when sending the next E-Receipt (Scontrinosmart) and (in the case of non-anonymous methods), the details of the specific customer.

TX 

1	332	OP
---	-----	----

RX 

1	332	OP	CUST TYPE	CUSTOMER ID
---	-----	----	-----------	-------------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX (Total PDU length 271 bytes)

Field	Description	Length	Range / Value
OP	Same as TX		
CUST TYPE	E-Receipt Customer Type	2 bytes	00 = Registered ID 01 = E-mail address 02 = Telephone number (for future use) 03 = Anonymous type 1 (UUID) 04 = Anonymous type 2 (PASS phrase)
CUSTOMER ID	Customer details or ANONYMOUS wording when TYPE = 03 or 04	256 bytes	Alphanumeric string right padded with spaces

- **H1=1; H2=333 – READ DOCUMENT EMISSION MODE (E-RECEIPT)**

FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 8.xxx. Indicates the emission mode and whether the mode should relate the next emission or persist. Digital means E-Receipt / Scontrinosmart.

TX 

1	333	OP
---	-----	----

RX 

1	333	OP	DOC TYPES	VALIDITY
---	-----	----	-----------	----------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

Field	Description	Length	Range / Value
OP	Same as TX		
DOC TYPES	Indicates one or both types together	2 bytes	00 = Paper only 01 = Digital only 02 = Paper and Digital
VALIDITY	Indicates whether the mode should relate the next emission or persist	2 bytes	01 = Apply to all subsequent emissions 02 = Apply to next emission only <sup>[1]</sup>

<sup>[1]</sup> Returns to paper only mode after emission.

## 11.2. HEADER1=2 Commands

Commands have already been grouped together according to varying functions above. This section will merely show the commands in numerical order.

- [H1=2; H2=001 – PRINT X REPORT](#)

Prints a financial report in a management document that contains daily totals. The report is more detailed than the daily fiscal closure report as it contains department totals, VAT, discount totals etc. All counters are described in the Manuale Operatore document.

TX 

2	001	OP
---	-----	----

RX 

2	001	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- [H1=2; H2=002 – PRINT DAILY PRODUCT GROUP TOTALS](#)

Prints a management document that contains the daily product group totals. Either a specific product group can be specified or the reserved 00 value can be used to indicate all ten product groups.

TX 

2	002	OP	PGN
---	-----	----	-----

RX 

2	002	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PGN	Product group number	2 bytes	00 (all) 01 to 10

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=003 – PRINT DAILY DEPARTMENT TOTALS**

Prints a management document that contains the daily department totals. Either a specific department can be specified or the reserved 00 value can be used to indicate all 99 departments. Departments with zero values are filtered out. When 00 is specified, a sum of all departments line is also printed.

TX 

2	003	OP	DEP
---	-----	----	-----

RX 

2	003	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DEP	Department number	2 bytes	00 (all) 01 to 99

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=004 – PRINT DAILY INTERNAL PLU TOTALS**

Prints a management document that contains the daily internal PLU totals. Either a specific internal PLU can be specified or the reserved 0000 value can be used to indicate all 1000 internal PLUs.

TX 

2	004	OP	PLU
---	-----	----	-----

RX 

2	004	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PLU	Internal PLU number	4 bytes	0000 (all) 0001 to 1000

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=005 – PRINT DAILY TIME PERIOD TOTALS**

Prints a management document that contains the daily hour by hour totals. It contains three columns:

- ORA – Start time.
- CLIENTI – Number of commercial documents and direct invoices.
- TOTALE – Total value of commercial documents and direct invoices.

A line with the sum of CLIENTI and TOTALE is also printed.

Hours in which no documents were emitted are filtered out.

TX 

2	005	OP
---	-----	----

RX 

2	005	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=006 – PRINT DAILY OPERATOR TOTALS**

Prints a management document that contains the daily operator totals. Either a specific operator can be specified or the reserved 00 value can be used to indicate all 12 operators. If operator mode is not set, Error 18 (not possible) is returned.

TX 

2	006	OP	OP2
---	-----	----	-----

RX 

2	006	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator carrying out the request	2 bytes	01 to 12
OP2	Operator totals	2 bytes	00 (all) 01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=007 – PRINT PERIODIC FINANCIAL DATA TOTALS**

Prints a financial report in a management document that contains the periodic totals for departments, VAT, discounts etc.

TX 

2	007	OP
---	-----	----

RX 

2	007	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=008 – PRINT PERIODIC PRODUCT GROUP TOTALS**

Prints a management document that contains the product group periodic totals. Either a specific product group can be specified or the reserved 00 value can be used to indicate all ten product groups.

TX 

2	008	OP	PGN
---	-----	----	-----

RX 

2	008	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PGN	Product group number	2 bytes	00 (all) 01 to 10

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=009 – PRINT PERIODIC DEPARTMENT TOTALS**

Prints a management document that contains the periodic department totals. Either a specific department can be specified or the reserved 00 value can be used to indicate all 99 departments. Departments with zero values are filtered out. When 00 is specified a sum of all departments line is also printed.

TX 

2	009	OP	DEP
---	-----	----	-----

RX 

2	009	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DEP	Department number	2 bytes	00 (all) 01 to 99

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=010 – PRINT PERIODIC INTERNAL PLU TOTALS**

Prints a management document that contains the internal PLU periodic totals. Either a specific internal PLU can be specified or the reserved 0000 value can be used to indicate all 1000 internal PLUs.

TX 

2	010	OP	PLU
---	-----	----	-----

RX 

2	010	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PLU	Internal PLU number	4 bytes	0000 (all) 0001 to 1000

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=011 – PRINT PERIODIC TIME PERIOD TOTALS**

Prints a management document that contains the periodic hour by hour totals. It contains three columns:

- ORA – Start time
- CLIENTI – Number of commercial documents and direct invoices.
- TOTALE – Total value of commercial documents and direct invoices

A line with the sum of CLIENTI and TOTALE is also printed.

Hours in which no documents were emitted regardless of the day are filtered out.

TX 

2	011	OP
---	-----	----

RX 

2	011	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=012 – PRINT PERIODIC OPERATOR TOTALS**

Prints a management document that contains the periodic operator totals. Either a specific operator can be specified or the reserved 00 value can be used to indicate all 12 operators. If operator mode is not set, Error 18 (not possible) is returned.

TX 

2	012	OP	OP2
---	-----	----	-----

RX 

2	012	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator carrying out the request	2 bytes	01 to 12
OP2	Operator totals	2 bytes	00 (all) 01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=2; H2=014 – READ DAILY DEPARTMENT TOTALS WITH PLU**

Request the totals for the specified department. Does not include commercial refund and void documents and invoices.

TX 

2	014	DEP
---	-----	-----

RX 

2	014	TP	TA	TPP	TPA
---	-----	----	----	-----	-----

TX

Field	Description	Length	Range / Value
DEP	Department number	2 bytes	01 to 99

RX (Total PDU length 47 bytes)

TP	Total pieces (quantity)	9 bytes	000000000 to 999999999 <sup>[1]</sup>
TA	Total amount	9 bytes	000000000 to 999999999 <sup>[2]</sup>
TPP	Total internal PLU pieces (quantity)	9 bytes	000000000 to 999999999 <sup>[1]</sup>
TPA	Total internal PLU amount	9 bytes	000000000 to 999999999 <sup>[2]</sup>

<sup>[1]</sup> To three decimal places. Therefore, values range from 000000.000 to 999999.999.

<sup>[2]</sup> To two decimal places. Therefore, values range from 0000000.00 to 9999999.99.

- **H1=2; H2=015 – READ DAILY INTERNAL PLU TOTALS**

Request the totals for the specified internal PLU.

TX 

2	015	PLU
---	-----	-----

RX 

2	015	TPP	TPA
---	-----	-----	-----

TX (Total PDU length 29 bytes)

Field	Description	Length	Range / Value
PLU	Internal PLU number	4 bytes	0001 to 1000

RX

TPP	Total internal PLU pieces (quantity)	9 bytes	000000000 to 999999999 <sup>[1]</sup>
TPA	Total internal PLU amount	9 bytes	000000000 to 999999999 <sup>[2]</sup>

<sup>[1]</sup> To three decimal places. Therefore, values range from 000000.000 to 999999.999.

<sup>[2]</sup> To two decimal places. Therefore, values range from 0000000.00 to 9999999.99.

- [H1=2; H2=050 – GET DAILY DATA](#)

Read daily statistical and internal registers. The index field specifies the specific counter. For some counters a sub-parameter can be passed.

TX 

2	050	INDEX	NUMBER
---	-----	-------	--------

TX

Field	Description	Length	Range / Value
INDEX	Counter	2 bytes	See table <sup>[1]</sup>
NUMBER	Sub-parameter	2 bytes	See table <sup>[1]</sup>

- [H1=2; H2=051 – GET PERIODICAL DATA](#)

Read periodical statistical and internal registers. The index field specifies the specific counter. For some counters a sub-parameter can be passed.

TX 

2	051	INDEX	NUMBER
---	-----	-------	--------

TX

Field	Description	Length	Range / Value
INDEX	Counter	2 bytes	See table <sup>[1]</sup>
NUMBER	Sub-parameter	2 bytes	See table <sup>[1]</sup>

<sup>[1]</sup> The INDEX field specifies the desired counter. Depending on the chosen counter, the NUMBER field Range / Value can vary or may have no relevance at all as indicated in the table below.

- [H1=2; H2=050 /051 – TABLES](#)

**Table of Indexes:**

Index	Description	Number
01	Department totals	Department number: Range 01 to 99
02	Refunds in fiscal receipts (no longer supported)	N/a
03	Previous sale cancellations (storni)	N/a
04	Last transaction voids (correzioni)	N/a
05	Document voids	N/a
06	Fixed amount discounts	N/a
07	Percentage discounts	N/a
08	Percentage surcharges	N/a
09	Credit recoveries in cash	N/a
10	Cash in transactions	Currency number: Range 00 to 06
11	Cash out transactions	Currency number: Range 00 to 06
12	Current cash by currency	Currency number: Range 00 to 06
13	Total current cash	N/a

Index	Description	Number
14	Credit recoveries by cheque	N/a
15	Cheque in transactions	Currency number: Range 00 to 06
16	Cheque out transactions	Currency number: Range 00 to 06
17	Current cheques	Currency number: Range 00 to 06
18	Credit card payments	Range 01 to 10: Credit (00) obsolete. Now in indexes 73 to 75 Credit card number (01 to 10)
19	Ticket payments	Ticket number: Range 01 to 10
20	Sales documents (Ex-VAT and VAT)	Tax group number: Range 00 to 18 (36 historical VATs not included)
21	Cash drawer openings	N/a
22	Invoices	N/a
23	Personalised fiscal receipts (no longer supported)	N/a
24	Commercial documents (including refunds and voids)	N/a
25	Fiscal memory receipts (no longer supported)	N/a
26	Management documents	N/a
27	Number of daily closures <b>(2-050 only)</b>	N/a
28	Daily total <b>(2-050 only)</b>	N/a
29	Cash with description payments	Cash description index: range 01 to 05
30	Fixed amount surcharges	N/a
31	Total refund documents amount (same as index 36)	N/a
32	Grand total and refund documents grand total amounts (Same as index 38)	N/a
33	Ticket differences – Not relevant as no longer permitted	N/a
34	Earliest and latest invoice numbers (same as index 61)	N/a
35	Invoices tax (same as index 62)	Tax group number: Range 00 to 18 (36 historical VATs not included)
36	Total refund documents amount (same as index 31)	N/a
37	Total void documents amount	N/a
38	Grand total and refund documents grand total amounts (Same as index 32) <b>(2-050 and 2-051 give same result)</b>	N/a
39	Grand total and void documents grand total amounts <b>(2-050 and 2-051 give same result)</b>	N/a
40	Sales documents (Ex-VAT and VAT)	VAT index 00 to 18 (00 to 59 <sup>[1]</sup> )
41	Refund documents (Ex-VAT and VAT)	VAT index 00 to 18 (00 to 59 <sup>[1]</sup> )
42	Void documents (Ex-VAT and VAT)	VAT index 00 to 18 (00 to 59 <sup>[1]</sup> )
43	Sales documents minus the sum of refund and void documents (Ex-VAT and VAT)	VAT index 00 to 18 (00 to 59 <sup>[1]</sup> )
44	Current sale, refund or void or direct invoice open document (Ex-VAT and VAT)	VAT index 00 to 18 (00 to 59 <sup>[1]</sup> )

Index	Description	Number
45	Total operator printouts and amount. Commercial documents and invoices. (Flag SET 14/04 OPERATORI must be enabled)	01 to 12 From firmware 7.02 (modified) / 6.00 (native)
61	First and last daily invoice numbers (Based on the last commercial document and direct) (Same as index 34)	N/a
62	Invoices tax (Based on the last commercial document and direct) (Same as index 35)	Tax group number: Range 00 to 18 (36 historical VATs not included)
63	Class I and II documents no longer supported	N/a
64	Weighing scales last operation	N/a
65	Ticket payment voucher count (for future use)	N/a
70	Deposit deduction modifier operations (acconti)	Department number: Range 01 to 99
71	Free of charge modifier operation (omaggi)	Department number: Range 01 to 99
72	Single-use voucher modifier operations (buoni monouso)	Department number: Range 01 to 99
73	Not paid goods and services (non riscossi beni e servizi) Now includes credit payments	N/a
74	Not paid goods only (non riscossi beni) Now includes credit payments	N/a
75	Not paid services only (non riscossi servizi) Now includes credit payments	N/a
76	Not paid invoices based on a commercial document (Fattura su documento)	N/a
77	Not paid RT invoices (for future use) (Fattura da RT)	N/a
78	Not paid SSN pharmacy (non riscossi SSN farmacie)	N/a
79	Generic payment discounts (sconti a pagare generici)	N/a
80	Multi-use voucher payment discounts (sconti a pagare buoni multiuso)	N/a
81	Cash rounding downs (arrotondamenti per difetto)	N/a
82	Cash rounding ups (arrotondamenti per eccesso)	N/a
83	Free of charge (omaggi) operations in sales documents (From BN 252)	N/a
84	Free of charge (omaggi) operations in refund/return documents (from BN 252)	N/a
85	Free of charge (omaggi) operations in void documents (From BN 252)	N/a
86	Department refund totals (from BN 257)	Department number: Range 01 to 99
87	Department void totals (from BN 257)	Department number: Range 01 to 99

[1] The following 36 group numbers can be used to manage historical VAT rates:

- 21 to 29
- 31 to 39
- 41 to 49
- 51 to 59

**Document Types and Totalisers (where differences apply):**

Index	Commercial Document	Refund Document	Void Document	Comments
01	Yes	No	No	Commercial sale documents only
02 (obsolete)	No	No	No	
03	Yes	No	No	
04	Yes	No	No	
05	Yes	No	No	
06	Yes	No	No	
07	Yes	No	No	
08	Yes	No	No	
13	Yes	No	No	
17	Yes	No	No	
18	Yes	No	No	
19	Yes	No	No	
20	Yes	No	No	
24	Yes			
28	Yes	No	No	Commercial sale documents only
29	Yes	No	No	
30	Yes	No	No	
31 / 36	No	Yes	No	
32 / 38	Yes	Yes	No	Reply contains two separate grand totals
37	No	No	Yes	
39	Yes Same as 32 / 38	No	Yes	Reply contains two separate grand totals
40	Yes	No	No	
41	No	Yes	No	
42	No	No	Yes	
43	Yes			
44	Yes			Also direct invoices
45	Yes	No	No	Also direct invoices

- **H1=2; H2=050/051 – REPLY FROM PRINTER**

For each index, the responses are as follows. Please be aware that the Grand Total requests have a different reply format. Total PDU length 35 bytes except for grand totals that are 43 bytes.

### DEPARTMENTS (INDEX = 01)

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Department	2 bytes	01
NUMBER	Department number	2 bytes	01 to 99
SIGN Q.	Quantity sign	1 byte	+/-
QTY	Total number of items	9 bytes	000000000 to 999999999 <sup>[1]</sup>
SIGN A.	Total amount sign	1 byte	+/-
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[2]</sup>

<sup>[1]</sup> To three decimal places (i.e., from 000000.000 to 999999.999).

<sup>[2]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents and invoices are not included.  
Modifier deductions reduce AMOUNT but not QTY.

### REFUNDS (INDEX = 02) – NO LONGER SUPPORTED

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Refunds / returns	2 bytes	02
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of refund transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Not relevant for RT commercial refund documents.

**PREVIOUS SALE CANCELLATIONS (STORNI) (INDEX = 03)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Returns	2 bytes	03
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of sale cancellation transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Commercial refund and void documents are not included.

**LAST TRANSACTION VOIDS (CORREZIONI) (INDEX = 04)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Last transaction voids (correzioni)	2 bytes	04
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of last transaction voids	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Not relevant for RT commercial void documents. Furthermore, voids inside commercial refund and void documents are not included.

**COMMERCIAL SALE DOCUMENT VOIDS (INDEX = 05)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Receipt voids	2 bytes	05
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of cancelled commercial sale documents	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Commercial refund and void documents are not included.

**FIXED MOUNT DISCOUNTS (INDEX = 06)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Discounts	2 bytes	06
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of discount transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Commercial refund and void documents are not included.

**PERCENTAGE DISCOUNTS (INDEX = 07)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Percentage discounts	2 bytes	07
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of percentage discount transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Commercial refund and void documents are not included.

**PERCENTAGE SURCHARGES (INDEX = 08)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Percentage surcharges	2 bytes	08
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of surcharge transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Commercial refund and void documents are not included.

**CREDIT RECOVERIES IN CASH (INDEX = 09)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Credit recoveries in cash	2 bytes	09
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of credit recovery printouts	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

**CASH IN TRANSACTIONS (INDEX=10)**

2	050/051	TYPE	CID	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	-----	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Cash in transactions	2 bytes	10
CID	Currency ID	2 bytes	00 to 06 (00 = euro)
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of "cash in" printouts	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

**CASH OUT TRANSACTIONS (INDEX=11)**

2	050/051	TYPE	CID	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	-----	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Cash out transactions	2 bytes	11
CID	Currency ID	2 bytes	00 to 06 (00 = euro)
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of "cash out" printouts	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

**CURRENT CASH BY CURRENCY (INDEX=12)**

2	050/051	TYPE	CID	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	-----	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Current cash by currency	2 bytes	12
CID	Currency ID	2 bytes	00 to 06 (00 = euro)
SIGN Q.	Quantity sign	1 byte	+/-
QTY	Difference in movements <sup>[1]</sup>	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+/-
AMOUNT	Total amount <sup>[1]</sup>	9 bytes	000000000 to 999999999

<sup>[1]</sup> The QTY and AMOUNT totals are both incremented in the following cases:

- Payments using the CONTANTE/TOTALE or CONTANTE 1 to 5 keys
- Payments using the 1-084 command with type 0 and index 0.

Change returned (RESTO) decrements AMOUNT but not QTY.

Credit recoveries in cash increment AMOUNT but not QTY.

Cash in transactions increment both QTY and AMOUNT totals.

Cash out transactions decrement both QTY and AMOUNT totals.

**TOTAL CURRENT CASH (INDEX=13)**

2	050/051	TYPE	NUMBER	SIGN I.	ITEMS	SIGN A.	AMOUNT
---	---------	------	--------	---------	-------	---------	--------

Field	Description	Length	Range / Value
TYPE	Total current cash drawer cash	2 bytes	13
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+/-
QTY	Difference in movements <sup>[1]</sup>	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+/-
AMOUNT	Total amount <sup>[1]</sup>	9 bytes	000000000 to 999999999

<sup>[1]</sup> The same rules apply as for index 12.

The figures are the same as those found under the CONTANTI line in the financial X-01 report. Does not include payments inside commercial refund and void documents.

**CREDIT RECOVERIES BY CHEQUE (INDEX=14)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Credit recoveries by cheque	2 bytes	14
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of credit recovery by cheque printouts	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

**CHEQUE IN TRANSACTIONS (INDEX=15)**

2	050/051	TYPE	CID	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	-----	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Cheque in transactions	2 bytes	15
CID	Currency ID	2 bytes	00 to 06 (00 = euro)
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of "cheque in" printouts	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

**CHEQUE OUT TRANSACTIONS (INDEX=16)**

2	050/051	TYPE	CID	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	-----	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Cheque out transactions	2 bytes	16
CID	Currency ID	2 bytes	00 to 06 (00 = euro)
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of "cheque out" printouts	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

**CURRENT CHEQUES (INDEX=17)**

2	050/051	TYPE	CID	SIGN Q.	ITEMS	SIGN A.	AMOUNT
---	---------	------	-----	---------	-------	---------	--------

Field	Description	Length	Range / Value
TYPE	Current cheques in cash drawer	2 bytes	17
CID	Currency ID	2 bytes	00 to 06 (00 = euro)
SIGN Q.	Quantity sign	1 byte	+/-
QTY	Difference in movements <sup>[1]</sup>	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+/-
AMOUNT	Total amount <sup>[1]</sup>	9 bytes	000000000 to 999999999

<sup>[1]</sup> The QTY and AMOUNT totals are incremented in the following cases:

- Payments using the ASSEGNO key
- Payments using the 1-084 command with type 1.

Credit recoveries by cheque increment AMOUNT but not QTY.

Cheque in transactions increment both QTY and AMOUNT totals.

Cheque out transactions decrement both QTY and AMOUNT totals.

The figures are the same as those found under the ASSEGNI line in the financial X-01 report. Does not include payments inside commercial refund and void documents.

**CREDIT CARD PAYMENTS (INDEX=18)**

2	050/051	TYPE	CCID	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Credit card transactions	2 bytes	18
CCID	Credit card ID	2 bytes	01 to 10 (00 credits now moved to indexes 73 to 75)
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Does not include payments inside commercial refund and void documents.

**TICKET PAYMENTS (INDEX=19)**

2	050/051	TYPE	TID	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	-----	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Ticket payments	2 bytes	19
TID	Ticket ID	2 bytes	01 to 10
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Does not include payments inside commercial refund and void documents.

When Ticket ID = 01, this total also includes any multiple ticket (1-084 type 4) payments. In this case, QTY is incremented by the ticket quantity and not the single operation.

**TAXES (INDEX=20) EXCLUDING HISTORICAL VAT**

2	050/051	TYPE	TG	SIGN N.	NET A.	SIGN T.	TAX A.
---	---------	------	----	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Taxes	2 bytes	20
TG	Tax group	2 bytes	00 to 18 (00 and 10 to 18 = Tax exempt)
SIGN N.	Net amount sign	1 byte	+
NET A.	Net amount <sup>[1]</sup>	9 bytes	000000000 to 999999999
SIGN T.	Tax amount sign	1 byte	+
TAX A.	Tax total	9 bytes	000000000 to 999999999 <sup>[2]</sup>

<sup>[1]</sup> The net amount is the amount before VAT is applied.

<sup>[2]</sup> TAX is always zero if the tax group is zero-rated.

Commercial refund and void documents are not included.

**CASH DRAWER OPENINGS (INDEX=21)**

2	050/051	TYPE	NUMBER	NU S	NU VAL	SIGN O.	OPENING
---	---------	------	--------	------	--------	---------	---------

Field	Description	Length	Range / Value
TYPE	Cash drawer openings	2 bytes	21
NUMBER	Not used	2 bytes	00
NU S	Not used	1 byte	+
NU VAL	Not used	9 bytes	000000000
SIGN O.	Sign	1 byte	+
OPENING	Number of cash drawer openings	9 bytes	000000000 to 999999999

Indicates the number of openings carried out either via the SUBTOTALE key or via the native 1-050 command. It does not include any automatic openings such as those at the conclusion of a commercial document.

**INVOICES (INDEX=22)**

2	050/051	TYPE	NUMBER	SIGN I.	ITEMS	SIGN A.	AMOUNT
---	---------	------	--------	---------	-------	---------	--------

Field	Description	Length	Range / Value
TYPE	Invoices	2 bytes	22
NUMBER	Not used	2 bytes	00
SIGN I.	Number of invoices sign	1 byte	+
ITEMS	Total number of invoices	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total invoices amount	9 bytes	000000000 to 999999999

**PERSONALISED FISCAL RECEIPTS (INDEX=23) – NO LONGER SUPPORTED**

2	050/051	TYPE	NUMBER	SIGN I.	ITEMS	SIGN A.	AMOUNT
---	---------	------	--------	---------	-------	---------	--------

Field	Description	Length	Range / Value
TYPE	Personalised fiscal receipts	2 bytes	23
NUMBER	Not used	2 bytes	00
SIGN I.	Number of personalised fiscal receipts sign	1 byte	+
ITEMS	Total number of personalised fiscal receipts	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total personalised fiscal receipts amount	9 bytes	000000000 to 999999999

**COMMERCIAL DOCUMENTS (INDEX=24)**

2	050/051	TYPE	NUMBER	SIGN I.	NUVAL	SIGN	FRCN
---	---------	------	--------	---------	-------	------	------

Field	Description	Length	Range / Value
TYPE	Commercial documents	2 bytes	24
NUMBER	Not used	2 bytes	00
SIGN I.	Not used	1 byte	+
NUVAL	Not used	9 bytes	000000000
SIGN	Sign	1 byte	+
FRCN	Total number of commercial documents <sup>[1]</sup>	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> Does not include fiscal memory printouts that may be fiscal (only if printer is in the "activated" non-RT state).

Commercial refund and void documents are included.

**FISCAL MEMORY PRINT-OUTS (INDEX=25) – NO LONGER SUPPORTED**

2	050/051	TYPE	NUMBER	SIGN I.	NUVAL	SIGN D.	DOC
---	---------	------	--------	---------	-------	---------	-----

Field	Description	Length	Range / Value
TYPE	Fiscal memory printouts	2 bytes	25
NUMBER	Not used	2 bytes	00
SIGN I.	Not used	1 byte	+
NUVAL	Not used	9 bytes	000000000
SIGN D.	Sign	1 byte	+
DOC	Number of fiscal memory printouts	9 bytes	000000000 to 999999999

**MANAGEMENT DOCUMENTS (INDEX=26)**

2	050/051	TYPE	NUMBER	SIGN I.	NUVAL	SIGN N.	NONFIS
---	---------	------	--------	---------	-------	---------	--------

Field	Description	Length	Range / Value
TYPE	Management documents	2 bytes	26
NUMBER	Not used	2 bytes	00
SIGN I.	Not used	1 byte	+
NUVAL	Not used	9 bytes	000000000
SIGN N.	Sign	1 byte	+
NONFIS	Number of management documents	9 bytes	000000000 to 999999999

**DAILY CLOSURES (Z NUMBER) (INDEX=27)**

2	050/051	TYPE	NUMBER	SIGN I.	NUVAL	SIGN Z.	ZREP
---	---------	------	--------	---------	-------	---------	------

Field	Description	Length	Range / Value
TYPE	Daily closures	2 bytes	27
NUMBER	Not used	2 bytes	00
SIGN I.	Not used	1 byte	+
NUVAL	Not used	9 bytes	000000000
SIGN N.	Sign	1 byte	+
ZREP	Number of daily closures	9 bytes	000000000 to 999999999

If at the time of the request the printer is in Demo RT mode, the number of Demo daily closures is returned. In all other cases, the number of "real" daily closures is returned. Add 1 to ascertain the current Z number.

**DAILY TOTAL (INDEX=28)**

2	050	TYPE	NUMBER	SIGN I.	NU VAL	SIGN A.	AMOUNT
---	-----	------	--------	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Daily total	2 bytes	28
NUMBER	Not used	2 bytes	00
NU VAL	Not used	1 byte	+
ITEMS	Not used	9 bytes	000000000
SIGN A.	Sign	1 byte	+
AMOUNT	Daily total amount	9 bytes	000000000 to 999999999

Commercial refund and void documents are not deducted.

**CASH WITH DESCRIPTION PAYMENTS (INDEX=29)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Cash with description payments	2 bytes	29
NUMBER	Cash ID	2 bytes	01 to 05 <sup>[1]</sup>
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

<sup>[1]</sup> The QTY and AMOUNT totals are incremented in the following cases:

- Payments using the 1-084 command with type 0 and indexes 1 to 5.

Payments using the CONTANTE 1 to 5 keys (SET 09) do not increment these counters and change returned (RESTO) never decrements AMOUNT (see indexes 12 and 13).

Does not include payments inside commercial refund and void documents.

**FIXED AMOUNT SURCHARGES (INDEX=30)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Amount surcharges	2 bytes	30
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of surcharge transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Does not include surcharges inside commercial refund and void documents.

**TOTAL REFUND DOCUMENTS AMOUNT (INDEX=31 / 36)**

2	050/051	TYPE	NUMBER	SIGN I.	NU VAL	SIGN A.	AMOUNT
---	---------	------	--------	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Refund documents	2 bytes	31 / 36
NUMBER	Not used	2 bytes	00
NU VAL	Not used	1 byte	+
ITEMS	Not used	9 bytes	000000000
SIGN A.	Sign	1 byte	+
AMOUNT	Amount	9 bytes	000000000 to 999999999

**GRAND TOTAL AND REFUND DOCUMENTS GRAND TOTAL (INDEX=32 / 38)**

2	050/051	GT	RD GT	FC
---	---------	----	-------	----

The TYPE AND NUMBER fields are not present in the reply.

Field	Description	Length	Range / Value
GT	Grand total	14 bytes	0 to 999999999999999
RD GT	Refund documents grand total	14 bytes	0 to 999999999999999
FC	Number of fiscal daily closures	4 bytes	0000 to 3650

The response is the same for both 2-050 and 2-051 commands. GT excludes commercial refund and void documents. The grand totals are not incremented in real time not even after the closure of a commercial refund document. Only after having printed a fiscal daily closure are the totals for the day added. The number of "real" daily closures (FC) is returned even if the printer is in Demo RT mode at the time of the request. To ascertain the number of "Demo" closures (whilst in Demo RT mode), please use index 27. Grand Totals are never incremented by fiscal daily closures whilst in Demo RT mode.

**TICKET DIFFERENCES (INDEX=33) – NO LONGER SUPPORTED**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Ticket differences	2 bytes	33
NUMBER	Not used	2 bytes	00
SIGN Q.	Ticket differences events sign	1 byte	+
QTY	Number of ticket differences events	9 bytes	000000000 to 999999999
SIGN A.	Ticket differences amount sign	1 byte	+
AMOUNT	Total ticket differences amount	9 bytes	000000000 to 999999999

These counters were only managed if flag SET 14/30 = 1 and the value of the ticket used in a payment exceeded the payment due in that moment. Ticket payments can no longer exceed the payment due, so this counter is always zero. The TICKET SURPLUS key is also obsolete.

**FIRST AND LAST DAILY INVOICE NUMBERS (INDEX=34 / 61)**

Index 34 is the same as index 61 described below.

**INVOICE TAXES (INDEX=35 / 62)**

Index 35 is the same as index 62 described below.

**TOTAL REFUND DOCUMENTS AMOUNT (INDEX=36 / 31)**

Index 36 is the same as index 31 described above.

**TOTAL VOID DOCUMENTS AMOUNT (INDEX=37)**

2	050/051	TYPE	NUMBER	SIGN I.	NU VAL	SIGN A.	AMOUNT
---	---------	------	--------	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Void documents	2 bytes	37
NUMBER	Not used	2 bytes	00
NU VAL	Not used	1 byte	+
ITEMS	Not used	9 bytes	000000000
SIGN A.	Sign	1 byte	+
AMOUNT	Amount	9 bytes	000000000 to 999999999

**GRAND TOTAL AND REFUND DOCUMENTS GRAND TOTAL (INDEX=38 / 32)**

Index 38 is the same as index 32 described above.

**GRAND TOTAL AND VOID DOCUMENTS GRAND TOTAL (INDEX=39)**

2	050/051	GT	VD GT	FC
---	---------	----	-------	----

The TYPE AND NUMBER fields are not present in the reply.

Field	Description	Length	Range / Value
GT	Grand total (Same as with 32 and 38 indexes)	14 bytes	0 to 99999999999999
VD GT	Void documents grand total	14 bytes	0 to 99999999999999
FC	Number of fiscal daily closures	4 bytes	0000 to 3650

The response is the same for both 2-050 and 2-051 commands. The grand totals are not incremented in real time not even after the closure of a commercial void document. Only after having printed a fiscal daily closure are the totals for the day added. The number of "real" daily closures is returned even if the printer is in Demo RT mode at the time of the request. To ascertain the number of "Demo" closures (whilst in Demo RT mode), please use index 27. Grand Totals are never incremented by fiscal daily closures whilst in Demo RT mode.

**DAILY SALES DOCUMENTS TAXES PER VAT (INDEX=40)**

2	050/051	TYPE	TG	SIGN N.	NET A.	SIGN T.	TAX A.
---	---------	------	----	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Taxes	2 bytes	40
TG	Tax group	2 bytes	00 to 59 <sup>[1]</sup> (00 and 10 to 18 = Tax exempt)
SIGN N.	Net amount sign	1 byte	+
NET A.	Net amount <sup>[2]</sup>	9 bytes	000000000 to 999999999
SIGN T.	Tax amount sign	1 byte	+
TAX A.	Tax total	9 bytes	000000000 to 999999999 <sup>[3]</sup>

<sup>[1]</sup> See historical VAT annotation after main table above.

<sup>[2]</sup> The net amount is the amount before VAT is applied.

<sup>[3]</sup> TAX is always zero if the tax group is zero-rated.

**DAILY REFUND DOCUMENTS TAXES PER VAT (INDEX=41)**

2	050/051	TYPE	TG	SIGN N.	NET A.	SIGN T.	TAX A.
---	---------	------	----	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Taxes	2 bytes	41
TG	Tax group	2 bytes	00 to 59 <sup>[1]</sup> (00 and 10 to 18 = Tax exempt)
SIGN N.	Net amount sign	1 byte	+
NET A.	Net amount <sup>[2]</sup>	9 bytes	000000000 to 999999999
SIGN T.	Tax amount sign	1 byte	+
TAX A.	Tax total	9 bytes	000000000 to 999999999 <sup>[3]</sup>

<sup>[1]</sup> See historical VAT annotation after main table above.

<sup>[2]</sup> The net amount is the amount before VAT is applied.

<sup>[3]</sup> TAX is always zero if the tax group is zero-rated.

**DAILY VOID DOCUMENTS TAXES PER VAT (INDEX=42)**

2	050/051	TYPE	TG	SIGN N.	NET A.	SIGN T.	TAX A.
---	---------	------	----	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Taxes	2 bytes	42
TG	Tax group	2 bytes	00 to 59 <sup>[1]</sup> (00 and 10 to 18 = Tax exempt)
SIGN N.	Net amount sign	1 byte	+
NET A.	Net amount <sup>[2]</sup>	9 bytes	000000000 to 999999999
SIGN T.	Tax amount sign	1 byte	+
TAX A.	Tax total	9 bytes	000000000 to 999999999 <sup>[3]</sup>

<sup>[1]</sup> See historical VAT annotation after main table above.

<sup>[2]</sup> The net amount is the amount before VAT is applied.

<sup>[3]</sup> TAX is always zero if the tax group is zero-rated.

**DAILY DOCUMENT TAXES MINUS SUM OF REFUND AND VOID DOCS PER VAT (INDEX=43)**

2	050/051	TYPE	TG	SIGN N.	NET A.	SIGN T.	TAX A.
---	---------	------	----	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Taxes	2 bytes	43
TG	Tax group	2 bytes	00 to 59 <sup>[1]</sup> (00 and 10 to 18 = Tax exempt)
SIGN N.	Net amount sign	1 byte	+/-
NET A.	Net amount <sup>[2]</sup>	9 bytes	000000000 to 999999999
SIGN T.	Tax amount sign	1 byte	+/-
TAX A.	Tax total	9 bytes	000000000 to 999999999 <sup>[3]</sup>

<sup>[1]</sup> See historical VAT annotation after main table above.

<sup>[2]</sup> The net amount is the amount before VAT is applied.

<sup>[3]</sup> TAX is always zero if the tax group is zero-rated.

**CURRENT OPEN COMMERCIAL DOCUMENT / DIRECT INVOICE TAXES PER VAT (INDEX=44)**

2	050/051	TYPE	TG	SIGN N.	NET A.	SIGN T.	TAX A.
---	---------	------	----	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Taxes	2 bytes	44
TG	Tax group	2 bytes	00 to 59 <sup>[1]</sup> (00 and 10 to 18 = Tax exempt)
SIGN N.	Net amount sign	1 byte	+/-
NET A.	Net amount <sup>[2]</sup>	9 bytes	000000000 to 999999999
SIGN T.	Tax amount sign	1 byte	+/-
TAX A.	Tax total	9 bytes	000000000 to 999999999 <sup>[3]</sup>

Includes commercial refund and void documents.

<sup>[1]</sup> See historical VAT annotation after main table ABOVE.

<sup>[2]</sup> The net amount is the amount before VAT is applied.

<sup>[3]</sup> TAX is always zero if the tax group is zero-rated.

If no document is open, Error 17 is returned.

**OPERATOR DOCUMENTS AND INVOICES AMOUNT (INDEX=45)**

2	050/051	TYPE	TG	SIGN N.	NET A.	SIGN T.	TAX A.
---	---------	------	----	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Operators	2 bytes	45
NUMBER	Operator number	2 bytes	01 to 12
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of operator documents	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999

Does not include commercial refund and void documents.

**RESERVED FOR FUTURE USE (INDEX=46 to 60)****EARLIEST AND LATEST INVOICE NUMBERS (INDEX=61 / 34)**

2	050/051	TYPE	NUMBER	SIGN S.	START N.	SIGN E.	END N.
---	---------	------	--------	---------	----------	---------	--------

Field	Description	Length	Range / Value
TYPE	First and last daily invoice numbers	2 bytes	61 / 34
NUMBER	Not used	2 bytes	00
SIGN S.	Sign	1 byte	+
START N.	First invoice number	9 bytes	000000000 to 000099999
SIGN E.	Sign	1 byte	+
END N.	Last invoice number	9 bytes	000000000 to 000099999

**INVOICE TAXES (INDEX=62 / 35)**

2	050/051	TYPE	TG	SIGN N.	NET A.	SIGN T.	TAX A.
---	---------	------	----	---------	--------	---------	--------

Field	Description	Length	Range / Value
TYPE	Invoice taxes	2 bytes	62 / 35
TG	Tax group	2 bytes	00 to 09 (00 = Tax exempt)
SIGN N.	Net amount sign	1 byte	+
NET A.	Net amount <sup>[1]</sup>	9 bytes	000000000 to 999999999
SIGN T.	Tax amount sign	1 byte	+
TAX A.	Tax total	9 bytes	000000000 to 999999999 <sup>[2]</sup>

<sup>[1]</sup> The net amount is the amount before VAT is applied.

<sup>[2]</sup> TAX is always zero if the tax group is zero.

**CLASS I AND III DOCUMENTS (INDEX=63) – NO LONGER SUPPORTED**

2	050/051	TYPE	NUMBER	SIGN CI	QTY CI	SIGN CIII	QTY CIII
---	---------	------	--------	---------	--------	-----------	----------

Field	Description	Length	Range / Value
TYPE	Number of class I and II documents	2 bytes	63
NUMBER	Not used	2 bytes	00
SIGN CI	Sign	1 byte	+
QTY CI	Number of class I documents	9 bytes	000000000 to 999999999
SIGN CIII	Sign	1 byte	+
QTY CIII	Number of class III documents	9 bytes	000000000 to 999999999

**WEIGHING SCALES LAST OPERATION (INDEX=64)**

2	050/051	TYPE	NUMBER	SIGN SW	SW	SIGN SPA	SPA
---	---------	------	--------	---------	----	----------	-----

Field	Description	Length	Range / Value
TYPE	Weighing scales last operation	2 bytes	64
NUMBER	Not used	2 bytes	00
SIGN SW	Sign	1 byte	+
SW	Weight from scales	9 bytes	000000000 to 999999999
SIGN SPA	Sign	1 byte	+
SPA	Scales price amount	9 bytes	000000000 to 999999999

**DEPOSIT DEDUCTION MODIFIER OPERATIONS (ACCONTI) (INDEX = 70)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Deposit deduction modifier	2 bytes	70
NUMBER	Department number	2 bytes	01 to 99
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of deposit deduction transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.  
AMOUNT here reduces INDEX = 01 AMOUNT for specific department.

**FREE OF CHARGE MODIFIER OPERATIONS (OMAGGI) (INDEX = 71)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Free of charge modifier	2 bytes	71
NUMBER	Department number	2 bytes	01 to 99
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of free of charge transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

AMOUNT here reduces INDEX = 01 AMOUNT for specific department.

**SINGLE USE VOUCHER MODIFIER OPERATIONS (BUONI MONOUSO) (INDEX = 72)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Single use voucher modifier	2 bytes	72
NUMBER	Department number	2 bytes	01 to 99
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of single use voucher transactions	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

AMOUNT here reduces INDEX = 01 AMOUNT for specific department.

**NOT PAID GOODS AND SERVICES PAYMENTS (INDEX = 73)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Not paid goods and services and credits	2 bytes	73
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of not paid goods and services payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**NOT PAID GOODS ONLY PAYMENTS (INDEX = 74)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Not paid goods only and credits	2 bytes	74
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of not paid goods only payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**NOT PAID SERVICES ONLY PAYMENTS (INDEX = 75)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Not paid services only and credits	2 bytes	75
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of not paid services only payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**NOT PAID INVOICES BASED ON DOC PAYMENTS (INDEX = 76)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Not paid invoices based on last commercial document	2 bytes	76
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of not paid invoice based on last commercial document payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**NOT PAID RT INVOICES DOC PAYMENTS (INDEX = 77) – FOR FUTURE USE**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Not paid RT invoices	2 bytes	77
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of not paid RT invoice payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**NOT PAID SSN PHARMACY PAYMENTS (INDEX = 78)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Not paid SSN Pharmacy	2 bytes	78
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of not paid SSN pharmacy payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**GENERIC DISCOUNT PAYMENTS (INDEX = 79)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Generic discount payments	2 bytes	79
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of generic discount payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**MULTI-USE VOUCHER DISCOUNT PAYMENTS (INDEX = 80)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Multi-use voucher discount payments	2 bytes	80
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of Multi-use voucher discount payments	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**CASH ROUNDING DOWN OPERATIONS (INDEX = 81)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Cash rounding down operations (Arrotondamenti per difetto)	2 bytes	81
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of cash rounding down operations	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**CASH ROUNDING UP OPERATIONS (INDEX = 82)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Cash rounding up operations (Arrotondamenti per eccesso)	2 bytes	82
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of cash rounding up operations	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

Commercial refund and void documents are not included.

**FREE OF CHARGE (OMAGGI) SALE DOCUMENT OPERATIONS (INDEX = 83)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Free of Charge (omaggi) sale document operations	2 bytes	83
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of free of charge (omaggi) sale document operations	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

**FREE OF CHARGE (OMAGGI) REFUND/RETURN DOC OPERATIONS (INDEX = 84)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Free of Charge (omaggi) refund/return document operations	2 bytes	84
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of free of charge (omaggi) refund/return document operations	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

**FREE OF CHARGE (OMAGGI) VOID DOCUMENT OPERATIONS (INDEX = 85)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Free of Charge (omaggi) void document operations	2 bytes	85
NUMBER	Not used	2 bytes	00
SIGN Q.	Quantity sign	1 byte	+
QTY	Total number of free of charge (omaggi) void document operations	9 bytes	000000000 to 999999999
SIGN A.	Total amount sign	1 byte	+
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[1]</sup>

<sup>[1]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

**REFUND DOCUMENT DEPARTMENTS (INDEX = 86)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Refund Department	2 bytes	86
NUMBER	Department number	2 bytes	01 to 99
SIGN Q.	Quantity sign	1 byte	+/-
QTY	Total number of items	9 bytes	000000000 to 999999999 <sup>[1]</sup>
SIGN A.	Total amount sign	1 byte	+/-
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[2]</sup>

<sup>[1]</sup> To three decimal places (i.e., from 0000000.000 to 9999999.999).

<sup>[2]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

From BN 257. Modifier deductions reduce AMOUNT but not QTY.

**VOID DOCUMENT DEPARTMENTS (INDEX = 87)**

2	050/051	TYPE	NUMBER	SIGN Q.	QTY	SIGN A.	AMOUNT
---	---------	------	--------	---------	-----	---------	--------

Field	Description	Length	Range / Value
TYPE	Void Department	2 bytes	87
NUMBER	Department number	2 bytes	01 to 99
SIGN Q.	Quantity sign	1 byte	+/-
QTY	Total number of items	9 bytes	000000000 to 999999999 <sup>[1]</sup>
SIGN A.	Total amount sign	1 byte	+/-
AMOUNT	Total amount	9 bytes	000000000 to 999999999 <sup>[2]</sup>

<sup>[1]</sup> To three decimal places (i.e., from 0000000.000 to 9999999.999).

<sup>[2]</sup> To two decimal places (i.e., from 0000000.00 to 9999999.99).

From BN 257. Modifier deductions reduce AMOUNT but not QTY.

- **H1=2; H2=052 – READ FISCAL GRAND TOTAL**

Returns the grand total of commercial documents (excluding refund and void variants) since the printer was fiscalised plus the total number of daily fiscal closures. Does not include the current day's printouts as these are only summed after a daily fiscal closure report. If at the time of the request the printer is in Demo RT mode, the number of Demo daily closures is returned. In all other cases, the number of "real" daily closures is returned. The Grand Total is never incremented by fiscal daily closures whilst in Demo RT mode.

TX 

2	052
---	-----

RX 

2	052	GT	DC
---	-----	----	----

RX

Field	Description	Length	Range / Value
GT	Grand total	14 bytes	0 to 99999999999999
DC	Number of daily closures	4 bytes	0000 to 3650

CONFIDENTIAL

### 11.3. HEADER1=3 COMMANDS

Commands have already been grouped together according to varying functions above. This section will merely show the commands in numerical order.

- H1=3; H2=001 – PRINT Z REPORT

Inhibited if the printer has not been registered (censita). Returns Error 17. In this case use 3-002 instead.

Prints a daily closure report encapsulated in a management document. It is not saved in the MPD (EJ). It includes slimmed down fiscal totals, possible fiscal memory low warnings, management document number and the date and time of the report. All counters are described in the Manuale Operatore document. A text file is written to the www/dati-rt/<date> folder. The filename ends with ZREPORT.txt. This can be read with an Internet browser or with EpsonFpWizard >= 3.1.0.

The printer then attempts XML file transmission to the tax authority. After a short interval, a print-out will show the outcome of the transmission attempt.

The daily values are summed to the periodic totals.

If the retail outlet operates after midnight, it is deemed prudent to carry out a daily closure prior to midnight and another one before the outlet closes. This is to correctly register the daily takings and VAT – especially on days at the end of a tax period.

TX 

3	001	OP
---	-----	----

RX 

3	001	OP	DATE	TIME	FR.N
---	-----	----	------	------	------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
FR.N	Number of commercial documents	4 bytes	0001 to 9999

- **H1=3; H2=002 – PRINT FINANCIAL DATA AND Z REPORT**

If the printer has not been registered (censita), only the X-01 report is printed out. The daily totals are zeroed. No error is returned.

Three documents are printed. The first is the X-01 financial report (H1=2; H2=001). The second is the daily fiscal closure Z-01 report (H1=3; H2=001). A text file is written to the www/dati-rt/<date> folder. The filename ends with ZREPORT.txt. This can be read with an Internet browser.

The printer then attempts XML file transmission to the tax authority. After a short interval, a print-out will show the outcome of the transmission attempt.

The values are then summed to the periodic totals.

If the retail outlet operates after midnight, it is deemed prudent to carry out a daily closure prior to midnight and another one before the outlet closes. This is to correctly register the daily takings and VAT – especially on days at the end of a tax period.

TX 

3	002	OP
---	-----	----

RX 

3	002	OP	DATE	TIME	NFR.N	FR.N
---	-----	----	------	------	-------	------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX (First common portion):

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM

RX – Not registered (non censita):

NFR.N	All documents + this report (X-01 only) + 1.	4 bytes	0001 to 9999
FR.N	Fixed	4 bytes	0000

RX – In service:

NFR.N	Number of management documents including the two printed out for X-01 and Z report.	4 bytes	0001 to 9999
FR.N	Number of commercial documents	4 bytes	0001 to 9999

- **H1=3; H2=003 – PRINT/ZERO DAILY PRODUCT GROUP TOTALS**

Prints a management document that contains the daily product group totals after which the values are zeroed. A specific product group can be specified. Alternatively, the reserved 00 value can be used to indicate all ten product groups.

The values are then summed to the periodic totals.

TX 

3	003	OP	PGN
---	-----	----	-----

RX 

3	003	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PGN	Product group number	2 bytes	00 (all) 01 to 10

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=004 – PRINT/ZERO DAILY INTERNAL PLU TOTALS**

Prints a management document that contains the daily internal PLU totals after which the values are zeroed. A specific internal PLU can be specified. Alternatively, the reserved 0000 value can be used to indicate all 1000 internal PLUs.

The values are then summed to the periodic totals.

TX 

3	004	OP	PLU
---	-----	----	-----

RX 

3	004	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PLU	Internal PLU number	4 bytes	0000 (all) 0001 to 1000

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=005 – PRINT/ZERO DAILY TIME PERIOD TOTALS**

Prints a management document that contains the daily hour by hour totals after which the values are zeroed. It contains three columns:

- ORA – Start time.
- CLIENTI – Number of commercial documents and direct invoices.
- TOTALE – Total value of commercial documents and direct invoices.

A line with the sum of CLIENTI and TOTALE is also printed.

Hours in which no documents were emitted are filtered out.

The values are then summed to the periodic totals.

TX 

3	005	OP
---	-----	----

RX 

3	005	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=006 – PRINT/ZERO DAILY OPERATOR TOTALS**

Prints a management document that contains the daily operator totals after which the values are zeroed. A specific operator can be specified. Alternatively, the reserved 00 value can be used to indicate all 12 operators. The values are then summed to the periodic totals. If operator mode is not set, Error 18 (not possible) is returned.

TX 

3	006	OP	OP2
---	-----	----	-----

RX 

3	006	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator carrying out the request	2 bytes	01 to 12
OP2	Operator totals	2 bytes	00 (all) 01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=007 – PRINT/ZERO PERIODIC FINANCIAL DATA TOTALS**

Prints a management document that contains the periodic totals for departments, VAT, discounts etc. after which the values are zeroed.

TX 

3	007	OP
---	-----	----

RX 

3	007	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=008 – PRINT/ZERO PERIODIC PRODUCT GROUP TOTALS**

Prints a management document that contains the product group periodic totals after which the values are zeroed. A specific product group can be specified. Alternatively, the reserved 00 value can be used to indicate all ten product groups.

TX 

3	008	OP	PGN
---	-----	----	-----

RX 

3	008	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PGN	Product group number	2 bytes	00 (all) 01 to 10

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=009 – PRINT/ZERO PERIODIC INTERNAL PLU TOTALS**

Prints a management document that contains the internal PLU periodic totals after which the values are zeroed. A specific internal PLU can be specified. Alternatively, the reserved 0000 value can be used to indicate all 1000 internal PLUs.

TX 

3	009	OP	PLU
---	-----	----	-----

RX 

3	009	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PLU	Internal PLU number	4 bytes	0000 (all) 0001 to 1000

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=010 – PRINT/ZERO PERIODIC TIME PERIOD TOTALS**

Prints a management document that contains the periodic hour by hour totals after which the values are zeroed. It contains three columns:

- ORA – Start time.
- CLIENTI – Number of commercial documents and direct invoices.
- TOTALE – Total value of commercial documents and direct invoices.

A line with the sum of CLIENTI and TOTALE is also printed.

Hours in which no documents were emitted regardless of the day are filtered out.

TX 

3	010	OP
---	-----	----

RX 

3	010	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=011 – PRINT/ZERO PERIODIC OPERATOR TOTALS**

Prints a management document that contains the periodic operator totals after which the values are zeroed. A specific operator can be specified. Alternatively, the reserved 00 value can be used to indicate all 12 operators. If operator mode is not set, Error 18 (not possible) is returned.

TX 

3	011	OP	OP2
---	-----	----	-----

RX 

3	011	OP	DATE	TIME	NFR.N
---	-----	----	------	------	-------

TX

Field	Description	Length	Range / Value
OP	Operator carrying out the request	2 bytes	01 to 12
OP2	Operator totals	2 bytes	00 (all) 01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
NFR.N	Management document number	4 bytes	0001 to 9999

- **H1=3; H2=012 – PRINT OR SAVE GIVEN FISCAL HISTORY BASED ON A SPECIFIED SEQUENCE NUMBER RANGE**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

Prints or saves (depending on flag SET 14/61) a management document that contains a user defined fiscal history period report based on a specified range of daily fiscal closure numbers. Data is read from the MPR (fiscal memory) board. The content contains the following:

- The current date and time along with the fiscal serial number
- Daily fiscal closure N1 (From) sequence number
- Daily fiscal closure N2 (To) sequence number
- For each closure found in the specified N1 N2 range as follows:
  - **MF mode closure:**  
The Z sequence number, the date, the four MF daily totals, the fiscal hex string seal (sigillo fiscale) and the "\*\*\* MF \*\*\*" identifier to indicate MF mode at the time of the closure.
  - **RT mode closure:**  
The Z sequence number, the date, the four RT daily totals, the fiscal hex string seal (sigillo fiscale) and the "\*\*\* RT \*\*\*" identifier to indicate RT mode at the time of the closure.
- The number of daily closures in the report.
- The sum of the MF and RT totals:
  - Fiscal receipts daily totals and commercial documents daily totals summed
  - Commercial refund documents total
  - Commercial void documents total
  - Number of commercial documents emitted
  - Credit notes total
  - Number of class II documents emitted (invoices)
  - Class II documents total

Given that the content is non-fiscal, the final lines contain the date and time, the management document sequence number and fiscal printer serial number.

The four MF daily totals are as follows:

1. Fiscal receipts amount
2. Credit notes amount
3. Number of class II documents emitted (invoices)
4. Class II documents amount

The four RT daily totals are as follows:

1. Commercial documents amount
2. Commercial refund documents amount
3. Commercial void documents amount
4. Number of commercial documents emitted. This includes refund and void types plus any that were cancelled before being closed

The content terminates upon reaching the chosen N2 daily fiscal closure sequence number. If the N2 number is greater than the latest daily fiscal closure sequence number, the command still works and terminates when it reaches the latest possible daily fiscal closure sequence number.

The printer returns Error 16 if the following is true:

- N1 set to 0000
- N2 set to 0000
- N1 > N2
- N1 > Latest daily fiscal closure sequence number

The printer responds only after the print-out has been completed or the file has been saved (path www/dati-rt/tmp/rt\_memoria\_riepilogo.txt). When printing a lot of content, the timeout must be set appropriately in your retail application. If saving to file, the word ATTENDERE (wait) appears on the display for a short time. After having saved the file to your PC, EPSON recommends renaming rt\_memoria\_riepilogo.txt to rt\_memoria\_riepilogo.wri to enable it to be viewed in a more human readable form via WordPad.

TX 

3	012	OP	N1	N2
---	-----	----	----	----

RX 

3	012	OP	DATE	TIME	FR.N
---	-----	----	------	------	------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
N1	Daily fiscal closure from sequence number	4 bytes	0001 to 3650
N2	Daily fiscal closure to sequence number	4 bytes	0001 to 3650

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
FR.N	Number of commercial documents today	4 bytes	0000 to 9999

- **H1=3; H2=013 – PRINT OR SAVE GIVEN FISCAL HISTORY BASED ON A SPECIFIED DATE RANGE**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

Prints or saves (depending on flag SET 14/61) a management document that contains a user defined fiscal history period report based on a specified range of dates. Data is read from the MPR (fiscal memory) board. The content contains the following:

- The current date and time along with the fiscal serial number
- From date
- To date
- For each closure in the chosen From To range as follows:
  - **MF mode closure:**  
The Z sequence number, the date, the four MF daily totals, the fiscal hex string seal (sigillo fiscale) and the "\*\*\* MF \*\*\*" identifier to indicate MF mode at the time of the closure.
  - **RT mode closure:**  
The Z sequence number, the date, the four RT daily totals, the fiscal hex string seal (sigillo fiscale) and the "\*\*\* RT \*\*\*" identifier to indicate RT mode at the time of the closure.
- The number of closures in the report.
- The sum of the MF and RT totals:
  - Fiscal receipts daily totals and commercial documents daily totals summed
  - Commercial refund documents total
  - Commercial void documents total
  - Number of commercial documents emitted
  - Credit notes total
  - Number of class II documents emitted (invoices)
  - Class II documents total

Given that the content is non-fiscal, the final lines contain the date and time, the management document sequence number and fiscal printer serial number.

The four MF daily totals are as follows:

1. Fiscal receipts amount
2. Credit notes amount
3. Number of class II documents emitted (invoices)
4. Class II documents amount

The four RT daily totals are as follows:

1. Commercial documents amount
2. Commercial refund documents amount
3. Commercial void documents amount
4. Number of commercial documents emitted. This includes refund and void types plus any that were cancelled before being closed

The content terminates upon reaching the "to" date. If the "to" date is after the latest daily fiscal closure date, the command still works and terminates when it reaches the latest possible daily fiscal closure date.

The printer returns Error 16 if the following is true:

- From date later than To date
- From date later than latest daily fiscal closure date

The printer responds only after the print-out has been completed or the file has been saved (path www/dati-rt/tmp/rt\_memoria\_riepilogo.txt). When printing a lot of content, the timeout must be set appropriately in your retail application. If saving to file, the word ATTENDERE (wait) appears on the display for a short time. After having saved the file to your PC, EPSON recommends renaming rt\_memoria\_riepilogo.txt to rt\_memoria\_riepilogo.wri to enable it to be viewed in a more human readable form via WordPad.

TX	3	013	OP	DD1	MM1	YY1	DD2	MM2	YY2
----	---	-----	----	-----	-----	-----	-----	-----	-----

RX	3	013	OP	DATE	TIME	FR.N
----	---	-----	----	------	------	------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DD1, MM1, YY1	From date	6 bytes	DDMMYY
DD2, MM2, YY2	To date	6 bytes	DDMMYY

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
FR.N	Number of commercial documents today	4 bytes	0000 to 9999

- **H1=3; H2=014 – PRINT OR SAVE FISCAL SUMS BASED ON A SPECIFIED DATE RANGE**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned. Prints or saves (depending on flag SET 14/61) a management document that contains fiscal sums based on a specified range of dates. Data is read from the MPR (fiscal memory) board. The content contains the following:

- The current date and time along with the fiscal serial number
- From date
- To date
- The number of closures in the report.
- The sum of the MF and RT totals:
  - Fiscal receipts daily totals and commercial documents daily totals summed
  - Commercial refund documents total
  - Commercial void documents total
  - Number of commercial documents emitted. This includes refund and void types plus any that were cancelled before being closed
  - Credit notes total
  - Number of class II documents emitted (invoices)
  - Class II documents total

Given that the content is non-fiscal, the final lines contain the date and time, the management document sequence number and fiscal printer serial number.

If the "to" date is after the latest daily fiscal closure date, the command still works and terminates when it reaches the latest possible daily fiscal closure date.

The printer returns Error 16 if the following is true:

- From date later than To date
- From date later than latest daily fiscal closure date

The printer responds only after the print-out has been completed or the file has been saved (path www/dati-rt/tmp/rt\_memoria\_riepilogo.txt). If saving to file, the word ATTENDERE (wait) appears on the display for a short time. After having saved the file to your PC, EPSON recommends renaming rt\_memoria\_riepilogo.txt to rt\_memoria\_riepilogo.wri to enable it to be viewed in a more human readable form via WordPad.

TX 

3	014	OP	DD1	MM1	YY1	DD2	MM2	YY2
---	-----	----	-----	-----	-----	-----	-----	-----

RX 

3	014	OP	DATE	TIME	FR.N
---	-----	----	------	------	------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DD1, MM1, YY1	From date	6 bytes	DDMMYY
DD2, MM2, YY2	To date	6 bytes	DDMMYY

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
FR.N	Number of commercial documents today	4 bytes	0000 to 9999

- **H1=3; H2=015 – PRINT OR SAVE ENTIRE PRINTER HISTORY**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

Prints or saves (depending on flag SET 14/61) a management document that contains the entire printer history. Data is read from the MPR (fiscal memory) board. The content contains the following:

- The current date and time along with the fiscal serial number
- The "CENSIMENTO" (registered) date and time along with the codice fiscale (tax code) of the authorised technician.
- The "ATTIVAZIONI DISATTIVAZIONI" (activations, deactivations and reactivations <sup>[1]</sup>) events showing a list with the following four columns:
  - Event type – Att = Activation or Dis = Deactivation
  - Date
  - Time
  - Partita IVA (retailer tax code) number including the IT prefix.
- The "MESSE IN SERVIZIO/REVOCHE" (Placed in service (one line per retailer VAT <sup>[1]</sup>) / revoked) events showing a list with the following three columns:
  - Event type – InServ = Placed in service or Revoca = Revoked
  - Date without the time
  - Codice fiscale (tax code) of the authorised technician.
- The "INTERVENTI TECNICI" (Technical interventions) events showing a list with the following four columns:
  - Date
  - Time
  - Codice fiscale (tax code) of the authorised technician.
  - Intervention code (e.g. cod : 07)
  - Optional additional description lines
- The "MODALITA' DEMO-SIMULAZIONE" (demo or simulation modes) events showing a list with the following three columns:
  - Event type – Disattivaz. DEMO = Exit demo or Attivazione DEMO = Enter demo
  - Date
  - Time
- The "REPORT REGISTRAZIONI FIRMWARE" (firmware registration) events showing a list with the following three columns:
  - Date
  - Time
  - Firmware release (for example, release: 001100)
- The "MEMORIA PERMANENTE DI DETTAGLIO - DGFE" (MPD Electronic Journal SD card) format history with the following four columns:
  - Sequence number (for example, N. 1)
  - Fiscal serial number
  - Date
  - Time
- The possible "BIGLIETTERIA SPETTACOLO" (Box office tickets shared mode) activation / deactivation history
- The "RIPRISTINI EFFETTUATI" (Printer RAM reset) events with the following three columns:
  - Sequence number
  - Date
  - Time
- For all fiscal closures in the lifetime of the printer as follows:
  - **MF mode closure:**  
The Z sequence number, the date, the four MF daily totals, the fiscal hex string seal (sigillo fiscale) and the "\*\*\* MF \*\*\*" identifier to indicate MF mode at the time of the closure.
  - **RT mode closure:**  
The Z sequence number, the date, the four RT daily totals, the fiscal hex string seal (sigillo fiscale) and the "\*\*\* RT \*\*\*" identifier to indicate RT mode at the time of the closure.

- The number of closures in the report.
- The sum of the MF and RT totals:
  - Fiscal receipts daily totals and commercial documents daily totals summed
  - Commercial refund documents total
  - Commercial void documents total
  - Number of commercial documents emitted
  - Credit notes total
  - Number of class II documents emitted (invoices)
  - Class II documents total

[1] Regarding reactivations with same retailer VAT where the printer automatically returns the printer In Service, a single ATTIVAZIONI DISATTIVAZIONI entry will be present (no new MESSE IN SERVIZIO/REVOCHE entry will be seen).

Given that the content is non-fiscal, the final lines contain the date and time, the management document sequence number and fiscal printer serial number.

The four MF daily totals are as follows:

1. Fiscal receipts amount
2. Credit notes amount
3. Number of class II documents emitted (invoices)
4. Class II documents amount

The four RT daily totals are as follows:

1. Commercial documents amount
2. Commercial refund documents amount
3. Commercial void documents amount
4. Number of commercial documents emitted. This includes refund and void types plus any that were cancelled before being closed

The printer responds only after the entire print-out has been completed, the file has been saved (path www/dati-rt/tmp/rt\_memoria\_riepilogo.txt) or <CL / CLEAR> was pressed. When printing with an old printer and a lot of content, the timeout must be set appropriately in your retail application. If saving to file, the word ATTENDERE (wait) appears on the display for a short time. After having saved the file to your PC, EPSON recommends renaming rt\_memoria\_riepilogo.txt to rt\_memoria\_riepilogo.wri to enable it to be viewed in a more human readable form via WordPad.

TX 

3	015	OP
---	-----	----

RX 

3	015	OP	DATE	TIME	FR.N
---	-----	----	------	------	------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
TIME	Time (Hour, Minute)	4 bytes	HHMM
FR.N	Number of commercial documents today	4 bytes	0000 to 9999

- **H1=3; H2=016 – SET RETAIL HEADER LINE TEXT**

This command can only be used if no commercial documents have been emitted following a daily fiscal closure (logical Day Opened condition = False). Error 17 is returned otherwise.

According to fiscal law article 12 DM23/3/83 henceforward, the lines must contain the following information:

- Ragione sociale (company name)
- Ubicazione dell'esercizio (company address)
- Partita IVA (business (retailer) tax reference number)

TX 

3	016	LN	DESCR
---	-----	----	-------

RX 

3	016	NU
---	-----	----

TX (Total PDU length 53 bytes)

Field	Description	Length	Range / Value
LN	Line number	2 bytes	01 to 16 98 <sup>[1]</sup> 99 <sup>[2]</sup>
DESCR	Description	40 bytes <sup>[3]</sup>	Alphanumeric

RX

NU	Not used	2 bytes	Random
----	----------	---------	--------

<sup>[1]</sup> Once all the desired lines have been sent to the printer, the special reserved line number 98 value can be used to print a management document containing the lines. At this point, the spelling etc. can be checked and if necessary corrected as many times as you like.

<sup>[2]</sup> Once all checks have been completed, the lines can be committed to memory using the special reserved line number 99 value.

<sup>[3]</sup> The description length must be 40 bytes. Other lengths are not admitted. The 40 characters are automatically centralised since the fiscal printer can print up to 46 characters per line. Empty lines are not printed on commercial document but are printed on invoices.

- **H1=3; H2=019 – ZERO INTERNAL PLU DAILY TOTALS**

Zeroes the specified internal PLU totaliser (quantity and amount). Totalisers read with 2-015 command are zeroed but not the PLU fields in the 2-014 department totalisers request.

TX 

3	019	PLU
---	-----	-----

RX 

3	019
---	-----

TX

Field	Description	Length	Range / Value
PLU	Internal PLU number	4 bytes	0001 to 1000

- **H1=3; H2=097 – EJ FORMAT**

Formats the MPD (EJ) SD memory card. The process should take just a few seconds. Only the "raw" partition is formatted – This command does not remove the requirement for a new card to be prepared and partitioned by EPSON.

TX 

3	097	OP	NUM AZZ <sup>[1]</sup>
---	-----	----	------------------------

RX 

3	097	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
NUM AZZ <sup>[1]</sup>	Maximum number of fiscal daily closures permitted	4 bytes	0365 to 2300

RX

OP	Same as TX
----	------------

<sup>[1]</sup> The NUM AZZ field is obsolete.

- [H1=3; H2=098 – PRINT FROM MPD \(EJ\) BY NUMBER \(COMMERCIAL DOCUMENTS\)](#)

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

Corresponds with Z-98 keyboard operation.

Prints a management document that contains MPD (EJ) content of a specific day based on a specified range of numbers. Invoices are not reprinted. The print-out contains a header line with the date and range.

The print-out terminates upon reaching the "to" number. If the "to" number is greater than the latest commercial document number, the print-out still works and terminates when it reaches the latest number of the specific day.

The printer returns Error 16 if the following is true:

- N1 set to 0000
- N2 set to 0000
- N1 > N2
- 9999 special value in certain cases (see [Appendix E – Reprinting and Reading from MPD \(EJ\) Commands](#)).

The printer responds only after the print-out has been completed. Therefore, with long print outs the timeout must be set appropriately in your retail application.

If no content can be found within the specified period, the response to the PC is normal but the print-out contains the following warning message (includes card sequence number (DGFE n. x)):

- ATTENZIONE: D.G.F.E . n. 1 INSERITO NON CONTIENE I DATI RICHIESTI

TX 

3	098	OP	DATE	N1	N2
---	-----	----	------	----	----

RX 

3	098	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
N1	From number	4 bytes	0001 to 9998 9999 <sup>[1]</sup>
N2	To number	4 bytes	0001 to 9998 9999 <sup>[1]</sup>

RX

OP	Same as TX
----	------------

<sup>[1]</sup> Setting both N1 and N2 to the special reserved 9999 value signifies a reprint of the last emitted commercial document. Returns Error 16 in certain cases (see [Appendix E – Reprinting and Reading from MPD \(EJ\) Commands](#)).

- **H1=3; H2=099 – PRINT FROM MPD (EJ) BY DATE (COMMERCIAL DOCUMENTS)**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

Corresponds with Z-99 keyboard operation.

Prints a management document that contains MPD (EJ) content of a specific day or range of days. Invoices are not reprinted. The print-out contains a header line with the date range.

The print-out terminates upon reaching the "to" date. If the "to" date is later than the date of the last commercial document, the print-out still works and terminates when it reaches the newest in the range.

The printer returns Error 16 if the following is true:

- From Date 1 > To Date 2

The printer responds only after the print-out has been completed. Therefore, with long print outs the timeout must be set appropriately in your retail application.

If no content can be found within the specified period, the response to the PC is normal but the print-out contains the following warning message (includes card sequence number (DGFE n. x)):

- ATTENZIONE: D.G.F.E . n. 1 INSERITO NON CONTIENE I DATI RICHIESTI

TX 

3	099	OP	DATE1	DATE2
---	-----	----	-------	-------

RX 

3	099	OP
---	-----	----

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DATE1	From date (Day, Month, Year)	6 bytes	DDMMYY
DATE2	To date (Day, Month, Year)	6 bytes	DDMMYY

RX

OP	Same as TX
----	------------

- **H1=3; H2=100 – READ FROM MPD (EJ) BY NUMBER (COMMERCIAL DOCUMENTS)**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

Requests MPD (EJ) content of a specific day based on a specified range of numbers. Invoices are not included. Content is read line by line. Reading continues until the 3-102 end of data response is received.

If the "to" number is greater than the latest commercial document number, reading still works and terminates when it reaches the last line of the latest document of the specific day.

The printer returns Error 16 if the following is true:

- N1 set to 0000
- N2 set to 0000
- N1 > N2

If no content can be found within the specified period, the response to the PC is an immediate 3-102.

TX 

3	100	OP	DATE	N1	N2	INC
---	-----	----	------	----	----	-----

If content present:

RX 

3	100	OP	DATE	FRN	LN	TEXT
---	-----	----	------	-----	----	------

If no content present or if no more content remaining to be read:

RX 

3	102	OP
---	-----	----

TX (Total PDU length 28 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
N1	From number	4 bytes	0001 to 9999
N2	To number	4 bytes	0001 to 9999
INC	Sequence increment	1 byte	0 or 1 <sup>[1]</sup>

RX – If content present (Total PDU length 73 bytes):

OP	Same as TX		
DATE			
FRN	Current document number	4 bytes	0001 to 9999
LN	Line sequence number in current document	4 bytes	0001 to 9999
TEXT	MPD (EJ) line text	46 bytes	Alphanumeric

<sup>[1]</sup> 0 = Request the first line in the sequence.

1 = request next line which should be repeated until 3-102 end of data response is received.

- [H1=3; H2=101 – READ FROM MPD \(EJ\) BY DATE \(COMMERCIAL DOCUMENTS\)](#)

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

Requests MPD (EJ) content of a specific day or range of days. Invoices are not included. Content is read line by line. Reading continues until the 3-102 end of data response is received.

If the "to" date is later than the date of the last commercial document, reading still works and terminates when it reaches the last line of the newest one in the range.

The printer returns Error 16 if the following is true:

- From Date 1 > To Date 2

If no content can be found within the specified period, the response to the PC is an immediate 3-102.

TX 

3	101	OP	DATE1	DATE2	INC
---	-----	----	-------	-------	-----

If content present:

RX 

3	101	OP	DATE	FRN	LN	TEXT
---	-----	----	------	-----	----	------

If no content present or if no more content remaining to be read:

RX 

3	102	OP
---	-----	----

TX (Total PDU length 26 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
DATE1	From date (Day, Month, Year)	6 bytes	DDMMYY
DATE2	To date (Day, Month, Year)	6 bytes	DDMMYY
INC	Sequence increment	1 byte	0 or 1 <sup>[1]</sup>

RX – If content present (Total PDU length 73 bytes):

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
FRN	Current document number	4 bytes	0001 to 9999
LN	Line sequence number in current document	4 bytes	0001 to 9999
TEXT	MPD (EJ) line text	46 bytes	Alphanumeric

<sup>[1]</sup> 0 = Request the first line in the sequence.

1 = request next line which should be repeated until 3-102 end of data response is received.

- **H1=3; H2=102 – MPD (EJ) READING TERMINATION / NO DATA INDICATION**

Signifies that either no content exists in the range specified or no more content needs to be requested as the last line has already been reached. Used with the following commands:

- H1=3; H2=100
- H1=3; H2=101
- H1=3; H2=103
- H1=3; H2=104

RX if no content present or if no more content remaining to read.

RX 

3	102	OP
---	-----	----

RX

OP	Same as TX
----	------------

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- **H1=3; H2=103 – PRINT OR READ FROM MPD (EJ) BY DATE AND TYPE**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

### **When printing**

Corresponds with Z-99 keyboard operation.

Prints a management document that contains MPD (EJ) content of a specific day or range of days. Content can be optionally filtered. Invoices can also be reprinted. The print-out contains a header line with the date range.

The print-out terminates upon reaching the "to" date. If the "to" date is later than the date of the last commercial document, the print-out still works and terminates when it reaches the newest one in the range.

The printer responds only after the print-out has been completed. Therefore, with long print outs the timeout must be set appropriately in your retail application.

If no content can be found within the specified period, the response to the PC is normal but the print-out contains the following warning message (includes card sequence number (DGFE n. x)):

- ATTENZIONE: D.G.F.E . n. 1 INSERITO NON CONTIENE I DATI RICHIESTI

### **When reading**

Requests MPD (EJ) content of a specific day or range of days. Content can be optionally filtered. Invoices can also be read. Content is read line by line. Reading continues until the 3-102 end of data response is received.

If the "to" date is later than the date of the last commercial document, reading still works and terminates when it reaches the last line of the newest one in the range.

If no content can be found within the specified period, the response to the PC is an immediate 3-102.

In both cases the printer returns Error 16 if the following is true:

- From Date 1 > To Date 2

TX	3	103	OP	PN/RD	DOC TYPE	DATE1	DATE2	INC	NU
----	---	-----	----	-------	----------	-------	-------	-----	----

When printing:

RX	3	103	OP
----	---	-----	----

When reading if content present:

RX	3	103	OP	DATE	FRN	LN	TEXT
----	---	-----	----	------	-----	----	------

When reading if no content present or if no more content remaining to be read:

RX	3	102	OP
----	---	-----	----

TX (Total PDU length 30 bytes):

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PN/RD	Print or read	1 byte	0 = Print 1 = Read
DOC TYPE	All documents or filtered by type	1 byte	0 = All 1 = Commercial documents <sup>[1]</sup> 2 = Invoices 3 = Box office tickets 4 = Credit notes (obsolete) 5 = Fiscal daily closures (obsolete) 6 = Commercial documents with electronic payments <sup>[2]</sup>
DATE1	From date (Day, Month, Year)	6 bytes	DDMMYY
DATE2	To date (Day, Month, Year)	6 bytes	DDMMYY
INC	Sequence increment (only valid when reading)	1 byte	0 or 1 <sup>[3]</sup>
NU	Not used	2 bytes	00

RX – When printing:

OP	Same as TX
----	------------

RX – When reading if content present (Total PDU length 73 bytes):

OP	Same as TX		
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
FRN	Current number	4 bytes	0001 to 9999
LN	Line sequence number in current number	4 bytes	0001 to 9999
TEXT	MPD (EJ) line text	46 bytes	Alphanumeric

<sup>[1]</sup> Fiscal closures and MPR (fiscal memory) printouts are no longer stored in the MPD (DGFE / EJ).

<sup>[2]</sup> FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 9.01.

<sup>[3]</sup> 0 = Request the first line in the sequence.

1 = request next line which should be repeated until 3-102 end of data response is received.

- **H1=3; H2=104 – PRINT OR READ FROM MPD (EJ) BY NUMBER AND TYPE**

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

### **When printing**

Corresponds with Z-98 keyboard operation.

Prints a management document that contains MPD (EJ) content of a specific day based on a specified range of numbers. Content can be optionally filtered. Invoices can also be reprinted. The print-out contains a header line with the date and range.

The print-out terminates upon reaching the "to" number. If the "to" number is greater than the latest number, the print-out still works and terminates when it reaches the latest document of the specific day.

The printer responds only after the print-out has been completed. Therefore, with long print outs the timeout must be set appropriately in your retail application.

If no content can be found within the specified period, the response to the PC is normal but the print-out contains the following warning message (includes card sequence number (DGFE n. x)):

- ATTENZIONE: D.G.F.E . n. 1 INSERITO NON CONTIENE I DATI RICHIESTI

### **When reading**

Requests MPD (EJ) content of a specific day based on a specified range of numbers. Content can be optionally filtered. Invoices can also be read. Content is read line by line. Reading continues until the 3-102 end of data response is received.

If the "to" number is greater than the latest number, reading still works and terminates when it reaches the latest number of the specific day.

If no content can be found within the specified period, the response to the PC is an immediate 3-102.

In both cases printer returns Error 16 if the following is true:

- N1 set to 0000
- N2 set to 0000
- N1 > N2

TX 

3	104	OP	PN/RD	DOC TYPE	DATE	N1	N2	INC	S/M	NU
---	-----	----	-------	----------	------	----	----	-----	-----	----

When printing:

RX 

3	104	OP
---	-----	----

When reading if content present:

RX 

3	104	OP	DATE	FRN	LN	TEXT
---	-----	----	------	-----	----	------

When reading if no content present or if no more content remaining to be read:

RX 

3	102	OP
---	-----	----

TX (Total PDU length 32 bytes)

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12
PN/RD	Print or read	1 byte	0 = Print 1 = Read
DOC TYPE	All documents or filtered by type	1 byte	0 = All 1 = Commercial documents <sup>[1]</sup> 2 = Invoices 3 = Box office tickets 4 = Credit notes (obsolete) 5 = Fiscal daily closures (obsolete) 6 = Commercial documents with electronic payments <sup>[2]</sup>
DATE	Date (Day, Month, Year)	6 bytes	DDMMYY
N1	From number	4 bytes	0001 to 9998 9999 <sup>[3]</sup>
N2	To number	4 bytes	0001 to 9998 9999 <sup>[3]</sup>
INC	Sequence increment (Only valid when reading)	1 byte	0 or 1 <sup>[4]</sup>
S/M	Frame response mode	1 byte	0 = Single frame 1 = Multiple frames <sup>[5]</sup>
NU	Not used	1 byte	0

**NB.** In the case of direct invoices and invoices based on the last commercial document whose invoice number is > 9999, please insert the last four least significant digits.

<sup>[1]</sup> Fiscal closures and MPR (fiscal memory) printouts are no longer stored in the MPD (DGFE / EJ).

<sup>[2]</sup> FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 9.01.

<sup>[3]</sup> Setting both N1 and N2 to the special reserved 9999 value signifies the last emitted commercial document. Cannot be used immediately following a fiscal daily closure and in other cases (see [Appendix E – Reprinting and Reading from MPD \(EJ\) Commands](#)).

<sup>[4]</sup> 0 = Request the first line in the sequence.

1 = request next line which should be repeated until 3-102 end of data response is received.

<sup>[5]</sup> Up to a maximum of 100 multiple frames can be returned (controlled by firmware) for each transmission request, thus speeding up content reading. Frames are concatenated so the PDU structure is as follows:

STX	CNT	IDEN	A.PDU	CKS	ETX	STX	CNT + 1	IDEN	A.PDU	CKS	ETX
STX	CNT + 2	IDEN	A.PDU	CKS	ETX	STX	CNT + 3	IDEN	A.PDU	CKS	ETX

And so on.

RX – When printing:

OP	Same as TX
----	------------

RX – When reading if content present (Total PDU length 73 bytes):

OP	Same as TX		
DATE	Same as TX		
FRN	Current number	4 bytes	0001 to 9999
LN	Line sequence number in current number	4 bytes	0001 to 9999
TEXT	MPD (EJ) line text	46 bytes	Alphanumeric

- [H1=3; H2=216 – GET RETAIL HEADER LINE TEXT](#)

TX 

3	216	LN
---	-----	----

RX 

3	216	LN	DESCR
---	-----	----	-------

TX

Field	Description	Length	Range / Value
LN	Row number	2 bytes	01 to 16

RX (Total PDU length 53 bytes)

LN	Same as TX		
DESCR	Header text	40 bytes	Alphanumeric

- **H1=3; H2=217 – GET FISCAL SERIAL NUMBER**

Requests the fiscal serial number which is made up of three parts (model, manufacturer and number). The command does not include the RT device type (I, M or S) present in the newer 11-character serial number representation (for example, 99IEC123456). Please use 1-138 command to ascertain the device type.

TX 

3	217	OP
---	-----	----

RX 

3	217	OP	SN	MOD	VENDOR
---	-----	----	----	-----	--------

TX

Field	Description	Length	Range / Value
OP	Operator	2 bytes	01 to 12

RX

OP	Same as TX		
SN	Serial Number	6 bytes	000000 to 999999
MOD	Model	2 bytes	Alphanumeric as follows: EX = FP-81 II RT MOD EY = FP-90 III RT MOD EA = RT Server EB = FP-81 II RT NATIVO EC = FP-90 III RT NATIVO
VENDOR	Manufacturer	2 bytes	99 (fixed – EPSON)

## 11.4. HEADER1=4 COMMANDS

Commands have already been grouped together according to varying functions above. This section will merely show the commands in numerical order. The STAMPANTE OFFLINE condition (paper out or cover open) does not impede the use of any H1=4 command.

- H1=4; H2=001 – SET DATE AND TIME

If the printer has been registered (censito), you can only set the date if the logical Day Opened state is False. This is the case immediately following a fiscal daily closure. After the first commercial document of the day, Day Opened becomes True and this command is then inhibited. The date chosen cannot be prior to the date of the latest fiscal daily closure. However, if the printer has not yet been registered, Day Opened does not apply and you can also set any date you like (even in the past) at any moment you like. Seconds cannot be set.

TX 

4	001	DD	MM	YY	HH	MM
---	-----	----	----	----	----	----

RX 

4	001	OP
---	-----	----

TX

Field	Description	Length	Range / Value
DD	Day	2 bytes	01 to 31
MM	Month	2 bytes	01 to 12
YY	Year	2 bytes	00 to 99
HH	Hour	2 bytes	00 to 23
MM	Minute	2 bytes	00 to 59

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=4; H2=002 – SET DEPARTMENT**

If the printer has been registered (censito), you can only program a department if the logical Day Opened state is False (see 4-001 command for full explanation). For each of the 99 departments, the following parameters can be set:

- Description: Description used in financial report and transactions via the keyboard. Max 20 characters.
- Unit price: Up to three unit prices can be programmed for transactions via the keyboard.
- Single article: Single sale or multi-sale print-out.
- VAT group: Indicates the tax group number and not the VAT percentage. Choose from:
  - 0 or 10 to 18 (zero rated natures).
  - 1 to 9 active VAT groups (VAT percentage must not be zero).
  - 21 to 29, 31 to 39, 41 to 49 or 51 to 59 historical VAT groups when emitting Commercial Refund and Void documents (VAT percentage must not be zero).The 4-005 native command is used to program the percentages.
- Price limit: Zero indicates no limit. The limit refers to the transaction amount (unit price x quantity).
- Print group: Zero indicates no print group. Up to ten print groups can be setup so that transactions from different departments can be grouped together in automatically printed management documents (additional print-out).
- Product group: Zero indicates no product group. Up to ten product groups can be setup so that transactions from different departments can be grouped together in financial reports.
- Invoice unit of measure: An alphanumeric two-character description can be programmed to appear on direct invoices and invoices based on the last commercial document. For example, KG or Ps.
- Sales type: Sales are classified as goods (beni) or services (servizi).
- Sales attribute: Indicates whether or not to include the department whenever a discount or a surcharge is based on the subtotal. From BN 252.
- ATECO table index: Zero indicates no ATECO handling.

TX	4	002	DN	DESC	P1	P2	P3	SINGLE	VAT GRP	P LIM	PRN GRP	PROD GRP
----	---	-----	----	------	----	----	----	--------	---------	-------	---------	----------

MU	SALES TYPE	SALES ATTRIBUTE	ATECO IND
----	------------	-----------------	-----------

RX	4	002	OP
----	---	-----	----

TX (Total PDU length 83 bytes)

Field	Description	Length	Range / Value
DN	Department number	2 bytes	01 to 99
DESC	Description	20 bytes	Alphanumeric
P1	Unit price 1	9 bytes	000000000 to 999999999
P2	Unit price 2	9 bytes	000000000 to 999999999
P3	Unit price 3	9 bytes	000000000 to 999999999
SINGLE	Single item print-out	1 byte	0 or 1
VAT GRP	VAT group	2 bytes	01 to 09 00, 10 to 18 <sup>[1]</sup> 21 to 29, 31 to 39, 41 to 49 or 51 to 59 <sup>[2]</sup>
P LIM	Price limit	9 bytes	000000000 to 999999999
PRN GRP	Print group	2 bytes	00 to 10 <sup>[3]</sup>
PROD GRP	Product group	2 bytes	00 to 10 <sup>[3]</sup>
MU	Invoice unit of measure	2 bytes	Alphanumeric
SALES TYPE	Sales classification	1 byte	0 = Goods (beni) 1 = Services (servizi)
SALES ATTRIBUTE From BN 252	Indicates whether or not to include the department whenever a discount or a surcharge is based on the subtotal.	2 bytes	00 = Include the department whenever a discount or a surcharge is based on the subtotal. 01 = Do not include the department whenever a discount or a surcharge is based on the subtotal. <sup>[4]</sup>
ATECO IND	ATECO classification	2 bytes	00 = No ATECO handling <sup>[5]</sup> 01 to 03 = ATECO table index <sup>[5]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

**References**

- [<sup>1</sup>] 00 and 10 to 18 indicates zero rated VAT (natures). 19 is no longer available.
- [<sup>2</sup>] Departments programmed with a historical VAT group can only be used with commercial refund and void documents.
- [<sup>3</sup>] The value 00 deactivates the function.
- [<sup>4</sup>] See 1-083 command for potential errors generated when SALES ATTRIBUTE = 01.
- [<sup>5</sup>] If the ATECO code table has been configured, any departments programmed with ATECO index 0 are deactivated. Furthermore, all transactions in a single commercial document or direct invoice must use the same ATECO code. It is not possible to mix ATECO codes in a single print-out. ATECO handling should only be enabled if the retailer has activated it in their tax accounts.

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- **H1=4; H2=003 – SET INTERNAL PLU**

Choose the desired internal PLU number from 0001 to 1000. For each one, the following parameters can be programmed:

- Internal PLU description: An alphanumeric description of up to 20 characters. If the last character is @, it indicates that the PLU is for weighing scales <sup>[1]</sup>.
- Unit price: Up to three values can be programmed expressed with two decimal places. In the case of a weighing scales PLU <sup>[1]</sup>, the second unit price indicates the tare in whole grams (max 9999). Can be zero.
- Department: A department from 1 to 99 is associated with the specific internal PLU. The value zero deactivates the PLU entry.
- Barcode: Optional. A unique barcode of up to 40 characters can be associated with the specific internal PLU.

<sup>[1]</sup> Only relevant when SET 17 is set to BILANCIA and sale is carried out via the keyboard.

TX 

4	003	N	DESC	P1	P2 / TARE	P3	DEP	COD
---	-----	---	------	----	-----------	----	-----	-----

RX 

4	003	OP
---	-----	----

TX (Total PDU length 104 bytes)

Field	Description	Length	Range / Value
N	Internal PLU entry number	4 bytes	0001 to 1000
DESC	Description	20 bytes	Alphanumeric text
P1	Unit price 1	9 bytes	000000000 to 999999999
P2 / TARE	Unit price 2 or Tare in grams	9 bytes	P2: 000000000 to 999999999 TARE: 000000000 to 000009999
P3	Unit price 3	9 bytes	000000000 to 999999999
DEP	Department number	2 bytes	00 <sup>[1]</sup> 01 to 99
COD	Barcode (optional)	40 bytes	Numeric only <sup>[2]</sup> or Alphanumeric <sup>[3]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> The value 00 deactivates the specific internal PLU.

<sup>[2]</sup> Numeric only applies if the barcode reader is connected to the keyboard emulation port (USB port). Add spaces to pad the COD field to make it exactly 40 bytes.

<sup>[3]</sup> Alphanumeric codes (0x20 to 0xFF) are only supported when the barcode reader is connected to the RS-232 printer serial port.

The serial port must be also set to 8-bit data (the default).

Please bear in mind that the fiscal printer code page is OEM-437.

- **H1=4; H2=004 – SET DISCOUNT AND SURCHARGE PERCENTAGES**

Programs the pre-set percentage for both the discount and surcharge functions. Values range from 0 to 99,99%. The defaults are both zero. Used respectively with the <Sconto%> key (function code 108) and the <Magg.%> key (function code 109) when commercial documents are emitted via the keyboard. This allows the operator to avoid entering the value for the most common percentage rates simplifying and speeding up key sequences.

TX 

4	004	N	VAL
---	-----	---	-----

RX 

4	004	OP
---	-----	----

TX

Field	Description	Length	Range / Value
N	Discount or surcharge	1 byte	1 = Discount 2 = Surcharge
VAL	Percentage	4 bytes	0000 to 9999 <sup>[1]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Interpreted as 00.00 to 99.99%.

- [H1=4; H2=005 – SET VAT TABLE ENTRY](#)

Up to nine VAT (IVA) current active rates can be set to either whole values or to values to two decimal places. Requires a prior fiscal daily closure as the logical "Day opened" state must be False (the printer will return Error 17 (impossible now) if the command is attempted while True). VAT groups 0 and 10 to 18 are reserved for zero rated (nature) sales so the percentage cannot be altered from zero. VAT group 19 is no longer available. In addition, up to 36 historical rates can be programmed (used only with commercial refund and void documents). No two VAT rates can have the same percentage. If attempted, Error 13 (Erroneous value) is returned. When reprogramming the whole table, EPSON recommends setting all percentages to zero before then proceeding with your desired values.

TX 

4	005	N	VAL
---	-----	---	-----

RX 

4	005	OP
---	-----	----

TX

Field	Description	Length	Range / Value
N	VAT group number	2 bytes	01 to 09  The following 36 group numbers can be used to manage historical VAT rates when emitting Commercial Refund and Void documents: - 21 to 29 - 31 to 39 - 41 to 49 - 51 to 59 The following special values are only used to set or unset ventilazione: - 97 = Retailer has <b>not</b> adopted the VAT ventilazione regime <sup>[1]</sup> - 98 = Retailer has adopted the VAT ventilazione regime
VAL	VAT rate <sup>[2]</sup>	4 bytes	0000 (when setting ventilazione 97 or 98) 0000 to 9999 (In all other cases. Zero % deactivates the VAT group). VAT percentages different from zero cannot be duplicated. Error 13 (Erroneous value) is returned.

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Ventilazione is a fiscal VAT (IVA) regime that certain retailers can adopt. It allows the global registration of the daily takings amount without distinguishing the individual VAT rates. Ventilazione only ever applies to goods (department setting). Any activation of ventilazione in this command is global and consequently the setting in the ATECO table would be ignored.

<sup>[2]</sup> Interpreted as 00.01 to 99.99% (two decimal places). When programming the ventilazione on or off, set VAL to 0000 as it is ignored.

See [Appendix H – Historical VAT](#) chapter for more information about extended VAT.

- [H1=4; H2=006 – SET CURRENCY DESCRIPTION AND EXCHANGE RATE](#)

Multiple currencies are usually handled by retail applications nowadays. However, the function still exists in the printer. Up to six currencies can be programmed. A short two-character description (label) is used to describe the currency. The rate must be programmed routinely to ensure the correct conversion to a euro amount.

TX 

4	006	N	DESC	VAL
---	-----	---	------	-----

RX 

4	006	OP
---	-----	----

TX (Total PDU length 30 bytes)

Field	Description	Length	Range / Value
N	Currency number	2 bytes	01 to 06
DESC	Short description label	2 bytes	Alphanumeric
VAL	Exchange rate to euros	15 bytes	6 whole numbers and 9 decimals

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- [H1=4; H2=007 – SET CREDIT CARD NAMES](#)

Up to ten credit cards can be programmed. The name appears on the X-01, X-07, Z-02 (first) and Z-07 reports. It also appears on commercial documents but only if the older 1-045 credit card payment command is used. Index 0 is reserved.

TX 

4	007	N	DESC
---	-----	---	------

RX 

4	007	OP
---	-----	----

TX (Total PDU length 33 bytes)

Field	Description	Length	Range / Value
N	Credit card number	2 bytes	01 to 10
DESC	Description	20 bytes	Alphanumeric

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=4; H2=008 – SET PRODUCT GROUP NAMES**

Up to ten product groups can be programmed. The name appears on the X-02, X-08, Z-03 and Z-08 reports.

TX 

4	008	N	DESC
---	-----	---	------

RX 

4	008	OP
---	-----	----

TX (Total PDU length 33 bytes)

Field	Description	Length	Range / Value
N	Product group number	2 bytes	01 to 10
DESC	Description	20 bytes	Alphanumeric

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=4; H2=009 – SET CASH KEYS AND CASH LIMIT**

Up to five cash keys can be pre-programmed with fixed amounts. In addition, a global cash transaction payment limit can be set. Only valid for payments carried out via the keyboard. The cash payment limit is per commercial document. It takes possible multiple cash payments into account (and not just a single payment).

TX 

4	009	N	VAL / TYPE
---	-----	---	------------

RX 

4	009	OP
---	-----	----

TX

Field	Description	Length	Range / Value
N	Cash key number	1 byte	1 to 5
	Cash payment(s) limit		6
	Cash limit type		7
VAL / TYPE	Predefined cash amount	9 bytes	000000000 to 999999999
	Cash limit amount		000000000 to 999999999
	Cash limit type <sup>[1]</sup>		000000000 <sup>[2]</sup> 000000001 <sup>[3]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> The limit type parameter indicates one of two possible ways in which the printer behaves whenever the payment limit is exceeded:

<sup>[2]</sup> 0 – Override possible- The "CONTANTE > LIMITE" wording appears on the top line of the display and below "CONTINUARE ???". The operator has the option to press "CL/CLEAR" to cancel the current operation or "CONTANTE/TOTALE" to proceed regardless.

<sup>[3]</sup> 1 – Override inhibited. The "CONTANTE > LIMITE" wording appears on the top line of the display and below "ALTRO PAGAMENTO !!!". The operator is forced to press "CL/CLEAR" and choose an alternative payment method.

- **H1=4; H2=010 – SET TICKET DESCRIPTION AND VALUE**

Up to ten tickets can be programmed. Ticket means vouchers billed to third parties (ticket restaurant, buoni celiachia or buoni promozionali etc.). The name appears on the X-01, X-07, Z-02 (first) and Z-07 reports. It also appears on commercial documents but only if the older 1-046 ticket payment command is used. The value is used with the ten ticket keys or with the older 1-046 command whenever the VAL field in that command is zero. The new ticket with quantity payment type 4 corresponds with ticket 1.

TX 

4	010	N	DESC	VAL
---	-----	---	------	-----

RX 

4	010	OP
---	-----	----

TX (Total PDU length 42 bytes)

Field	Description	Length	Range / Value
N	Ticket number	2 bytes	01 to 10
DESC	Description	20 bytes	Alphanumeric
VAL	Ticket value	9 bytes	000000000 to 999999999

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=4; H2=011 – SET MXN SALES PROMOTION KEYS**

Configures the two MxN promotion keys (function numbers 116 and 117). The M represents the actual number of items acquired and N represents the equivalent number of items paid for. M must be greater than N. Zero is not allowed. Invalid entries generate Error 16.

TX 

4	011	N	VAL
---	-----	---	-----

RX 

4	011	OP
---	-----	----

TX

Field	Description	Length	Range / Value
N	MxN number	1 byte	1 to 2
VAL	MMNN value	4 bytes	0201 to 9998

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=4; H2=012 – SET DIRECT INTERNAL PLU KEY ASSOCIATION**

Each one of the seventy PLU direct keys can be associated with one of the thousand internal PLU entries. The PLU direct keys are PLU1 to PLU30 (function codes 056 to 085) and PLU31 to PLU70 (function codes 150 to 189). By default, the mapping is one to one (the first 70 internal PLU entries).

TX 

4	012	N	PLU
---	-----	---	-----

RX 

4	012	OP
---	-----	----

TX

Field	Description	Length	Range / Value
N	Key number	2 bytes	01 to 70
PLU	Internal PLU number	4 bytes	0001 to 1000

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=4; H2=013 – SET OPERATOR (CASHIER) PARAMETERS**

Up to 12 operators can be set up. For each one, a description, password and commission level can be set.

TX 

4	013	N	DESC	PSW	%OP
---	-----	---	------	-----	-----

RX 

4	013	OP
---	-----	----

TX (Total PDU length 41 bytes)

Field	Description	Length	Range / Value
N	Operator ID number	2 bytes	01 to 12
DESC	Description (e.g., surname)	20 bytes	Alphanumeric
PSW	Operator password	4 bytes	0000 to 9999
%OP	Percentage commission	4 bytes	0000 to 9999 <sup>[1]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Interpreted as 00.00 to 99.99%.

- [H1=4; H2=014 – SET FLAGS](#)

Used for setting the Boolean configuration flags used for fine tuning printer operation. Flag programming is permitted whilst a commercial document is open and furthermore whenever the paper out condition (FINE CARTA) occurs.

TX 

4	014	N	VAL
---	-----	---	-----

RX 

4	014	OP
---	-----	----

TX

Field	Description	Length	Range / Value
N	Flag number	2 bytes	01 to 68
VAL	Value	1 byte	0 or 1

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

**Table of flags (default values in bold and red in column V (VAL)):**

N	V	Italian Name	English Description	Release / Notes
1	<b>0</b>	NO APPRENDIMENTO	Training mode off	Obsolete. Historical MF models only.
	1	SI APPRENDIMENTO	Training mode on	
2	<b>1</b>	TAST. POS PER CL/FAT	POS keyboard for invoice client lines	
	0	TAST. PC PER CL/FAT	PC QWERTY keyboard for invoice client lines	
3	<b>0</b>	NO STAMPA AP. CASS.	Cash drawer opening printouts off	
	1	SI STAMPA AP. CASS.	Cash drawer opening printouts on	
4	<b>0</b>	NO OPERATORI	Operator mode off	
	1	SI OPERATORI	Operator mode on	
5	<b>0</b>	NO OPERATORI SEGRETI	No operator password required	
	1	SI OPERATORI SEGRETI	Operator password required	
6	<b>0</b>	NO RESET OPERATORE	Current operator remains active on print-out completion	
	1	SI RESET OPERATORE	Deactivate current operator on print-out completion	
7	<b>0</b>	NO STAMPA OPERATORE	Do not print operator name on print-out	Line is printed between trailer (type 2) and additional trailer (type 3) lines and printed after possible NUMERO CASSA line.
	1	SI STAMPA OPERATORE	Print operator name on print-out	
8	<b>0</b>	NO STAMPA N. PEZZI	Do not print number of items on print-out	
	1	SI STAMPA N. PEZZI	Print number of items on print-out	
9	<b>1</b>	COD. PRODOTTO LUNGO	Long barcodes to 13 or 40 digits	
	0	COD. PRODOTTO CORTO	Short barcodes to nine digits	

N	V	Italian Name	English Description	Release / Notes
10	0	NO P.C. IN LINEA	PC controls the printer	
	1	SI P.C. IN LINEA	Printer sends validation requests to PC	
11	0	TX FINE CARTA AUTOM.	Send low paper Error 02 warning to PC on commercial document closure plus some others	See <a href="#">Appendix G – ERROR 02 (SET 14/11 AUTOMATICO)</a>
	1	TX FINE CARTA RICH.	Do not send low paper Error 02 warning to PC on commercial document closure plus some others	
12	1	SI VIS. FINE CARTA	Display low paper warning message on commercial document closure	
	0	NO VIS. FINE CARTA	Do not display low paper warning message on commercial document closure	
13	0	NO OBBLIGO SUBTOTALE	Subtotal command or key not required before payment	
	1	SI OBBLIGO SUBTOTALE	Subtotal command or key required before payment	
14	1	NTP ABILITATO	NTP clock synchronisation enabled	From "native" firmware 7.0 or "modified" firmware 11.0
	0	NTP NON USATO	NTP clock synchronisation disabled	
15	0	BC2 a codif. TIPO 1	Type 1 barcode decoding	
	1	BC2 a codif. TIPO 2	Type 2 barcode decoding	
16	0	BC2 con CKS INTERM	Central barcode check digit as check digit	
	1	BC2 senza CKS INTERM	Central barcode check digit as most significant digit in amount	
17	0	BC2 con dati di PESO	PLU weight in X-01, X-04 and Z-04 reports	
	1	BC2 con dati di QUANTITA	PLU quantity 1 in X-01, X-04 and Z-04 reports	
18	1	SI TASTO SHIFT	Price SHIFT key active	
	0	NO TASTO SHIFT	Price SHIFT key deactivated	
19	1	SI TASTO STORNO	STORNO (correction) key active	
	0	NO TASTO STORNO	STORNO key deactivated	
20	1	SI TASTO RESO	RESO refund key active	Z-91 only. Refunds are converted to STORNI
	0	NO TASTO RESO	RESO refund key deactivated	
21	1	SI TASTO ANNULLO	All Void cancel open print-out key active	
	0	NO TASTO ANNULLO	All Void cancel open print-out key deactivated	
22	1	SI TASTO SCONTO	Percentage discount key active	
	0	NO TASTO SCONTO	Percentage discount key deactivated	
23	1	SI TASTO ABBUONO	Amount discount key active	
	0	NO TASTO ABBUONO	Amount discount key deactivated	
24	0	NO STAMPA VALUTA	Do not print currency exchange rate line	
	1	SI STAMPA VALUTA	Print currency exchange rate line	

N	V	Italian Name	English Description	Release / Notes
25	0	NO TOT. IN LIRE	Do not print Lire equivalent line	Obsolete
	1	SI TOT. IN LIRE	Print Lire equivalent line	
26	1	SI AP. AUT. CASSETTO	Open cash drawer on commercial document closure	
	0	NO AP. AUT. CASSETTO	Do not open cash drawer commercial document closure	
27	0	NO ACK TX/RX P.C.	Do not use ACK 0x06h acknowledgements	Value ignored and always off with TCP/IP
	1	SI ACK TX/RX P.C.	Use ACK 0x06h acknowledgements	
28	0	NO STAMPA COD. PROD	Do not allow printing of product codes entered via the keyboard	
	1	SI STAMPA COD. PROD.	Allow printing of product codes entered via the keyboard	
29	0	NO JAVAPOS-UPOS	JAVAPOS UPOS mode deactivated	
	1	SI JAVAPOS-UPOS	JAVAPOS UPOS mode active	
30	0	NO DIFFERENZA TICKET	Ticket difference (change) in cash counter	Obsolete.
	1	SI DIFFERENZA TICKET	Ticket difference in separate counter	
31	1	SI CAMBIO NUM. FATT.	Operator invoice number changes permitted	
	0	NO CAMBIO NUM. FATT.	Operator invoice number changes disallowed	
32	0	NO CAR. MINUSCOLI	For future use	
	1	SI CAR. MINUSCOLI		
33	0	NO NON UTILIZZATO	Not used	
	1	SI NON UTILIZZATO		
34	1	SI ORA LEGALE	Adjust clock for winter/summertime (October and March)	When NTP is enabled, this flag should be set to 1.
	0	NO ORA LEGALE	Do not adjust clock for winter/summertime	
35	0	NO XON/XOFF	EPSON fiscal protocol active	
	1	SI XON/XOFF	XON-XOFF fiscal protocol active	
36	0	IMPOSTAZ. STANDARD	Standard decimal separator	
	1	IMPOSTAZ. INT+DEC	Alternative decimal separator	
37	0	GEST. OPER. STANDARD	Standard operators	Reserved behaviour
	1	GEST. OPER. ON-LINE	Login operators	
38	1	SI RESET RIGHE PROMO	Dynamic additional trailer lines	
	0	NO RESET RIGHE PROMO	Static additional trailer lines	
39	0	BC2 codice a 4 CIFRE	4-digit product code in PLU barcode	
	1	BC2 codice a 5 CIFRE	5-digit product code in PLU barcode	
40	0	NO VISUAL. N.PEZZI	Do not display number of items running total	
	1	SI VISUAL. N.PEZZI	Display number of items running total	

N	V	Italian Name	English Description	Release / Notes
41	0	NO VISUAL. N.RIPET.	Do not display sale repetitions	
	1	SI VISUAL. N.RIPET.	Display sale repetitions	
42	0	NO TX FOOTER (XON)	Do not send XON-XOFF footer string to PC	
	1	SI TX FOOTER (XON)	Send XON-XOFF footer string to PC	
43	0	NO BUZZER TASTIERA	Do not beep keystrokes	
	1	SI BUZZER TASTIERA	Beep keystrokes	
44	0	NO ST. PREZZO FAT/RF	Do not print invoice unit prices	
	1	SI ST. PREZZO FAT/RF	Print invoice unit prices	
45	1	SI INTEST. NON FISC.	Print retail header lines on management documents	
	0	NO INTEST. NON FISC.	Do not print retail header lines on management documents	
46	1	SI DECR N.PEZZI/RESO	Decrement number of items counter with refund transactions	Obsolete
	0	NO DECR N.PEZZI/RESO	Do not decrement number of items counter with refund transactions	
47	0	NO NON UTILIZZATO	Not used	
	1	SI NON UTILIZZATO		
48	1	SI SINCR XON->EPSON	XON-XOFF five-character exit code (1492E)	
	0	NO SINCR XON->EPSON	XON-XOFF single character exit code (E)	
49	0	NO DELAY AP.CASSETTO	Do not delay before opening cash drawer pulse	
	1	SI DELAY AP.CASSETTO	Delay before opening cash drawer pulse. Works in conjunction with flag SET 15/21.	
50	1	SI SUBTOT / CASSETTO	Enable cash drawer opening via the SUBTOTAL key	
	0	NO SUBTOT / CASSETTO	Deactivate cash drawer opening via the SUBTOTAL key	
51	0	NO 46 COLONNE	Management document line width = 46 characters	
	1	SI 40 COLONNE	Management document line width = 40 characters	
52	1	SI ABIL. FINE CARTA	Low paper warning sensor monitored by fiscal firmware	
	0	NO ABIL. FINE CARTA	Low paper warning sensor not monitored by fiscal firmware	
53	0	NO FINANZ.+CHIUSURA	3-001 command prints only Z-01 report	
	1	SI FINANZ.+CHIUSURA	3-001 command prints X-01 and Z-01 reports	

N	V	Italian Name	English Description	Release / Notes
54	1	SI BOOT on SWITCH-ON	Fiscal board always restarts if frontal switch thrown	
	0	NO BOOT on SWITCH-ON	Fiscal board goes offline and online if frontal switch thrown. Only if error detected does fiscal board restart	
55	1	SI PLU con PREZZO=0	Enable PLU entries with a unit price of zero	
	0	NO PLU con PREZZO=0	Disable PLU entries with a unit price of zero	
56	0	NO ZREP rif. in DGFE	Do not save Z rep number reference row in MPD (DGFE)	Saved reference will appear in reprints and MPD data extractions.
	1	SI ZREP rif. in DGFE	Save Z rep number reference row in MPD (DGFE)	
57	1	SI RT PAGAMENTI	Enable detailed payment lines	Lines are always stored in the MPD.
	0	NO RT PAGAMENTI	Disable detailed payment lines	
58	1	SI RT RESO MERCE=NdC	In commercial refund documents, manage return items using return 1-081 command	
	0	NO RT RESO MERCE=NdC	In commercial refund documents, manage return items using sale 1-080 command	
59	1	SI RT ANNULLAM.=NdC	In non-automatic commercial void documents, manage items using return 1-081 command	
	0	NO RT ANNULLAM.=NdC	In non-automatic commercial void documents, manage items using sale 1-080 command	
60	0	NO RT DESCR. OVERLAP	Descriptions on two lines if length > 25	
	1	SI RT DESCR. OVERLAP	Descriptions on one line if length > 25 characters	
61	0	LETTURE M.F.-> PRINT	MPR (fiscal memory) read requests are printed	Flag 61 if standalone RT model.
	1	LETTURE M.F.-> FILE	MPR (fiscal memory) read requests are saved to a text file	
61	0	NO PRINTER SERVER-RT	Disable printing on RT server	Flag 61 if RT server model.
	1	SI PRINTER SERVER-RT	Enable printing on RT server	
62	0	NO SIMULAZIONE	Exit simulazione mode	Standalone RT model only. RT server: For future use.
	1	SI SIMULAZIONE	Enter simulazione mode	
63	0	NO Modalita' DEMO	Exit Demo RT mode	See note below.
	1	SI Modalita' DEMO	Enter Demo RT mode	
64	1	SI STAMPA RICEV. TX	Print tax authority transmission report	
	0	NO STAMPA RICEV. TX	Do not print tax authority transmission report	
65	1	SI STAMPA CONF. DHCP	Upon receiving DHCP details from DHCP server, print TCP/IP settings etc.	Printing only occurs if the IP address changes. Also, when the SET 19 configuration state is active at that moment (via the keyboard).
	0	NO STAMPA CONF. DHCP	Upon receiving DHCP details from DHCP server, do not print TCP/IP settings etc.	

N	V	Italian Name	English Description	Release / Notes
66	0	URL AGENZIA ENTRATE	Telematic transmission destination = Tax authority server	
	1	URL STS - FARMACIE	Telematic transmission destination = Pharmacy STS server	
67	0	NO LOTTERIA CKS	Do not perform checksum validation upon receiving 1-135 lottery code command.	Must be set to 0.
	1	SI LOTTERIA CKS	Perform checksum validation upon receiving 1-135 lottery code command.	
68	0	NO ANNULLO SEMI MAN.	Automatic void (if reference document found in MPD)	
	1	SI ANNULLO SEMI MAN.	No automatic void in any circumstance.	

**Additional Notes:**Flag 63 – Demo RT

If the printer receives a request to enter Demo Mode and the RT is in service, an "Out of Service" event must be transmitted to the tax authority. The printer therefore requires a mandatory Internet connection. No transmission occurs whenever exiting Demo mode. In this case, the next fiscal daily closure will indicate the correct RT status to the tax authority.

CONFIDENTIAL

- **H1=4; H2=015 – SET CONFIGURATION**

Used for setting the numeric configuration parameters used for fine tuning printer operation. Flag programming is permitted whilst a commercial document is open and furthermore when the paper out condition (FINE CARTA) occurs.

TX 

4	015	N	VAL
---	-----	---	-----

RX 

4	015	OP
---	-----	----

TX

Field	Description	Length	Range / Value
N	Sub parameter number	2 bytes	01 to 29 <sup>[1]</sup>
VAL	Value	3 bytes <sup>[2]</sup>	Depends on N

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Currently 29 sub-parameters can be set. The fiscal protocol foresees 99 for future expansion.

<sup>[2]</sup> The VAL field must always be three bytes so values <100 must therefore be left padded with one or two zeroes (1 = 001, 30 = 030 etc.).

N	Italian Name	English Description	Value		Release / Notes
			Range	Default	
1	VALORE IMPUTAZIONE	Unit price granularity	1 to 99	1	Expressed in cents
2	ARROTOND. IMPORTO	Quantity rounding	1 to 999	1	Expressed in cents
3	ARROTONDAMENTO %	Discount / surcharge rounding	1 to 999	1	Expressed in cents
4	ARROTOND. VALUTA	Foreign currency rounding	1 to 999	1	Expressed in cents
5	NUM. RITRASMISSIONI	Retry attempts	1 to 99	1	Only valid if ACK function has been activated (Flag SET14/27 = 1)
6	TEMPO RITRASMISSIONE	Retry interval	1 to 99	1	Expressed in seconds. Only valid if ACK function has been activated (Flag SET14/27 = 1)
7	INTENSITA' STAMPANTE	Print density	1 to 25	12	Obsolete command no longer used on all models described in this document
8	INTENSITA' VISORE	Display intensity	0 to 15	15	Values depend on the model (see operating manual)
9	HEADER GRAFICO	Graphic header logo index	0 to 9	0	Valid for all documents except invoices. Zero deactivates logo printing. Firmware must have been registered.

10	FOOTER GRAFICO	Graphic footer logo index	0 to 9	0	Valid for all documents except invoices. Zero deactivates logo printing. Not printed on X and Z reports. Firmware must have been registered.
11	NUMERO CASSA	Cash register number	0 to 999	0	000 deactivates NUMERO CASSA line
12	STAMPA 80/58-60mm <sup>[1]</sup>	Paper width	0 to 2	0	000 = 80mm 001 = 60mm 002 = 58mm
13	SPEGNIMENTO VISORE	Display timeout and mode	0 to 996	0	Timeout expressed in seconds.  000 = Disabled  The 997, 998 and 999 values have special significance and determine the display mode as indicated below:  - 997 = Promotional message - 998 = Clock - 999 = Blank  Therefore, the maximum possible timeout set via data communication is 996 seconds.
14	PAGA PRIMA	Automatically print discrete management documents for each commercial document sale	0 to 2	0	000 = Disabled 001 = All products 002 = Only if price > 0
15	NUMERO VISORI	Number of attached displays	1	1	Obsolete
16	COD. EURO PER VISORE	Indicates the ASCII code used to display and print the € euro symbol	33 to 159 with exceptions	156	Codes from the following ranges can be used:  - 33 to 122 - 128 to 155 - 156 - 157 to 159
17	FAT/RF: N.RIGHE INT.	Number of retail header lines to appear on direct invoices and invoices based on the last commercial document	0 to 16	5	
18	RISPARMIO CARTA	Paper saving mode	0 to 2	0	000 = Deactivated 001 = 25% interline spacing reduction 002 = 50% interline spacing reduction
19	HEADER GRAF. FATTURE	Invoice graphic header logo index	0 to 9	0	Only valid for invoices. Zero deactivates logo printing.
20	FOOTER GRAF. FATTURE	Invoice graphic footer logo index	0 to 9	0	
21	TEMPO ATTIVAZ. CASS.	Cash drawer opening delay time. Works in conjunction with flag SET 14/49	0 to 255	15	Expressed in two millisecond units. Values above 255 can be programmed without error but behave as 255.

22	HEADER/FOOTER POSIZ.	Graphic logo alignment / justification	0 to 2	0	000 = Left 001 = Centred 002 = Right
23	RT – TX RETRY TIME	Every XX minutes the printer will try to send files to the tax authority	0 to 999	30	Minutes
24	RT - RX TIME-OUT <sup>[2]</sup>	Response timeout whilst awaiting tax authority server reply	1 to 99	60	Seconds
25	RT - FILES > XX gg	Threshold to declare file as OLD	1 to 99	3	Days
26	RIGA DENOM. LOTTERIA	Retail header row number to use for lottery file transmissions	1 to 16	1	Row number  Should choose row with Company Name (Ragione Sociale).  From firmware 10.01 (modified) / 6.01 (native).
27	Arrot. DL N.50/2017	Rounding mode (nearest 0 or 5 cent value)	0 to 3	0	Only valid for payments exclusively in cash.  000 = No rounding 001 = Standard rounding 002 = Round down only 003 = Round up only  See <a href="#">Appendix I – Cash Payment Rounding 4-015 / 27</a>  Not relevant for RT Server.
28	EREC TIME-OUT COMM. <sup>[3]</sup>	E-Receipt Server connection timeout	1 to 99	3	Timeout for initial connection to E-Receipt server.  Expressed in seconds
29	EREC TIME-OUT SERVER <sup>[3]</sup>	E-Receipt server transmission completion timeout	1 to 99	5	Response timeout for transmission of entire E-Receipt.  Expressed in seconds

**Additional Notes:**

<sup>[1]</sup> For commercial reasons, on certain models it is not possible to set the paper width. To find out if your model is restricted, please contact EPSON providing the printer's fiscal serial number (matricola fiscale).

<sup>[2]</sup> During the registration intervention (censimento), the timeout is fixed at 90 seconds.

<sup>[3]</sup> FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 8.xxx.

- **H1=4; H2=016 – SET HEADER LINE FONT**

Used to set the retail header line font. Differently from the text programming command (3-016), this command can be used even if Day Opened is True. Double width is not supported.

TX 

4	016	LN	FONT
---	-----	----	------

RX 

4	016	OP
---	-----	----

TX

Field	Description	Length	Range / Value
LN	Line number	1 byte	1 to 9 <sup>[1]</sup>
FONT	One of four possible fonts	1 byte	1 = Normal 2 = Bold 3 = Double height 4 = Bold and double height

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

Default:

- Line 1 = Font 4 (bold and double height)
- Lines 2 to 16 = Font 2 (bold)

<sup>[1]</sup> The programming of lines 10 to 16 can only be performed via the keyboard.

- **H1=4; H2=019 – SET LAN PARAMETERS**

Used for setting the LAN parameters.

This command is inhibited if received via the LAN Ethernet TCP port 9100 or web service fpmate.cgi. The printer responds with Error 16. You must connect via the RS-232 serial port or the USB port to carry out LAN parameter programming or use the keyboard. An activation packet must be sent to enable the new parameter(s).

TX 

4	019	PARAM	TYPE	STRING
---	-----	-------	------	--------

RX 

4	019	OP
---	-----	----

TX (Total PDU length 78 bytes)

Field	Description	Length	Range / Value
PARAM	Sub parameter	2 bytes <sup>[2]</sup>	01 = Printer IP address 02 = Subnet Mask 03 = Default gateway IP address 04 = Proxy server IP address (for future use) 05 = Primary DNS address 06 = Secondary DNS address 07 = Wired / Wireless / USB 08 = Not used 09 = Two sub-parameters: <ul style="list-style-type: none"> <li>• PC controls the printer or printer sends validation requests to PC</li> <li>• Activate Wireless driver search on reboot</li> </ul> 10 = Not used 11 = Hardware MAC address 12 = TCP port number (immutable) 13 to 20 Not used 21 = Wireless SSID 22 = Wireless authentication mode 23 = Wireless encryption 24 = Wireless PSK (password) 25 = Wireless network mode 26 = Wireless radio channel 31 = Activation / deactivation DHCP client 41 = 802.1X 42 = Hostname 99 = Parameter(s) activation <sup>[1]</sup>
TYPE	IP network type	1 byte	0 = IPv4 1 = IPv6 (for future use)

STRING	Sub parameter value. Must be 64 bytes long being right padded with spaces as required	64 bytes	<p>01 to 06: 000.000. ... .000 to 255.255. ... .255 <sup>[2]</sup><sup>[3]</sup></p> <p>07: 0 = Wired, 1 = Wireless or 2 = USB</p> <p>09: First byte: 0 = Deactivated or 1 = Active (historical Client Server mode) Second byte: 0 = Deactivated or 1 = Activate wireless driver search</p> <p>11 = In the xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx format Hex a to f must be lower case.</p> <p>21 = SSID can be free text up to 32 characters excluding padding. No spaces are allowed in the SSID name. If your Wi-Fi router or similar uses spaces in the SSID, please reprogram it.</p> <p>22 = Infra (infrastructure mode): OPEN, WPAPSK o WPA2PSK or Ad-hoc: OPEN o WPANONE</p> <p>23 = Infra: NONE, TKIP or AES Ad-hoc: Not applicable</p> <p>24 = Minimum eight characters</p> <p>25 = Infra (infrastructure mode) or Ad-hoc</p> <p>26 = 0 (auto), 1 to 9, 10 or 11</p> <p>31: 0 = Deactivated or 1 = DHCP client active</p> <p>41: 0 = Deactivated or 1 = Active (802.1X)</p> <p>42 = Maximum 20 characters</p> <p>99 = All spaces</p>
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## RX

OP	Operator number	2 bytes	<p>01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.</p>
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<sup>[1]</sup> After having transmitted the desired parameter(s), an activation packet must be sent where PARAM = 99.

<sup>[2]</sup> Dot separators must be inserted in IP address strings. E.g.: 123.456.789.012

<sup>[3]</sup> IP addresses must always be 12 digits long inserting zeroes if necessary. E.g.: 192.168.001.001

- [H1=4; H2=020 – TEST NETWORK CONNECTIVITY](#)

TX 4 020 TEST

RX 4 020 OP

TX

Field	Description	Length	Range / Value
TEST	Test to perform	1 byte	1 = Default gateway 2 = Primary DNS server 3 = Tax authority server

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

Returns Error 11 if the test fails or Error 13 if no IP address is configured (tests 1 and 2 only). If tests 1 and/or 2 fail, it could simply be that the device has blocked Ping requests due to corporate security policies for example.  
Test 3 will also fail if the certificate is invalid.

- [H1=4; H2=022 – TEST PRINTER](#)

Places the printer in the SET 22 condition which prints a test management document every four minutes. The TEST STAMPANTE wording appears on the display. If flag 4014/61 is set to no on RT server, no test printouts will occur.

There are two methods available for terminating the test mode:

1. Pressing the , (comma) key followed by the CHIAVE key
2. Sending the 1-088 printer reset command

TX 4 022 OP IN<sup>[1]</sup>

RX 4 022 OP

TX

Field	Description	Length	Range / Value
OP IN	Operator	2 bytes	01 to 12

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Operator number IN does not change active operator.

- **H1=4; H2=025 – SET INVOICE PARAMETERS**

Used to set the principal invoice parameters. All parameters are set at once. A description up to ten characters long can be programmed that can be printed either before or after the invoice number as a prefix or suffix. A common suffix for example would be "/2022". The reply message is the same.

TX 

4	025	INV NUM	LINES	ADD HEAD	HEADERS	EXEMPT TEXT	PREF/SUFF	POS
---	-----	---------	-------	----------	---------	-------------	-----------	-----

RX 

4	025	OP
---	-----	----

TX (Total PDU length 45 bytes)

Field	Description	Length	Range / Value
INV NUM	Invoice number	4 bytes	0001 to 9999
LINES	Invoice lines per page	2 bytes	18 to 99 <sup>[1]</sup> <sup>[2]</sup>
ADD HEAD	Space reserved for additional header lines	2 bytes	00 to 20
HEADERS	Retail header and client lines	1 byte	0 = Do not print 1 = Print <sup>[3]</sup>
EXEMPT TEXT	VAT exempt wording	14 bytes	Alphanumeric
PREF/SUFF	Invoice number prefix/suffix wording	10 bytes	Alphanumeric
POS	Prefix/suffix activation and position	1 byte	0 = Invoice number only 1 = Prefix (left) 2 = Suffix (right)

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> When printing occurs on the paper roll, the limit is no longer 99 lines per invoice (the printer merely paginates the invoice cutting the paper as required).

<sup>[2]</sup> The LINES parameter should never be set lower than 18 (from 0 to 17) otherwise Error 17 will be returned. Furthermore, when using the paper roll to print invoices, always set 99.

<sup>[3]</sup> The header includes both the retail header lines and the client lines. The default is 1. The number of retail header lines to print can be set with 4-015/17.

- **H1=4; H2=027 – SET INVOICE COURTESY MESSAGE**

Two additional static trailer lines can be programmed to automatically appear on invoices. The lines are printed below the "NUM REGISTRATORE: " line. For invoices printed on the paper roll, the lines are printed between "NUM REGISTRATORE:" and "\* \* \* COPIA PER IL ...". The messages remain in memory even if the printer is turned off. To cancel the lines, send two packets with spaces as the descriptions (20h).

TX 

4	027	N	DESC
---	-----	---	------

RX 

4	027	OP
---	-----	----

TX (Total PDU length 58 bytes)

Field	Description	Length	Range / Value
N	Line number	1 byte	1 to 2
DESC	Message text	46 bytes	Alphanumeric

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
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- **H1=4; H2=028 – SET BI-ANNUAL CHECK DUE WARNING DATE**

Sets the future date for when warnings of a forthcoming bi-annual check (VP or Verificazione Periodica) are provided. Fiscal closures performed from this date onwards contain a relative warning message. The fiscal firmware ignores the day (DD) field value automatically setting it internally to the first day of the month. The first date that can be programmed is the first day of the next month. For example, if today is the 23<sup>rd</sup> of May 2022, the first date possible is the 1<sup>st</sup> of June 2022. If all input fields are set to zero (000000), the function is effectively deactivated. This "zero" value must not be set in a retail outlet.

TX 

4	028	DD	MM	YY
---	-----	----	----	----

RX 

4	028	OP
---	-----	----

TX

Field	Description	Length	Range / Value
DD	Day	2 bytes	01 to 31
MM	Month	2 bytes	01 to 12
YY	Year	2 bytes	00 to 99

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- [H1=4; H2=029 – SET KEYBOARD FUNCTION ASSOCIATIONS](#)

Used to associate a particular function with a given key. Differently from programming via the keyboard, any key can be reprogrammed via the data communication channels. Therefore, care must be taken that important keys such as CHIAVE are not interfered with. For further details please refer to:

- [Appendix B – Keyboard Configuration Instructions](#)

TX 

4	029	SCAN CODE REF	FUNCTION
---	-----	---------------	----------

RX 

4	029	OP
---	-----	----

TX

Field	Description	Length	Range / Value
SCAN CODE REF	Decimal key scan code reference	3 bytes	000 to 255
FUNCTION	Fiscal function or other function	3 bytes	000 to 999 except 998 and 997 <sup>[1]</sup> <sub>[2]</sub>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> The SCAN CODE REF 118 reference has FUNCTION 998 paired with it by default. Corresponds with Esc QWERTY keyboard key. The value 998 is for internal use only and is read-only so cannot be assigned to a SCAN CODE REF (even 118). If attempted, error 16 is returned. Similarly, SCAN CODE REF 045 has FUNCTION 997 paired with it by default. Corresponds with R QWERTY keyboard key. The value 997 is also for internal use only and is read-only so cannot be assigned to a SCAN CODE REF (even 047).

<sup>[2]</sup> As of the date of this document, the highest function is 274.

- [H1=4; H2=031 – SET EFT-POS PARAMETERS](#)

Used to program the EFT-POS electronic payment parameters including those related to the POS terminal.

TX	4	031	ACT / DEACT MODE	PRT DEVICE	COPIES	TERM ID	IFACE	ADDR	PORT	TIME- OUT	SPARE
----	---	-----	---------------------	---------------	--------	------------	-------	------	------	--------------	-------

RX	4	031	OP
----	---	-----	----

TX (Total PDU length 49 bytes)

Field	Description	Length	Range / Value
ACT / DEACT MODE	Activates or deactivates EFT-POS function plus indicates mode	1 byte	0 = Off / Reserved Mode <sup>[1]</sup> 1 = SETEFI 2 = Ingenico protocol 17
PRT DEVICE	Payment slips print device <sup>[2]</sup>	1 byte	0 = POS terminal printer 1 = EPSON fiscal printer paper roll <sup>[2]</sup>
COPIES	Number of payment slip copies <sup>[2]</sup>	1 byte	2 to 9 <sup>[2]</sup>
TERM ID	POS terminal ID	8 bytes	00000000 to 99999999
IFACE	Connection method to POS terminal	1 byte	0 = Serial RS-232 <sup>[3]</sup> 1 = TCP/IP / Reserved Mode <sup>[1]</sup>
ADDR	If IFACE=1: IP address of POS terminal If IFACE=0: Ignored but must be compiled according to the specified format	15 bytes	000.000. ... .000 to 255.255. ... .255 <sup>[4] [5]</sup>
PORT	If IFACE=1: TCP port of POS terminal If IFACE=0: Ignored but must be compiled according to the specified format	4 bytes	0001 to 9999 <sup>[6]</sup>
TIME-OUT	Electronic payment timeout	3 bytes	000 (no timeout) or 001 to 999 Expressed in seconds <sup>[7]</sup>
SPARE	Unused bytes	4 bytes	0000

<sup>[1]</sup> If IFACE = 1 and the "CONNESSIONE" SET 17 parameter is set to EFT-POS, the "CONNESSIONE" parameter is automatically set to "NON CONNESSA".

If ACT / DEACT MODE = 0 and IFACE = 1, an obsolete reserved mode is activated. This combination should not be programmed. Set IFACE to 0 when EFT-POS is not being used.

If ACT / DEACT MODE = 0, please make sure that the "CONNESSIONE" SET 17 parameter is not set to EFT-POS.

If ACT / DEACT MODE is not 0 and IFACE = 1, serial port SET-17 RS232 CONNESSIONE setting should be not set to EFT-POS.

<sup>[2]</sup> Only valid for payments carried out whilst emitting commercial documents via the keyboard.

<sup>[3]</sup> If ACT / DEACT MODE is not 0 and IFACE = 0, serial port SET-17 RS232 CONNESSIONE setting should be set to EFT-POS.

<sup>[4]</sup> Dot separators must be inserted in IP address strings. E.g.: 123.456.789.012

<sup>[5]</sup> IP addresses must always be 12 digits long inserting zeroes if necessary. E.g.: 192.168.001.001

<sup>[6]</sup> TCP Ports from 10000 to 99999 are supported but can only be programmed or read via the keyboard.

<sup>[7]</sup> When using TCP/IP, the initial connection timeout can be as high as three minutes and the printer is busy during this time. TIMEOUT begins after TCP/IP connectivity has been established with the POS terminal.

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
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CONFIDENTIAL

- **H1=4; H2=032 – SET E-MAIL PARAMETERS**

Used to set e-mail parameters. This is completely separate from the E-Receipt function.

TX 

4	032	PARAM	STRING
---	-----	-------	--------

RX 

4	032	OP
---	-----	----

TX (Total PDU length 78 bytes)

Field	Description	Length	Range / Value
PARAM	Sub-parameter	3 bytes	<p><b><u>Sending parameters:</u></b></p> <p>001 = Server type (currently only smtp)</p> <p>002 = Name or IP address</p> <p>003 = SMTP port number</p> <p>004 = Username (Used whenever AUTH PLAIN or TLS is set)</p> <p>005 = Password (Used whenever AUTH PLAIN or TLS is set)</p> <p>006 = Options</p> <p>007 = Mail From (must not be blank. If blank, no e-mails are sent.)</p> <p>008 = Dest. Addr. Fisc. (Commercial documents, fiscal closures and invoices)</p> <p>009 = Dest. Addr. Notif. (Event notification such as MPD (DGFE) removed)</p> <p>010 = Doc, TXT or BMP</p> <p>011 = EHLO Hostname (default = epson-printer). From BN 248. Must not be blank</p> <p><b><u>Mail reception:</u></b> <sup>[1]</sup></p> <p>021 = Server type</p> <p>022 = Name or IP address</p> <p>023 = TCP/IP port number</p> <p>024 = Username</p> <p>025 = Password</p> <p>026 = Options</p> <p><sup>[1]</sup> E-mail reception may be possible in a possible future firmware release.</p>

STRING	Sub-parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	<p>Left aligned alphanumeric string.</p> <p>If PAR = 006, the first byte indicates:</p> <p>0 = AUTH PLAIN deactivated  1 = AUTH PLAIN active  2 = TLS  3 = SSL (For future use)</p> <p>The second byte indicates:</p> <p>0 = Automatic e-mail sending with Z-Report deactivated  1 = Automatic e-mail sending with Z-Report active</p> <p>If PAR = 010:</p> <p>0 = Doc file type  1 = TXT file type  2 = BMP file type</p>
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## RX

OP	Operator number	2 bytes	<p>01 to 12  Can be ignored.  Current operator number which depends on the operator value passed on previous commands.</p>
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- [H1=4; H2=034 – SET INTELLIGENT FEATURES PARAMETERS / RESTART WEB SERVER OR PRINTER](#)

Used for setting the principal intelligent features parameters. See the Fiscal Printer Intelligent Features Guide for complete descriptions.

TX 

4	034	PARAM	INDEX	FUNCTION	STRING
---	-----	-------	-------	----------	--------

RX 

4	034	OP
---	-----	----

TX (Total PDU length 81 bytes)

Field	Description	Length	Range / Value
PARAM	Sub parameter	2 bytes	01 = Web server 02 = PHP 03 = Samba 04 = USB Pen Drive 04 = Webapp Mem Type – New heading name 05 = Graphic File 06 = Fpdate CGI Update 07 = Web Application 08 = Background Program 09 = Receipt JSON – Also includes fiscal daily closures 10 = Device Data Notification (DDN)
INDEX	Sub index	2 bytes	Depends on the PARAM group of parameters. See tables below
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	Alphanumeric string of up to 64 bytes with eventual padding with spaces.  See tables below.

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
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**PARAM = 01 – Web Server**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = User ID <sup>[1]</sup> 02 = Password <sup>[1]</sup> 03 = SSL activation/deactivation/TLS <sup>[1]</sup> 04 = Web socket <sup>[2]</sup> 05 = CORS origin (from BN 355) 98 = Restart printer (from BN 252 – Not RT Server) 99 = Restart web server <sup>[3]</sup>
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value Must be 64 bytes long being right padded with spaces as required	64 bytes	<p>Alphanumeric string of up to 64 bytes with eventual padding with spaces.</p> <p><u>If INDEX = 03:</u></p> <p>0 = SSL deactivated 1 = SSL active 2 = SSL active TLS 1.2 only</p> <p><u>If INDEX = 04:</u></p> <p>0 = SOCKET deactivated 1 = SOCKET active</p> <p><u>If INDEX = 05:</u></p> <p>Access-Control-Allow-Origin value in response header used for cross domain CORS connections. Can be a DNS name or an IP address. Must begin with http:// or https:// prefix. If SSL is disabled, the single wildcard character * (asterisk) is allowed on most browsers as long as authentication is deactivated. * is the printer default.</p> <hr/> <p>Apart from Web Socket programming, changes require a web server or printer restart.</p> <p>With SSL active, an HTTPS connection to the printer must be used.</p> <p>See the Fiscal Printer Intelligent Features Guide for a complete description.</p>

<sup>[1]</sup> Changes require web server restart. User and Password also supported without SSL.

<sup>[2]</sup> The fiscal firmware automatically restarts the web server when the Web socket sub-parameter is programmed.

<sup>[3]</sup> If the restart request arrives via an XML SOAP request to the fpmate.cgi service, use the XML rebootWebServer tag. If directIO is used, the restart will block the XML response. Consequently, the fiscalprint JavaScript library will generate an FP\_NO\_ANSWER\_NETWORK error message. This can be ignored.

**PARAM = 02 – PHP**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = PHP service activation / deactivation 02 = Automatic script type 03 = Automatic script name
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	<p>Alphanumeric string of up to 64 bytes with eventual padding with spaces.</p> <p><u>If INDEX = 01:</u></p> <p>0 = PHP service deactivated <sup>[1]</sup> 1 = PHP service activated <sup>[2]</sup></p> <p><u>If INDEX = 02:</u></p> <p>0 = Automatic script off.</p> <p>1 = Automatic script launched after payment (before logotype). The printer waits for a file to appear in the /www/graphic directory. This file content is printed at the foot of the commercial document. The file is then erased as it is only relevant for the current print-out.</p> <p>2 = Automatic script launched at print-out closure (after paper cut) without waiting for a file to appear in the /www/graphic directory.</p> <p>3 = The script is launched in background</p> <p>4 = Automatic script launched after fiscal daily closure.</p> <p><u>If INDEX = 03:</u></p> <p>The name of the automatic script or script launched via 1-140 command. E.g.: serverDirectPrint.php.</p> <p>See the Fiscal Printer Intelligent Features Guide for a complete description.</p>

PHP programming requires a printer restart. This could be carried out via the PARAM 01 (Web Server) INDEX 98 option.

<sup>[1]</sup> Also deactivates the automatic script.

<sup>[2]</sup> The PHP service must be loaded onto the printer and is available on request (php-cgi.zip file).

**PARAM = 03 – Samba**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = Activation/deactivation
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	<p>Alphanumeric string of up to 64 bytes with eventual padding with spaces.</p> <p>0 = Samba deactivated 1 = Samba active <sup>[1]</sup></p> <p>The activation and deactivation of Samba requires a printer restart. With Samba active, the printer provides two shares:</p> <ol style="list-style-type: none"> <li>1. cgi-bin</li> <li>2. www</li> </ol> <p>Under www, the webapp sub-directory can be used to deposit XML files to be processed automatically by the fpmate.cgi embedded service.</p> <p>See the Fiscal Printer Intelligent Features Guide for a complete description.</p>

Samba programming requires a printer restart. This could be carried out via the PARAM 01 (Web Server) INDEX 98 option.

<sup>[1]</sup> The Samba service must be loaded onto the printer and is available on request (samba.zip file). The printer cannot run both PHP and Samba services concurrently. If both happen to be activated, the PHP service has the priority and Samba is not launched.

**PARAM = 04 – USB Pen Drive / Webapp Mem Type**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = Webapp source repository
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	<p>Alphanumeric string of up to 64 bytes with eventual padding with spaces.</p> <p>Older firmware and "USB PEN DRIVE" title indicates:</p> <ul style="list-style-type: none"> <li>• 0 = Fiscal board flash memory</li> <li>• 1 = USB Pen drive</li> </ul> <p>Newer firmware and "WEBAPP MEM TYPE" title indicates one of three locations:</p> <ul style="list-style-type: none"> <li>• 0 = Fiscal board flash memory</li> <li>• 1 = USB Pen drive</li> <li>• 2 = SD card</li> </ul> <p>The web server root is determined as follows:</p> <p>0 – Contains the files loaded during the printer restart from the fiscal board flash memory (previously uploaded via upload.cgi). Any updates to files using PHP for example are lost after a reboot.</p> <p>1 – The USB Pen drive is mounted as the web server root. The USB Pen drive must contain a single FAT32 partition.</p> <p>2 – Contains the files loaded during the printer restart from the SD card (previously uploaded via upload.cgi). Any updates to files using PHP for example are maintained after a reboot.</p> <p>See the Fiscal Printer Intelligent Features Guide for a complete description.</p>

Programming requires a printer restart. This could be carried out via the PARAM 01 (Web Server) INDEX 98 option.

**PARAM = 05 – Graphic File**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = Type
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value Must be 64 bytes long being right padded with spaces as required	64 bytes	Alphanumeric string of up to 64 bytes with eventual padding with spaces. 000 100 200 210 to 290 <sup>[1]</sup>  See the Fiscal Printer Intelligent Features Guide for a complete description.

It is not possible to load and print graphic files if the automatic PHP script option is in use with Script type = 1.

<sup>[1]</sup> The second digit in **red** indicates the index (1 to 9) to assign to the graphic logo.

**PARAM = 06 – Fpmate CGI Update**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = Service file source during printer restart
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value Must be 64 bytes long being right padded with spaces as required	64 bytes	Alphanumeric string of up to 64 bytes with eventual padding with spaces. 0 = Load original Fpmate bundled with firmware 1 = Load Fpmate from fiscal board flash memory (previously uploaded via upload.cgi). If no file is uploaded, the cgi-bin folder will not contain fpmate.cgi. File available on request.  The update via the cgi-bin/upload.cgi utility has an immediate effect.  See the Fiscal Printer Intelligent Features Guide for a complete description.

**PARAM = 07 – Web Application**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = Web application loading or not loading on printer restart
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	Alphanumeric string of up to 64 bytes with eventual padding with spaces.  0 = Do not load web application on restart 1 = Load web application on restart  If the USB Pen drive function has been activated, this parameter has no significance.  For information, zip updates via the cgi-bin/upload.cgi utility have an immediate effect.  See the Fiscal Printer Intelligent Features Guide for a complete description.

**PARAM = 08 – Background Program**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = Background program service activation / deactivation 02 = Background program script name
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	Alphanumeric string of up to 64 bytes with eventual padding with spaces.  <u>If INDEX = 01:</u>  0 = Background program service deactivated 1 = Background program service active  <u>If INDEX = 02:</u>  Insert a script name such as E015_client.sh.  See the Fiscal Printer Intelligent Features Guide for a complete description.

Background Program programming requires a printer restart. This could be carried out via the PARAM 01 (Web Server) INDEX 98 option.

**PARAM = 09 – JSON Receipt (and fiscal daily closure <sup>[1]</sup>)**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = JSON service activation / deactivation
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	Alphanumeric string of up to 64 bytes with eventual padding with spaces.  0 = Receipt JSON service deactivated 1 = Receipt JSON service active  See the Fiscal Printer Intelligent Features Guide for a complete description.

<sup>[1]</sup> Activation of this parameter will also mean that a json file is saved following a fiscal daily closure.

**PARAM = 10 – Device Data Notification (DDN)**

Field	Description	Length	Range / Value
INDEX	Sub index	2 bytes	01 = Program name 02 = Prefix 03 = Suffix 04 = Options (for future use)
FUNCTION	Function to execute	2 bytes	For future use. Set to 00.
STRING	Parameter value  Must be 64 bytes long being right padded with spaces as required	64 bytes	Alphanumeric string of up to 64 bytes with eventual padding with spaces.  <u>If INDEX = 01:</u>  Sets the program name such as remote_request_job.  <u>If INDEX = 02:</u>  Set the character that the printer will use to recognise the start of the Barcode / QR code. Values range from 001 to 255.  <u>If INDEX = 03:</u>  Set the character that the printer will use to recognise the end of the Barcode / QR code. Values range from 001 to 255.  See the Device Data Notification PowerPoint presentation for a complete description.

- [H1=4; H2=037 – SET ATECO TABLE ENTRY](#)

**Attention:** If the retailer compiles their accounts and pays VAT without any ATECO code partitioning, this table should **not** be programmed.

TX 

4	037	ATECO INDEX	ATECO CODE	VENTILAZIONE	PRINT VI	SPARE
---	-----	-------------	------------	--------------	----------	-------

RX 

4	037	OP
---	-----	----

TX (Total PDU length 31 bytes)

Field	Description	Length	Range / Value
ATECO INDEX	Index used in department programming or RT Server XML	2 bytes	Standalone RT: 01 to 03 RT Server: 01 or 02
ATECO CODE	Retailer ATECO code	6 bytes	Numeric ATECO code Must be a valid Italian ATECO code. Do not include decimal points.
VENTILAZIONE	Enable / disable Ventilazione	1 byte	0 = Disable ventilazione 1 = Enable ventilazione <sup>[1]</sup>
PRINT VI	Not used	1 byte	Not used Fixed at 0
SPARE		10 bytes	Ignored but EPSON recommend using spaces

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Ventilazione is a fiscal VAT (IVA) regime that certain retailers can adopt. It allows the global registration of the daily takings amount without distinguishing the individual VAT rates. Ventilazione only ever applies to goods (department setting). Any activation of ventilazione in the 4-005 command is global and consequently the setting in this command would be ignored.

- **H1=4; H2=038 – SET AND MANAGE ACCESS CONTROL**

For programming and managing the GDPR login function and associated functions necessary for secure access to the MPD (DGFE) and MPR (fiscal memory). If the MPR becomes full, the printer automatically enters the login condition with no session limit. FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models with firmware 9.xxx and RT Server models also inhibit access to the dati-rt folder when not logged in.

TX 

4	038	INDEX	INPUT PARAMETER	TBD
---	-----	-------	-----------------	-----

RX 

4	038	OP
---	-----	----

TX (Total PDU length 145 bytes)

Field	Description	Length	Range / Value
INDEX	Sub parameter	2 bytes	01 = Set Password 02 = Login (password or OTP for recovery) 03 = Logout 04 = Set max session time (default 30 mins). 00 = unlimited session time <sup>[1]</sup> 05 = Set OTP recipient e-mail address <sup>[2]</sup> 06 = Test OTP recipient e-mail address <sup>[2]</sup> 07 = Request OTP for password recovery (numeric). <sup>[3]</sup>
INPUT PARAMETER	Parameter value	100 bytes	Must be 100 bytes long being right padded with spaces. Depends on INDEX Max password length is 40 bytes
TBD	32 bytes	32 bytes	For future use

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> After setting the session time, you must logout and re-login for the change to take effect.

<sup>[2]</sup> E-mail recovery function is completely separate from 4-032 / 4-232 e-mail transmission.

<sup>[3]</sup> After the recovery request has been received and the e-mail sent, the OTP password can be used to login. The printer then resets the password to the default 12345 value automatically. At this point the printer will accept both passwords until such time that the printer is rebooted whereby only 12345 will be accepted.

- **H1=4; H2=053 – SET CASH PAYMENT DESCRIPTIONS**

Up to five cash payment descriptions can be programmed. The name appears on the X-01, X-07, Z-02 (first) and Z-07 reports. It also appears on commercial documents but only if the older 1-069 cash command is used. The index 00 wording is reserved and cannot be modified from CONTANTI (cash).

TX 

4	053	N	DESC
---	-----	---	------

RX 

4	053	OP
---	-----	----

TX (Total PDU length 33 bytes)

Field	Description	Length	Range / Value
N	Cash payment index	2 bytes	01 to 05
DESC	Description	20 bytes	Alphanumeric

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=4; H2=055 – SET DEFERRED VAT TABLE WITH STARTING DATE**

The active VAT table (VAT groups 1 to 9) can be pre-programmed with new VAT percentages plus the ventilazione setting to take effect at a specific future date.

TX 

4	055	START DATE	VENT	VAT 1	VAT 2	VAT 3	...	Up to VAT 9
---	-----	------------	------	-------	-------	-------	-----	-------------

RX 

4	055	OP
---	-----	----

TX (Total PDU length 54 bytes)

Field	Description	Length	Range / Value
START DATE	New VAT table activation date	6 bytes	In ddmmyy format Cannot set to all zeroes to deactivate
VENT	Enable / disable Ventilazione	1 byte	0 = Disable ventilazione <sup>[1]</sup> 1 = Enable ventilazione
VAT n	Nine VAT rates ordered from 1 to 9	36 bytes 4 bytes per VAT	0000 to 9999 <sup>[2]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Ventilazione is a fiscal IVA regime that certain retailers can adopt. It allows the global registration of the daily takings amount without distinguishing the VAT rate. Ventilazione only ever applies to goods (department setting). Any activation of ventilazione in this command is global and consequently the setting in the ATECO table would be ignored.

<sup>[2]</sup> Interpreted as 00.00 to 99.99% (two decimal places). Zero per cent effectively deactivates the VAT group. The same percentage cannot be attributed to more than one group (apart from zero percent).

- **H1=4; H2=201 – GET PRINTER DATE AND TIME**

Returns the printer date and time. The command can also be used whilst the printer is in the OFFLINE condition.

TX 

4	201
---	-----

RX 

4	201	DD	MM	YY	HH	MM
---	-----	----	----	----	----	----

RX

Field	Description	Length	Range / Value
DD	Day	2 bytes	01 to 31
MM	Month	2 bytes	01 to 12
YY	Year	2 bytes	00 to 99
HH	Hour	2 bytes	00 to 23
MM	Minute	2 bytes	00 to 59

- **H1=4; H2=202 – GET DEPARTMENT PARAMETERS**

Returns a specific department's parameters.

TX 

4	202	DN
---	-----	----

RX 

4	202	DN	DESC	P1	P2	P3	SINGLE	VAT GRP	P LIM	PRN GRP	PROD GRP
---	-----	----	------	----	----	----	--------	---------	-------	---------	----------

MU	SALES TYPE	SALES ATTRIBUTE	ATECO IND
----	------------	-----------------	-----------

TX

Field	Description	Length	Range / Value
DN	Department number	2 bytes	01 to 99

RX (Total PDU length 81 bytes)

DN	Same as TX		
DESC	Description	20 bytes	Alphanumeric
P1	Unit price 1	9 bytes	000000000 to 999999999
P2	Unit price 2	9 bytes	000000000 to 999999999
P3	Unit price 3	9 bytes	000000000 to 999999999
SINGLE	Single item receipt	1 byte	0 or 1
VAT GRP	VAT group	2 bytes	00, 10 to 18 <sup>[1]</sup> 01 to 09 21 to 29, 31 to 39, 41 to 49, 51 to 59 <sup>[2]</sup>
P LIM	Price limit	9 bytes	000000000 to 999999999
PRN GRP	Print group	2 bytes	00 to 10 <sup>[3]</sup>
PROD GRP	Product group	2 bytes	00 to 10 <sup>[3]</sup>
MU	Invoice unit of measure	2 bytes	Alphanumeric
SALES TYPE	Sales classification	1 byte	0 = Goods (beni) 1 = Services (servizi)
SALES ATTRIBUTE	Indicates whether to allow (or not) discounts or surcharges.	2 bytes	00 = Discounts and surcharges permitted on this department. Include the department whenever a discount or a surcharge is based on the subtotal.  01 = Discounts and surcharges NOT permitted on this department. Do not include the department whenever a discount or a surcharge is based on the subtotal.
ATECO IND	ATECO classification	2 bytes	00 = No ATECO handling 01 to 03 = ATECO table index  ATECO handling should only be enabled if the retailer has activated it in their tax accounts.

<sup>[1]</sup> Indicates zero rated VAT (natures).

<sup>[2]</sup> Historical VAT groups.

<sup>[3]</sup> The 00 value denotes function deactivated.

- **H1=4; H2=203 – GET INTERNAL PLU BY NUMBER**

Read one of the 1000 internal PLU entries.

TX 

4	203	N
---	-----	---

RX 

4	203	N	DESC	P1	P2 / TARE	P3	DEP	COD
---	-----	---	------	----	-----------	----	-----	-----

TX

Field	Description	Length	Range / Value
N	Internal PLU entry number	4 bytes	0001 to 1000

RX (Total PDU length 104 bytes)

N	Same as TX		
DESC	Description	20 bytes	Alphanumeric text <sup>[1]</sup>
P1	Unit price 1	9 bytes	000000000 to 999999999
P2 / TARE	Unit price 2 or tare in grams	9 bytes	P2: 000000000 to 999999999 TARE: 000000000 to 000009999
P3	Unit price 3	9 bytes	000000000 to 999999999
DEP	Department number	2 bytes	00 <sup>[2]</sup> 01 to 99
COD	Barcode	40 bytes	Numeric only or Alphanumeric

<sup>[1]</sup> If last character is @, it indicates a weighing scales PLU.

<sup>[2]</sup> The 00 value deactivates the specific internal PLU entry.

- **H1=4; H2=204 – GET DISCOUNT AND SURCHARGE PERCENTAGES**

Reads the pre-set percentage for both the discount and surcharge functions.

TX 

4	204	N
---	-----	---

RX 

4	204	N	VAL
---	-----	---	-----

TX

Field	Description	Length	Range / Value
N	Discount or surcharge	1 byte	1 = Discount 2 = Surcharge

RX

N	Same as TX		
VAL	Percentage	4 bytes	0000 to 9999 <sup>[1]</sup>

<sup>[1]</sup> Interpreted as 00.00 to 99.99%.

- [H1=4; H2=205 – GET VAT TABLE ENTRY](#)

Read the percentage of a specified VAT table entry. VAT groups 00 and 10 to 18 are reserved for zero rated sales. VAT group 19 is no longer available. VAT groups above 20 are for historical VAT rates. See relative 4-005 programming command for more information.

TX 

4	205	N
---	-----	---

RX 

4	205	N	VAL
---	-----	---	-----

TX

Field	Description	Length	Range / Value
N	VAT group number	2 bytes	01 to 09 21 to 29, 31 to 39, 41 to 49, 51 to 59 97 or 98 VAT Ventilazione

RX

N	Same as TX		
VAL	VAT rate	4 bytes	0000 to 9999 <sup>[1]</sup> 0000 = VAT Ventilazione OFF (Distinct VAT) 1000 = VAT Ventilazione ON (Mixed VAT)

<sup>[1]</sup> Interpreted as 00.00 to 99.99% (two decimal places).

Error 16 is returned if N equals a zero-rated VAT group (00, 10 to 18 natures).

- [H1=4; H2=206 – GET CURRENCY DESCRIPTION AND EXCHANGE RATE](#)

Up to six currencies can be read.

TX 

4	206	N
---	-----	---

RX 

4	206	N	DESC	VAL
---	-----	---	------	-----

TX

Field	Description	Length	Range / Value
N	Currency number	2 bytes	01 to 06

RX (Total PDU length 30 bytes)

N	Same as TX		
DESC	Short description	2 bytes	Alphanumeric
VAL	Exchange rate to euros	15 bytes	6 whole numbers and 9 decimals

- **H1=4; H2=207 – GET CREDIT CARD NAMES**

Up to ten credit cards can be read.

TX 

4	207	N
---	-----	---

RX 

4	207	N	DESC
---	-----	---	------

TX

Field	Description	Length	Range / Value
N	Credit card number	2 bytes	01 to 10

RX (Total PDU length 33 bytes)

N	Same as TX		
DESC	Description	20 bytes	Alphanumeric

- **H1=4; H2=208 – GET PRODUCT GROUP NAMES**

Up to ten product groups can be read.

TX 

4	208	N
---	-----	---

RX 

4	208	N	DESC
---	-----	---	------

TX

Field	Description	Length	Range / Value
N	Product group number	2 bytes	01 to 10

RX (Total PDU length 33 bytes)

N	Same as TX		
DESC	Description	20 bytes	Alphanumeric

- **H1=4; H2=209 – GET CASH KEYS AND CASH LIMIT**

Up to five cash keys can be read. The global cash transaction payment limit or payments limit can also be read (valid only for payments carried out via the keyboard).

TX 

4	209	N
---	-----	---

RX 

4	209	N	VAL
---	-----	---	-----

TX

Field	Description	Length	Range / Value
N	Cash key number	1 byte	1 to 5
	Cash payment(s) limit		6
	Cash limit type		7

RX

N	Same as TX		
VAL	Predefined cash amount	9 bytes	000000000 to 999999999
	Cash limit amount		000000000 to 999999999
	Cash limit type		000000000 (Override possible) 000000001 (Override inhibited)

- **H1=4; H2=210 – GET TICKET DESCRIPTION AND VALUE**

Up to ten tickets can be read. Ticket means vouchers billed to third parties. For example, ticket restaurant, buoni celiachia or buoni promozionali). The new ticket with quantity payment type 4 corresponds with ticket 1.

TX 

4	210	N
---	-----	---

RX 

4	210	N	DESC	VAL
---	-----	---	------	-----

TX

Field	Description	Length	Range / Value
N	Ticket number	2 bytes	01 to 10

RX (Total PDU length 42 bytes)

N	Same as TX		
DESC	Description	20 bytes	Alphanumeric
VAL	Ticket value	9 bytes	000000000 to 999999999

- **H1=4; H2=211 – GET MXN KEY SALES PROMOTION RATE**

Reads one of the two MxN promotion key rates.

TX 

4	211	N
---	-----	---

RX 

4	211	N	VAL
---	-----	---	-----

TX

Field	Description	Length	Range / Value
N	MxN number	1 byte	1 to 2

RX

N	Same as TX		
VAL	MMNN value	4 bytes	0201 to 9998

- **H1=4; H2=212 – GET DIRECT INTERNAL PLU KEY ASSOCIATION**

Reads one of the seventy PLU direct key associations.

TX 

4	212	N
---	-----	---

RX 

4	212	N	PLU
---	-----	---	-----

TX

Field	Description	Length	Range / Value
N	Key number	2 bytes	01 to 70

RX

N	Same as TX		
PLU	Internal PLU number	4 bytes	0001 to 1000

- [H1=4; H2=213 – GET OPERATOR \(CASHIER\) PARAMETERS](#)

Read a specific operator's parameters.

TX 

4	213	N
---	-----	---

RX 

4	213	N	DESC	PSW	%OP
---	-----	---	------	-----	-----

TX

Field	Description	Length	Range / Value
N	Operator ID number	2 bytes	01 to 12

RX (Total PDU length 41 bytes)

N	Operator ID number	2 bytes	01 to 12
DESC	Description (e.g. surname)	20 bytes	Alphanumeric
PSW	Operator password	4 bytes	0000 to 9999
%OP	Percentage commission	4 bytes	0000 to 9999 <sup>[1]</sup>

<sup>[1]</sup> Interpreted as 00.00 to 99.99%.

- [H1=4; H2=214 – GET FLAGS](#)

Reads a particular Boolean configuration flag setting. The command can be used whilst the printer is in the OFFLINE condition.

TX 

4	214	N
---	-----	---

RX 

4	214	N	VAL
---	-----	---	-----

TX

Field	Description	Length	Range / Value
N	Flag number	2 bytes	01 to 68

RX

N	Same as TX		
VAL	Value	1 byte	0 or 1

Complete descriptions can be found in the [H1=4; H2=014 – SET FLAGS](#) programming command.

- [H1=4; H2=215 – GET CONFIGURATION](#)

Reads a particular numeric configuration parameter.

TX 

4	215	N
---	-----	---

RX 

4	215	N	VAL
---	-----	---	-----

TX

Field	Description	Length	Range / Value
N	Sub parameter number	2 bytes	01 to 29

RX

N	Same as TX		
VAL	Value	3 bytes	Depends on N

Regarding sub-parameter 13 (display timeout), only the timeout itself can be read (not the mode).

Complete descriptions can be found in the [H1=4; H2=015 – SET CONFIGURATION](#) programming command.

- [H1=4; H2=216 – GET HEADER LINE FONT](#)

Reads a particular header line font setting. Lines 10 to 16 font can only be ascertained via the keyboard.

TX 

4	216	LN
---	-----	----

RX 

4	216	LN	FONT
---	-----	----	------

TX

Field	Description	Length	Range / Value
LN	Line number	1 byte	1 to 9 <sup>[1]</sup>

RX

N	Same as TX		
FONT	One of four possible fonts	1 byte	1 = Normal 2 = Bold 3 = Double height 4 = Bold and double height

<sup>[1]</sup> For a full explanation, please refer to the [H1=4; H2=016 – SET HEADER LINE FONT](#) programming command.

- [H1=4; H2=219 – GET LAN PARAMETERS](#)

Used for reading the LAN parameters.

TX 

4	219	PARAM
---	-----	-------

RX 

4	219	PARAM	TYPE	STRING
---	-----	-------	------	--------

TX

Field	Description	Length	Range / Value
PARAM	Sub parameter	2 bytes	01 to 07 = Same as for 4-019 programming command 08 = Not used 09 = Same as for 4-019 programming command 10 = Not used 11 = Same as for 4-019 programming command 12 = TCP port number (immutable) 13 to 20 = Not used 21 to 26 = Same as for 4-019 programming command 27 to 30 = Not used 31 = DHCP client service 32 to 37 = Data supplied by DHCP server: 32 = Printer IP address 33 = Subnet Mask 34 = Default gateway IP address 35 = Primary DNS address 36 = Secondary DNS address 37 = Lease time in seconds  41 = 802.1X 42 = Hostname  99 = Not used (only when programming)

RX (Total PDU length 78 bytes)

PARAM	Same as TX		
TYPE	IP network type	1 byte	0 = IPv4 1 = IPv6 (for future use)
STRING	Sub parameter value	64 bytes	64 bytes long right padded with spaces  The structure depends on the specific sub-parameter:  31 = 0 (DHCP client deactivated) or 1 (active). DHCP is also supported on Wi-Fi and RNDIS interfaces.  32 to 36 = IP addresses without additional zeroes. For example: 8.8.8.8.  For the other sub-parameters, please consult the programming table:  <a href="#"><u>H1=4; H2=019 – SET LAN PARAMETERS</u></a>

- **H1=4; H2=225 – GET INVOICE PARAMETERS**

Used to read the principal invoice parameters. If the invoice number is > 9999, the INV NUM field becomes five bytes.

TX 

4	225
---	-----

RX 

4	225	INV NUM	LINES	ADD HEAD	HEADERS	EXEMPT TEXT	PREF/SUFF	POS
---	-----	---------	-------	----------	---------	-------------	-----------	-----

RX (Max total PDU length 46 bytes)

Field	Description	Length	Range / Value
INV NUM	Invoice number	4/5 <sup>[1]</sup> bytes	0001 to 9999 10000 to 99999 <sup>[1]</sup>
LINES	Invoice lines per page	2 bytes	00 to 99 <sup>[2]</sup> <sup>[3]</sup>
ADD HEAD	Space reserved for additional header lines	2 bytes	00 to 20
HEADERS	Retail header and client lines	1 byte	0 = Do not print 1 = Print <sup>[4]</sup>
EXEMPT TEXT	VAT exempt wording	14 bytes	Alphanumeric
PREF/SUFF	Invoice number prefix/suffix wording	10 bytes	Alphanumeric
POS	Prefix/suffix activation and position	1 byte	0 = Invoice number only 1 = Prefix (left) 2 = Suffix (right)

<sup>[1]</sup> The length is variable.

<sup>[2]</sup> When printing occurs on the paper roll, the limit is no longer 99 lines per invoice (the printer merely paginates the invoice cutting the paper as required).

<sup>[3]</sup> The LINES parameter should never be set lower than 18 (from 0 to 17). Furthermore, when using the paper roll to print invoices, always set 99.

<sup>[4]</sup> The header includes both the retail header lines and the client lines. The default is 1 (print).

- **H1=4; H2=227 – GET INVOICE COURTESY MESSAGE**

Reads one of the two additional trailer lines that automatically appear on invoices. The message can be 46 bytes long, but this command only returns the first 34 bytes.

TX 

4	227	N
---	-----	---

RX 

4	227	N	DESC
---	-----	---	------

TX

Field	Description	Length	Range / Value
N	Line number	1 byte	1 to 2

RX (Total PDU length 46 bytes)

N	Same as TX		
DESC	Message text	34 bytes	Alphanumeric

- [H1=4; H2=228 – GET BI-ANNUAL CHECK DUE WARNING DATE](#)

Reads the future date for when warnings of a forthcoming bi-annual check (VP Verificazione Periodica) are provided. Fiscal closures performed from this date onwards contain a relative warning message.

TX 

4	228
---	-----

RX 

4	228	DD	MM	YY
---	-----	----	----	----

RX

Field	Description	Length	Range / Value
DD	Day	2 bytes	00 to 31
MM	Month	2 bytes	00 to 12
YY	Year	2 bytes	00 to 99

If DD, MM and YY are all zeroes, it simply means that a date has not been programmed yet.

- [H1=4; H2=229 – GET KEYBOARD FUNCTION ASSOCIATIONS](#)

Used to read a particular function association with a given key. For further details please refer to:

- [Appendix B – Keyboard Configuration Instructions](#)

TX 

4	229	SCAN CODE REF
---	-----	---------------

RX 

4	229	SCAN CODE REF	FUNCTION
---	-----	---------------	----------

TX

Field	Description	Length	Range / Value
SCAN CODE REF	Decimal key scan code reference	3 bytes	000 to 255

RX

SCAN CODE REF	Same as TX		
FUNCTION	Fiscal printer function	3 bytes	001 to 999

- **H1=4; H2=231 – GET EFT-POS PARAMETERS**

Used to read the EFT-POS electronic payment parameters including those related to the POS terminal.

TX 

4	231
---	-----

RX 

4	231	ACT / DEACT MODE	PRT DEVICE	COPIES	TERM ID	IFACE	ADDR	PORT	TIME- OUT	SPARE
---	-----	---------------------	---------------	--------	------------	-------	------	------	--------------	-------

RX (Total PDU length 49 bytes)

Field	Description	Length	Range / Value
ACT / DEACT MODE	Activates or deactivates EFT-POS function plus indicates mode	1 byte	0 = Off / Reserved mode <sup>[1]</sup> 1 = SETEFI 2 = Ingenico protocol 17
PRT DEVICE	Payment slips print device <sup>[2]</sup>	1 byte	0 = POS terminal printer 1 = EPSON fiscal printer paper roll <sup>[2]</sup>
COPIES	Number of payment slip copies <sup>[2]</sup>	1 byte	2 to 9 <sup>[2]</sup>
TERM ID	POS terminal ID	8 bytes	00000000 to 99999999
IFACE	Connection method to POS terminal	1 byte	0 = Serial RS-232 <sup>[3]</sup> 1 = TCP/IP / Reserved mode <sup>[1]</sup>
ADDR	IP address of POS terminal (Relevant if IFACE=1)	15 bytes	000.000. ... .000 to 255.255. ... .255 <sup>[4] [5]</sup>
PORT	TCP port of POS terminal (Relevant if IFACE=1)	4 bytes	0001 to 9999 <sup>[6]</sup>
TIME-OUT	Electronic payment timeout	3 bytes	000 (no timeout) or 001 to 999 Expressed in seconds <sup>[7]</sup>
SPARE	Unused bytes	4 bytes	0000

Points 1 to 7 are described in 4-031 programming command. Regarding point 6, TCP ports from 10000 to 99999 are supported, but the most significant byte will be absent in the reply. For example, port 10000 will show 0000. The real value can only be ascertained via the keyboard.

- **H1=4; H2=232 – GET E-MAIL PARAMETERS**

Used to read the e-mail parameters. See the programming 4-032 command for complete descriptions. This is completely separate from the E-Receipt function.

TX 

4	232	PARAM
---	-----	-------

RX 

4	232	PARAM	STRING
---	-----	-------	--------

TX

Field	Description	Length	Range / Value
PARAM	Sub-parameter	3 bytes	<p><b><u>Sending parameters:</u></b></p> <p>001 = Server type (currently only smtp)                      002 = Name or IP address                      003 = SMTP port number                      004 = Username                      005 = Password                      006 = Options                      007 = Mail From                      008 = Dest. Addr. Fisc.                      009 = Dest. Addr. Notif.                      010 = Doc, TXT or BMP                      011 = EHLO hostname</p> <p><b><u>Mail reception:</u></b> <sup>[1]</sup></p> <p>021 = Server type                      022 = Name or IP address                      023 = TCP/IP port number                      024 = Username                      025 = Password                      026 = Options</p>

RX (Total PDU length 78 bytes)

PARAM	Same as TX		
STRING	Sub-parameter value	64 bytes	<p>Left aligned alphanumeric string. 64 bytes long being right padded with spaces.</p> <p>If PAR = 010:</p> <p>0 = Doc file type                      1 = TXT file type                      2 = BMP file type</p>

<sup>[1]</sup> E-mail reception may be possible in a possible future firmware release.

- [H1=4; H2=234 – GET INTELLIGENT FEATURES PARAMETERS](#)

Used for reading the principal intelligent features parameters. See the programming 4-034 command in this document and the Fiscal Printer Intelligent Features Guide for complete descriptions.

TX 

4	234	PARAM	INDEX
---	-----	-------	-------

RX 

4	234	PARAM	INDEX	NU	STRING
---	-----	-------	-------	----	--------

TX

Field	Description	Length	Range / Value
PARAM	Sub parameter	2 bytes	01 = Web server 02 = PHP 03 = Samba 04 = USB Pen Drive 05 = Graphic File 06 = Fpdate CGI Update 07 = Web Application 08 = Background Program 09 = Receipt JSON (with optional fiscal daily closures) 10 = Device Data Notification (DDN)
INDEX	Sub index	2 bytes	Depends on the PARAM group of parameters.  See the programming chapter:  <a href="#"><u>H1=4; H2=034 – SET INTELLIGENT FEATURES PARAMETERS / RESTART WEB SERVER OR PRINTER</u></a>  Web server options 98 and 99 are not relevant with this command.

RX (Total PDU length 81 bytes)

PARAM	Same as TX		
INDEX			
NU	Not used	2 bytes	Fixed at 00
STRING	Parameter value	64 bytes	Alphanumeric string of up to 64 bytes with eventual padding with spaces.  See the programming chapter:  <a href="#"><u>H1=4; H2=034 – SET INTELLIGENT FEATURES PARAMETERS / RESTART WEB SERVER OR PRINTER</u></a>

- [H1=4; H2=237 – GET ATECO TABLE ENTRY](#)

For reading the ATECO table entry parameters.

TX 

4	237	ATECO INDEX
---	-----	-------------

RX 

4	237	ATECO INDEX	ATECO CODE	VENTILAZIONE	PRINT VI	SPARE
---	-----	-------------	------------	--------------	----------	-------

TX

Field	Description	Length	Range / Value
ATECO INDEX	Index used in department programming or RT Server XML	2 bytes	Standalone RT: 01 to 03 RT Server: 01 or 02

RX (Total PDU length 32 bytes)

ATECO INDEX	Same as TX		
ATECO CODE	Retailer ATECO code	6 bytes	Numeric ATECO code Must be a valid Italian ATECO code without decimal points.
VENTILAZIONE	Enable / disable Ventilazione	1 byte	0 = Disable ventilazione 1 = Enable ventilazione <sup>[1]</sup>
PRINT VI	Not used	1 byte	Not used Fixed at 0
SPARE		11 bytes	Fixed at 00000000000

<sup>[1]</sup> See relative 4-037 programming command for ventilazione information.

• **H1=4; H2=238 – GET ACCESS CONTROL CONFIGURATION**

For reading and verifying the GDPR login function and associated functions necessary for secure access to the MPD (DGFE), MPR (fiscal memory) and in some cases the dati-rt folder.

TX 

4	238	INDEX
---	-----	-------

RX 

4	238	INDEX	PARAMETER / STATUS	SPARE
---	-----	-------	--------------------	-------

TX

Field	Description	Length	Range / Value
INDEX	Sub parameter	2 bytes	04 = Max session time 05 = OTP recipient e-mail address <sup>[1]</sup>  20 = Login status 21 = Session time remaining in minutes

RX (Max total PDU length 145 bytes)

INDEX	Same as TX		
PARAMETER / STATUS	Parameter value	If INDEX = 05: 100 bytes  Else: 40 bytes	Up to 40 or 100 bytes with eventual padding of spaces and zeroes.  Value depends on INDEX: 04: Two byte numeric (00 = unlimited session time) 05: E-mail. Alphanumeric string. <sup>[1]</sup>  20: Login status. One byte: <ul style="list-style-type: none"> <li>• 0 = Logged in</li> <li>• 1 = Logged out</li> </ul> 21 (session time remaining) expressed in four bytes.
SPARE	For future use	32 bytes	Fixed 32 zeroes: 00000000000000000000000000000000

<sup>[1]</sup> E-mail function is completely separate from 4-032 / 4-232 e-mail transmission.

- **H1=4; H2=253 – GET CASH PAYMENT DESCRIPTIONS**

Up to five cash payment descriptions can be read. The names appear on the X-01, X-07, Z-02 (first) and Z-07 reports. They also appear commercial documents but only if the older 1-069 cash command is used.

TX 

4	253	N
---	-----	---

RX 

4	253	N	DESC
---	-----	---	------

TX

Field	Description	Length	Range / Value
N	Cash payment index	2 bytes	01 to 05

RX (Total PDU length 33 bytes)

N	Same as TX		
DESC	Description	20 bytes	Alphanumeric

- **H1=4; H2=255 – READ DEFERRED VAT TABLE WITH STARTING DATE**

Any pending deferred VAT percentages (including the ventilazione setting) together with the activation date are read.

TX 

4	255
---	-----

RX 

4	255	START DATE	VENT	VAT 1	VAT 2	VAT 3	...	VAT 9
---	-----	------------	------	-------	-------	-------	-----	-------

RX (Total PDU length 54 bytes)

Field	Description	Length	Range / Value
START DATE	New VAT table activation date	6 bytes	In ddmmyy format All zeroes if not set
VENT	Enable / disable Ventilazione	1 byte	0 = Disable ventilazione <sup>[1]</sup> 1 = Enable ventilazione
VAT n	Nine VAT rates ordered from 1 to 9	36 bytes 4 bytes per VAT	0000 to 9999 <sup>[2]</sup>

<sup>[1]</sup> Ventilazione is a fiscal IVA regime that certain retailers can adopt. It allows the global registration of the daily takings amount without distinguishing the VAT rate. Ventilazione only ever applies to goods (department setting). Any activation of ventilazione in this command is global and consequently the setting in the ATECO table would be ignored.

<sup>[2]</sup> Interpreted as 00.00 to 99.99% (two decimal places). Zero per cent effectively deactivates the VAT group.

- **H1=4; H2=273 – GET INTERNAL PLU BY BARCODE**

Reads one of the 1000 internal PLU entries searching by barcode. If none is found Error 12 is returned. From firmware 10.01 (modified) / 6.01 (native).

TX 

4	273	COD IN
---	-----	--------

RX 

4	273	N	DESC	P1	P2 / TARE	P3	DEP	COD
---	-----	---	------	----	-----------	----	-----	-----

TX

Field	Description	Length	Range / Value
COD IN	Barcode	40 bytes	Code padded right with spaces

RX (Total PDU length 104 bytes)

N	Internal PLU entry number	4 bytes	0001 to 1000
DESC	Description	20 bytes	Alphanumeric text <sup>[1]</sup>
P1	Unit price 1	9 bytes	000000000 to 999999999
P2 / TARE	Unit price 2 or tare in grams	9 bytes	P2: 000000000 to 999999999 TARE: 000000000 to 000009999
P3	Unit price 3	9 bytes	000000000 to 999999999
DEP	Department number	2 bytes	00 <sup>[2]</sup> 01 to 99
COD	Same as COD IN		

<sup>[1]</sup> If last character is @, it indicates a weighing scales PLU.

<sup>[2]</sup> The 00 value deactivates the specific internal PLU entry.

- **H1=4; H2=295 – GET PRINTER MODULE USAGE COUNTERS AND STATE**

Read printer module usage counters (in other words the TM-T20 printer control board statistics) plus the paper status and paper roll cover position.

Error 18 is returned if the command is received on the unsupported models.

TX 

4	295	INDEX	RESET
---	-----	-------	-------

RX 

4	295	INDEX	RESET	REGISTER
---	-----	-------	-------	----------

TX

Field	Description	Length	Range / Value
INDEX	Register to read	2 bytes	01 = Number of printed lines <sup>[1]</sup> 02 = Print head activations <sup>[1]</sup> 03 = Number of paper cuts <sup>[1]</sup> 04 = Cumulative print duration (hours) <sup>[1]</sup> 10 = Paper / Paper cover state
RESET	Reset? <sup>[2]</sup>	1 byte	0 = Read only 1 = Read and zero

RX

INDEX	Same as TX		
RESET			
REGISTER	Register value	10 bytes	If INDEX = From 01 to 04: The counter value is returned even if the "read and zero" option is selected  If INDEX = 10: 000000000 = Cover closed with paper 100000000 = Cover closed without paper 200000000 = Cover open with or without paper

<sup>[1]</sup> FP-90 III RT only. FP-81 II returns Error 18 not possible.

<sup>[2]</sup> If INDEX = 10, the RESET field has no significance.

## 11.5. HEADER1=9 COMMANDS

Commands have already been grouped together according to varying functions above. This section will merely show the commands in numerical order. In general, this section is dedicated to RT functions.

- [H1=9; H2=003 – EXPORT MPR \(FISCAL MEMORY\) CONTENT TO FILE](#)

Exports fiscal printer fiscal memory (MPR) content to USB pen drive.

TX 

9	003	TYPE	FORMAT	OUTPUT	MODE	NUM1	NUM2	DATE1	DATE2	NU
---	-----	------	--------	--------	------	------	------	-------	-------	----

RX 

9	003	OP
---	-----	----

TX (Total PDU length 39 bytes)

Field	Description	Length	Range / Value
TYPE	Export Data Source	1 byte	0 = MPR (fiscal memory)
FORMAT	File format	1 byte	0 = XML AE
OUTPUT	Output type	1 byte	0 = USB pen drive (fixed)
MODE	Export mode	1 byte	0 = By Z report number 1 = By date
NUM1	Start number	4 bytes	Relevant when MODE = 0 First Z report number in range 0001 to 3650
NUM2	End number	4 bytes	Relevant when MODE = 0 Last Z report number in range 0001 to 3650
DATE 1	Start date	6 bytes	Relevant when MODE = 1 Start date in ddmmyy format
DATE 2	End date	6 bytes	Relevant when MODE = 1 End date in ddmmyy format
NU	Not used	4 bytes	0000

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

Please note that if the USB pen drive is disconnected, the command can still reply without an error.

- **H1=9; H2=004 – SET VAT EXEMPT TABLE ADDITIONS (NATURES)**

Possible additional nature categories officially designated by the Italian tax authorities can be configured here.

The CODIFICHE table further below illustrates the six current VAT exempt natures in effect. These are already present and hard coded in the fiscal firmware.

**This command must only be used in the case of new VAT authorised exempt codes. Non-authorised natures present in the XML daily takings file sent after the fiscal daily closure will cause the whole file to be rejected by the tax authority. Sub natures such as 2.2 are not currently supported by the tax authority.**

TX 

9	004	INDEX	STAR	DD	EQUAL	DESCRIPTION	XML DATA
---	-----	-------	------	----	-------	-------------	----------

RX 

9	004	OP
---	-----	----

TX (Total PDU length 64 bytes)

Field	Description	Length	Range / Value
INDEX	VAT exempt index (group)	2 bytes	15 to 18. 19 is no longer available.
STAR	Fixed separator	1 byte	* Asterisk character
DD	Symbol	2 bytes	Two-character tax exempt symbol code Similar to EE, NS etc. <sup>[1]</sup>
EQUAL	Fixed string	3 bytes	= <space>=<space>
DESCRIPTION	VAT exempt description	40 bytes	Description used when printing commercial documents. For example, "Non soggetta" <sup>[2]</sup>
XML DATA	Exempt code used in the Tax Authority XML file to identify the nature	5 bytes	Five-character exempt transmission symbol code. Left justified with right space padding. For example, "N7 " <sup>[3]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Tax exempt code: Set the code officially released by the Italian government.  
Codes EE, NS, NI, ES, RM and AL are already in use.  
Refer to the first column in any updated version of the table below.

<sup>[2]</sup> Refer to the "Dicitura da stampare" column in any updated version of the table below.

<sup>[3]</sup> Exempt code used in XML file.  
Codes 10=N1, 11=N2, 12=N3, 13=N5, 14=N6 are already in use.  
Refer to the second column in any updated version of the table below.  
As of the date of this document, the next symbol would be N7.

CODIFICHE			
4.1.2 <Natura>			Dicitura da stampare
*EE	N1	escluse ex art. 15	Esclusa
*NS	N2	non soggette	Non soggetta
*NI	N3	non imponibili	Non imponibile
*ES	N4	esenti	Esente
*RM	N5	regime del margine	Regime del margine
*AL	N6	Altro non IVA	Operazione non IVA

- [H1=9; H2=007 – SET CA CERT \(CERTIFICATE\) URL](#)

The printer firmware contains a pre-set URL, but this command can be used to configure a different one. Indicates the URL that the printer uses when it receives the 9-008 command or SET 35 key sequence to download the CA cert (CAEntrate.cer) certificate used for TLS 1.2 communication between the RT printer and the tax authority server via a GET request. Same as 9-022 index 00.

The URL is simply a web page with the content of the PEM file released by the Tax Authority necessary for TLS 1.2 communication. No authentication is required to connect to this webpage. If the URL pre-configured in the fiscal firmware is no longer available, please use one of the following ones:

- <https://scontrinosmart.it/files/CAEntrate.cer>
- <https://neon.epson-europe.com/files/repo/2020/RTfiles/CAEntrate.cer>

TX 

9	007	CA URL
---	-----	--------

RX 

9	007	OP
---	-----	----

TX (Total PDU length 267 bytes)

Field	Description	Length	Range / Value
CA URL	HTTP or HTTPS URL	256 bytes	Fixed length left justified with spaces

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- [H1=9; H2=008 – DOWNLOAD CA CERT \(CERTIFICATE\)](#)

Upon receiving the command, the RT proceeds to download the CA Cert (Caentrate.cer) certificate using the URL programmed in the above 9-007 command.

TX 

9	008	PSW
---	-----	-----

RX 

9	008	OP
---	-----	----

TX

Field	Description	Length	Range / Value
PSW	Security code password	4 bytes	1973 (fixed value)

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

In the case of a password error, code 16 "NON PREVISTO" (not foreseen) is returned.

In the case of another error reason such as an empty URL string (9-007 command), code 12 "DATI INESISTENTI" (non-existent data) is returned.

- **H1=9; H2=012 – SET VAT EXTENDED (HISTORICAL) TABLE DEPARTMENT OFFSETS**

This command is used with automatic commercial void documents. It allows the correct emission of a commercial void document in which the VAT rate is different in the original reference document due to a government decree or similar. Up to four cut-off dates can be set. The printer Day Opened logical condition must be False during programming (Error 17 is returned otherwise). Setting all fields to zero deactivates the function. The offset departments should be set with the desired historical VAT groups (4-002 command).

TX 

9	012	INDEX	DATE	DEP OFFSET MODE	PERS OFFSET MULT
---	-----	-------	------	-----------------	------------------

RX 

9	012	OP
---	-----	----

TX

Field	Description	Length	Range / Value
INDEX	Cut-off index	1 byte	From 1 to 4 1 must be the oldest date 4 must be the latest date
DATE	Cut-off date	8 bytes	DDMMYYYY
DEP OFFSET MODE	Department offset mode	1 byte	0 = Default (20, 30, 40, 50) R = Programmable (set in the PERS OFFSET MULT field)
PERS OFFSET MULT	Personalised department offset multiple	1 byte	From 0 to 9 0 = 00 1 = 10 2 = 20 .. 9 = 90  Only valid if DEP OFFSET MODE = R

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=9; H2=013 – SET AUTOMATIC Z REPORT EMISSION TIME**

Used to set and enable the automatic Z report emission time and related parameters. Please note that at the very moment the printer is scheduled to perform the daily closure, the printer must be in the STATO REGISTRAZIONE condition. The following time periods are to be avoided:

- From 03:00 to 05:00 – The tax authority will not accept XML files in this two-hour window. This new range replaces the old period from 22:00 to 24:00. EPSON recommends that both old and new periods are avoided.
- From 02:00 to 03:00 – This is the time when the printer will change from wintertime to summertime and vice-versa if flag 4-014 / 34 is enabled.

In both cases we suggest you also avoid the minutes leading up to and those just after.

If the printer is turned off at the programmed time and later switched on again, the automatic closure that the printer was scheduled to carry out will not be performed.

TX 

9	013	ENA	FINREP	HH	MM
---	-----	-----	--------	----	----

RX 

9	013	OP
---	-----	----

TX

Field	Description	Length	Range / Value
ENA	Activation	1 byte	0 = Disabled 1 = Enabled in all cases 2 = Enabled if PERIODO INATTIVO condition is True
FINREP	Print X-01 financial report	1 byte	1 = No 2 = Yes
HH	Hours	2 bytes	Always two digits in 24-hour format
MM	Minutes	2 bytes	Always two digits

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=9; H2=016 – ARCHIVE REJECTED FILES**

Moves files from the rejected (rifiutati) folder to one of two archive folders (rifiutati-archivio). If no files are present in the rejected folder, Error 11 is returned.

TX 

9	016	FOLDER TYPE <sup>[1]</sup>
---	-----	----------------------------

RX 

9	016	OP
---	-----	----

TX

Field	Description	Length	Range / Value
FOLDER TYPE <sup>[1]</sup>	Specify the folder to archive.	2 bytes	00 = Z Reports 01 = Lottery files 02 = E Receipt files <sup>[2]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Optional field. If omitted, command uses the value 00 (archive Z reports).

<sup>[2]</sup> FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 8.xxx.

- **H1=9; H2=019 – SET LOTTERY MESSAGE**

Up to five static optional lottery description lines can be programmed. Each line can be individually activated or deactivated. Lines are printed automatically at the end after the logotype and before the "DETTAGLIO FORME di PAGAMENTO" lines and before other trailer lines. Programming is maintained if the printer is switched off. There is no current legal requirement to print these lines. Not valid for RT Server.

TX 

9	019	INDEX	PRINT	DESCRIPTION
---	-----	-------	-------	-------------

RX 

9	019	OP
---	-----	----

TX (Total PDU length 60 bytes)

Field	Description	Length	Range / Value
INDEX	Line index	2 bytes	01 to 05
PRINT	Enable or disable the specific line printing.	1 byte	0 = DISABLE printing 1 = ENABLE printing
DESCRIPTION	Alphanumeric text <sup>[1]</sup>	46 bytes	Line description padded with spaces. <sup>[1]</sup>

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> Please contact EPSON regarding the exact wording to use.

- [H1=9; H2=020 – EXPORT CONTENT TO FILE](#)

Exports fiscal printer content. Does not require login.

TX	9	020	DEST	TYPE	DATE1	DATE2	Z NUM1	Z NUM2	DOC NUM1	DOC NUM2	NU
----	---	-----	------	------	-------	-------	-----------	-----------	-------------	-------------	----

RX	9	020	OP
----	---	-----	----

TX (Total PDU length 54 bytes)

Field	Description	Length	Range / Value
DEST	Destination for saving	1 byte	0 = USB pen drive 1 = SD card (accessible via browser) <sup>[1]</sup>
TYPE	Export Data Source	2 bytes	The following (00 to 20) are all by date: Daily takings: 00 = All 01 = TX 02 = To Send 03 = Rejected 04 = Rejected archive Lottery: 10 = All 11 = TX 12 = To Send 13 = Rejected 14 = Rejected archive Other: 20 = Daily takings in text format + outcome  The following (30 to 41) can only be saved to the USB pen drive: 30 = MF (MPR / fiscal memory) by Z report 31 = MF (MPR / fiscal memory) by date 40 = DGFE (MPD) <sup>[2]</sup> by document number <sup>[3]</sup> 41 = DGFE (MPD) <sup>[2]</sup> by date
DATE1	From date (Day, Month, Year)	8 bytes	DDMMYYYY
DATE2	To date (Day, Month, Year)	8 bytes	DDMMYYYY
Z NUM1	Start Z report number	4 bytes	First Z report number in range 0001 to 3650
Z NUM2	End Z report number	4 bytes	Last Z report number in range 0001 to 3650
DOC NUM1	Start document number	4 bytes	0001 to 9999
DOC NUM2	End document number	4 bytes	0001 to 9999
NU	Not used	8 bytes	00000000

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

<sup>[1]</sup> SD card option is not valid if the 4-034 Webapp Mem Type is set to USB Pen Drive. Content is saved to the www/dati-rt/tmp directory and remains after a power off. However, when the command is received again, all previous export content is deleted before saving new content.

<sup>[2]</sup> Not relevant for RT server.

<sup>[3]</sup> Option 40 by document number also requires the document date to be set in the DATE1 field. DATE2 and the two Z report field values are ignored but must still contain valid data.

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- [H1=9; H2=022 – PROGRAM URLS](#)

Allows programming of URLs (grouped together in a single command for simplicity).

TX     9   022   INDEX   URL

RX     9   022   OP

TX (Total PDU length 269 bytes)

Field	Description	Length	Range / Value
INDEX	URL type	2 bytes	00 = CA CERTIFICATE (same as 9-007) 01 = Firmware MOT 02 = Firmware SIG 03 = CSR certs 04 = Firmware verification 05 = DST definitions (time zone + summer time) 06 = NTP server 07 = LAC Access Control Password recovery 08 or 09 = Subject to NDA
URL	HTTP or HTTPS URL	256 bytes	Fixed length left justified with spaces added

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=9; H2=025 – MOVE FILE TO OR FROM DA-INVIARE AND RIFIUTATI FOLDERS**

Allows a specific file to be moved to or from the www/dati-rt/da-inviare and www/dati-rt/rifiutati folders. Only daily takings files are supported. Please contact EPSON regarding any rejected lottery files in the www/dati-rt/lotteria/rifiutati folder.

TX 

9	025	DIRECTION	FILENAME
---	-----	-----------	----------

RX 

9	025	OP
---	-----	----

TX (Total PDU length 269 bytes)

Field	Description	Length	Range / Value
DIRECTION	Source and destination folders	2 bytes	00 = From da-inviare to rifiutati 01 = From rifiutati to da-inviare
FILENAME	Full file name without path	256 bytes	Left justified padded with spaces. Filename must be left justified. Field length must be respected by adding spaces (padding) after the filename The * (asterisk) wildcard is not supported.

RX

OP	Operator number	2 bytes	01 to 12 Can be ignored. Current operator number which depends on the operator value passed on previous commands.
----	-----------------	---------	---

- **H1=9; H2=204 – READ VAT EXEMPT TABLE (NATURES)**

All natures can be read including those present and hard coded in the fiscal firmware. See relative 9-004 programming command for further details.

TX 

9	204	INDEX
---	-----	-------

RX 

9	204	INDEX	STAR	DD	EQUAL	DESCRIPTION	XML DATA
---	-----	-------	------	----	-------	-------------	----------

TX

Field	Description	Length	Range / Value
INDEX	VAT exempt index (group)	2 bytes	00 10 to 18. 19 is no longer available.

RX (Total PDU length 64 bytes)

INDEX			Same as TX
STAR	Fixed separator	1 byte	* Asterisk character
DD	Symbol	2 bytes	Two-character tax exempt symbol code Similar to EE, NS etc.
EQUAL	Fixed string	3 bytes	= <space>=<space>
DESCRIPTION	VAT exempt description	40 bytes	Description used when printing commercial documents. For example, "Non soggetta"
XML DATA	Exempt code used in the Tax Authority XML file to identify the nature	5 bytes	Five-character exempt transmission symbol code. Left justified with right space padding. For example, "N6 "

- [H1=9; H2=205 – REQUEST VOID REFUND STATUS DOC](#)

A previously emitted commercial document can be checked to ascertain if it can be used as a reference document in either a new commercial void or a new or subsequent (partial) refund document.

TX 9 205 V R S/N DATE NNNN ZZZZ

RX 9 205 IS V R REC REMAINING AMOUNT

Please note that the NNNN ZZZZ field order is the opposite of that found in the printouts.

TX (Total PDU length 39 bytes)

Field	Description	Length	Range / Value
V R	Void or Refund	1 byte	1 = Check if refundable 2 = Check if voidable
S/N	RT serial number	11 bytes	Serial number of the RT that issued the original commercial document. E.g. 99IEC123456
DATE	Emission date	8 bytes	DDMMYYYY
NNNN	Document daily sequence number	4 bytes	0001 to 9999
ZZZZ	Document Z report number	4 bytes	0001 to 3650

RX

IS V R	Document status	1 byte	0 or 1 = Can be refunded or voided: 0 = Reference document on current MPD (EJ) card. 1 = On other MPD  > 1 = Cannot be refunded or voided. The following values indicate the reason: 2 = Input parameters out of range 3 = Document already refunded 4 = Document already voided 5 = Document is a refund document 6 = Document is a void document
REC REMAINING AMOUNT	Remaining refund amount	9 bytes	For future use

- [H1=9; H2=207 – READ URL CA CERT \(CERTIFICATE\)](#)

Use this command to read the URL from where to download the CA cert (CAEntrate.cer) certificate used for TLS 1.2 communication between the RT printer and the tax authority server. The printer firmware contains a pre-set URL. Same as 9-222 index 00.

TX 

9	207
---	-----

RX 

9	207	CA URL
---	-----	--------

RX (Total PDU length 267 bytes)

Field	Description	Length	Range / Value
CA URL	HTTP or HTTPS URL	256 bytes	Fixed length left justified with spaces

- [H1=9; H2=212 – READ VAT EXTENDED \(HISTORICAL\) TABLE DEPARTMENT OFFSETS](#)

This command is used with automatic commercial void documents. It allows the correct emission of a commercial void document in which the VAT rate is different in the original reference document due to a government decree or similar. Up to four cut-off dates can be read. Fields set to "zero" indicate that the function for that specific INDEX is deactivated. The offset departments should be set with the desired historical VAT groups (4-002 command).

TX 

9	212	INDEX
---	-----	-------

RX 

9	212	INDEX	DATE	DEP OFFSET MODE	PERS OFFSET MULT
---	-----	-------	------	-----------------	------------------

TX

Field	Description	Length	Range / Value
INDEX	Cut-off index	1 byte	From 1 to 4 Verify chronological order: 1 must be the oldest date 4 must be the latest date

RX

Field	Description	Length	Range / Value
INDEX			Same as TX
DATE	Cut-off date	8 bytes	DDMMYYYY
DEP OFFSET MODE	Department offset mode	1 byte	0 = Default (20, 30, 40, 50) R =Programmable (set in the PERS OFFSET MULT field)
PERS OFFSET MULT	Personalised department offset multiple	1 byte	From 0 to 9 0 = 00 1 = 10 2 = 20 .. 9 = 90  Only valid if DEP OFFSET MODE = R

- **H1=9; H2=213 – READ AUTOMATIC Z REPORT EMISSION TIME**

Used to read the automatic Z report emission time and related parameters. Zero values indicate that the function is not active.

TX 

9	213
---	-----

RX 

9	213	ENA	FINREP	HH	MM	ZZZZ	DD	MM	YYYY	HH2	MM2
---	-----	-----	--------	----	----	------	----	----	------	-----	-----

RX (Total PDU length 33 bytes)

Field	Description	Length	Range / Value
ENA	Activation	1 byte	0 = Disabled 1 = Enabled in all cases 2 = Enabled if PERIODO INATTIVO condition is True
FINREP	Print X-01 financial report	1 byte	1 = No 2 = Yes
HH	Hours	2 bytes	Programmed hours
MM	Minutes	2 bytes	Programmed minutes
ZZZZ	Z report number	4 bytes	Latest automatic Z report number Spaces if none registered or 0001 to 3650
DD	Day	2 bytes	Day of last automatic closure Spaces if none registered or 01 to 31
MM	Month	2 bytes	Month of last automatic closure Spaces if none registered or 01 to 12
YYYY	Year	4 bytes	Year of last automatic closure Spaces if none registered or 00 to 99
HH2	Hours	2 bytes	Hour of last automatic closure Spaces if none registered or 00 to 23
MM2	Minutes	2 bytes	Minute of last automatic closure Spaces if none registered or 00 to 59

- [H1=9; H2=217 – READ ZREP ID ANSWER](#)

Returns the tax authority ID present in the reply packet from the tax authority (following transmission of the daily takings XML file).

TX 

9	217	ZREP NUM
---	-----	----------

RX 

9	217	RESULT	ZREP NUM	ZREP DATE	REPLY ID	REPLY ID DATE
---	-----	--------	----------	-----------	----------	---------------

TX

Field	Description	Length	Range / Value
ZREP NUM	Z report number	4 bytes	0001 to 3650

RX (Total PDU length 44 bytes)

RESULT	Request result	1 byte	0 = OK found the Z report 1 = Out of range 2 = Z report in the queue 3 = Not found
ZREP NUM	Same as TX		
ZREP DATE	Z report date	8 bytes	DDMMYYYY
REPLY ID	Tax authority ID	12 bytes	AlphaNumeric The ID is usually nine bytes followed by spaces
REPLY ID DATE	Date reply was received	8 bytes	DDMMYYYY

- [H1=9; H2=218 – SEARCH AND READ LOTTERY RECEIPT STATUS](#)

Returns the status of a single lottery commercial document or if not found. Can also be used to search for erroneous emissions (DOCUMENT TYPE = 01). In the latter case, the date and Z report number input parameters determine the search start point and the commercial document number return value indicates the first erroneous number if found. In Demo RT mode, queued documents are counted as usual but then later when the queue is emptied, the status changes to 05 "Not found" as the other RESULT values have no relevance. From firmware 10.01 (modified) / 6.01 (native).

TX	9	218	TILL ID	Z REP NUM	REC NUM	REC DATE	DOCUMENT TYPE
----	---	-----	---------	--------------	------------	-------------	------------------

RX	9	218	TILL ID	Z REP NUM	REC NUM	REC DATE	RESULT	ERR CODE	ID ANSWER	TBD
----	---	-----	---------	--------------	------------	-------------	--------	-------------	--------------	-----

TX (Total PDU length 35 bytes)

Field	Description	Length	Range / Value
TILL ID	Till identifier (Only relevant for Server RT).	8 bytes	RT: 00000000 Server RT: 00000001 to FFFF9999
Z REP NUM	Z report number	4 bytes	0001 to 3650
REC NUM	Commercial document number	4 bytes	0001 to 9999
REC DATE	Emission date	6 bytes	ddmmyy
DOCUMENT TYPE	Search type	2 bytes	00 = All 01 = The first erroneous

RX (Total PDU length 96 bytes)

TILL ID	Same as TX		
Z REP NUM			
REC NUM			
REC DATE			
RESULT	Result of request	2 bytes	00 = OK. Sent and received positive answer 01 = Currently in TO SEND (da-inviare) folder 02 = Queued (in array of 100 documents) 03 = Rejected with code 04 = Rejected without code 05 = Not found  If RECEIPT TYPE = 01, the only possible RESULT values are 03, 04 or 05.
ERR CODE	Error code	5 bytes	Error code from Tax Authority or FFFFF if not applicable o relevant
ID ANSWER	ID answer from Tax Authority	50 bytes	For example: dfd75340-1310-41b6-b5b7-9826817f8b4f
TBD	To be defined	6 bytes	000000

- [H1=9; H2=219 – READ LOTTERY MESSAGE](#)

Used to read the five static lottery description lines. See relative 9019 programming command for further details. From firmware 10.01 (modified) / 6.01 (native). There is no current legal requirement to print these lines. Not valid for RT Server.

TX 

9	219	INDEX
---	-----	-------

RX 

9	219	INDEX	PRINT	DESCRIPTION
---	-----	-------	-------	-------------

TX

Field	Description	Length	Range / Value
INDEX	Line index	2 bytes	01 to 05

RX (Total PDU length 60 bytes)

INDEX	Same as TX		
PRINT	Enable or disable the specific line printing.	1 byte	0 = DISABLE printing 1 = ENABLE printing
DESCRIPTION	Alphanumeric text <sup>[1]</sup>	46 bytes	Line description padded with spaces. <sup>[1]</sup>

<sup>[1]</sup> Please contact EPSON regarding the exact wording to use.

- [H1=9; H2=222 – READ URLS](#)

Allows reading of URLs (grouped together in a single command for simplicity).

TX 

9	222	INDEX
---	-----	-------

RX 

9	222	URL
---	-----	-----

TX (URL)

Field	Description	Length	Range / Value
INDEX	URL type	2 bytes	00 = CA CERTIFICATE (same as 9-207) 01 = Firmware MOT 02 = Firmware SIG 03 = CSR certs 04 = Firmware verification 05 = DST definitions (time zone + summer time) 06 = NTP definitions 07 = LAC Access Control Password recovery 08 or 09 = Subject to NDA 10 = Tax authority events 11 = Tax authority activations 12 = Tax authority registrations (censimento) 13 = Tax authority daily takings 14 = Lottery

RX (Total PDU length 267 bytes)

URL	HTTP or HTTPS URL	256 bytes	Fixed length left justified with spaces added
-----	-------------------	-----------	---

- **H1=9; H2=226 – READ SPECIFIC E-RECEIPT STATUS**

FP-81 II RT (native / nativo) and FP-90 III RT (native / nativo) models only from firmware 8.xxx. Returns the status of a single E-Receipt commercial document or if not found.

TX	9	226	TILL ID	Z REP NUM	REC NUM	REC DATE	DOCUMENT TYPE
----	---	-----	---------	-----------	---------	----------	---------------

RX	9	226	TILL ID	Z REP NUM	REC NUM	REC DATE	RESULT	RESULT CODE	CUST TYPE	CUST ID	UUID or PASS PHRASE	URL
----	---	-----	---------	-----------	---------	----------	--------	-------------	-----------	---------	---------------------	-----

TX (Total PDU length 35 bytes)

Field	Description	Length	Range / Value
TILL ID	Till identifier (Only relevant for Server RT).	8 bytes	RT: 00000000 Server RT: 00000001 to FFFF9999
Z REP NUM	Z report number	4 bytes	0001 to 3650
REC NUM	E-Receipt commercial document number	4 bytes	0001 to 9999
REC DATE	Emission date	6 bytes	ddmmyy
DOCUMENT TYPE	For future use	2 bytes	Fixed at 00

RX (Total PDU length 465 bytes)

TILL ID	Same as TX		
Z REP NUM			
REC NUM			
REC DATE			
RESULT	Result of request	2 bytes	00 = OK. Sent and received positive answer 01 = Currently in TO SEND (da-inviare) folder 02 = Not used 03 = Rejected 04 = Not used 05 = Not found
RESULT CODE	Result code	5 bytes	Result code from E-Receipt server. Usually follows HTTP positive or error codes
CUST TYPE	E-Receipt Customer Type	2 bytes	00 = Registered ID 01 = E-mail address 02 = Telephone number (for future use) 03 = Anonymous type 1 (UUID) 04 = Anonymous type 2 (PASS PHRASE)
CUST ID	Customer ID if CUST TYPE = 00, 01 or 02 (e.g. email address)	128 bytes	String left justified with spaces added
UUID or PASS PHRASE	Depends on CUST TYPE: 03 = UUID 04 = PASS PHRASE	40 bytes	String left justified with spaces added
URL	Link to download anonymous E-Receipts. Depends on CUST TYPE <sup>[1]</sup>	255 bytes	Fixed length left justified with spaces added

<sup>[1]</sup> If CUST TYPE = 03, UUID is appended to URL to compile direct download link.

If CUST TYPE = 04, URL link opens an interactive web page where PASS PHRASE is entered by hand.

## 12. APPENDIX A – FIRMWARE CROSS-REFERENCE TABLES

### 12.1. H1=1 Commands

Command		Notes
H1	H2	
1	001 to 002	Obsolete
1	003 to 005	Replaced by 1-080 command
1	006 to 007	Obsolete
1	008	Replaced by 1-080 command
1	009 to 011	Replaced by 1-081 command
1	012 to 013	Obsolete
1	014	Replaced by 1-081 command
1	015 to 017	Replaced by 1-082 command
1	018 to 019	Obsolete
1	020	Replaced by 1-082 command
1	021	Replaced by 1-083 command
1	022 to 023	Use newer 1-083 command with amounts calculated in your retail application
1	024	Replaced by 1-083 command
1	025 to 026	Use newer 1-083 command with amounts calculated in your retail application
1	027	
1	028	
1	029	Obsolete
1	030	
1	031	
1	032	
1	033	Use 1-031 command with exchange rates calculated in your retail application
1	034	Use 1-032 command with exchange rates calculated in your retail application
1	035	Use 1-084 command with exchange rates calculated in your retail application
1	036	Replaced by 1-084 command
1	037	Obsolete
1	038	
1	039	
1	040	
1	041	Use 1-039 command with exchange rates calculated in your retail application
1	042	Use 1-040 command with exchange rates calculated in your retail application
1	043	Use 1-084 command with exchange rates calculated in your retail application
1	044	Replaced by 1-084 command
1	045	Replaced by 1-084 command
1	046	Replaced by 1-084 command
1	047	
1	048	Replaced by 1-078 command
1	049	Obsolete
1	050	
1	051	Replaced by 1-086 command
1	052	
1	053	Obsolete
1	054	Obsolete

Command		Notes
H1	H2	
1	055	
1	056	
1	057	Obsolete
1	058	Replaced by 1-078 command
1	059	Obsolete
1	060	
1	061	
1	062	
1	063	
1	064	
1	065	
1	066 to 068	Replaced by 1-078 command
1	069	Replaced by 1-084 command
1	070	
1	071	Replaced by 1-075 command
1	072 to 073	Replaced by 1-083 command
1	074	
1	075	
1	076	Replaced by 1-078 command
1	077	
1	078	
1	079	No function
1	080	
1	081	
1	082	
1	083	
1	084	
1	085	
1	086	
1	087	
1	088	
1	089	
1	090	
1	091 to 094	No function
1	095	Obsolete
1	096	Obsolete
1	097	Obsolete
1	098 to 099	Reserved
1	100	No function
1	101 to 104	Obsolete
1	105 to 107	No function
1	108	From firmware 11.04 (modified) / 9.01 (native)
1	109 to 130	No function
1	131	E-Receipt firmware only
1	132	
1	133	
1	134	
1	135	
1	136	
1	137	
1	138	

Command		Notes
H1	H2	
1	139	
1	140	
1	141 to 144	Obsolete
1	145	
1	146	
1	147	No function
1	148	
1	149 to 185	Obsolete
1	186	Reserved
1	187 to 277	No function
1	278	
1	279 to 331	No function
1	332	E-Receipt firmware only
1	333	
1	334 onwards	No function

## 12.2. H1=2 Commands

Command		Notes
H1	H2	
2	001	
2	002	
2	003	
2	004	
2	005	
2	006	
2	007	
2	008	
2	009	
2	010	
2	011	
2	012	
2	013	No function
2	014	
2	015	
2	016 to 049	No function
2	050	
2	051	
2	052	
2	053 to 059	No function
2	060	Obsolete

**12.3. H1=3 Commands**

Command		Notes
H1	H2	
3	001	
3	002	
3	003	
3	004	
3	005	
3	006	
3	007	
3	008	
3	009	
3	010	
3	011	
3	012	
3	013	
3	014	
3	015	
3	016	
3	017	Reserved
3	018	Obsolete
3	019	
3	020	No function
3	021	Obsolete
3	022 to 059	No function
3	060	Obsolete
3	061 to 096	No function
3	097	
3	098	
3	099	
3	100	
3	101	
3	102	
3	103	
3	104	
3	105 to 215	No function
3	216	
3	217	

**12.4. H1=4 Commands**

Command		Notes
H1	H2	
4	001	
4	002	
4	003	
4	004	
4	005	
4	006	
4	007	
4	008	
4	009	
4	010	
4	011	
4	012	
4	013	
4	014	
4	015	
4	016	
4	017 to 018	Reserved
4	019	
4	020	
4	021	No function
4	022	
4	023 to 024	No function
4	025	
4	026	Obsolete
4	027	
4	028	
4	029	
4	030	No function (Box office programming only possible via the keyboard)
4	031	
4	032	
4	033	Obsolete
4	034	
4	035 to 036	No function
4	037	
4	038	
4	039 to 052	No function
4	053	
4	054	No function
4	055	
4	056 to 057	No function
4	058	Reserved
4	059	No function
4	060	Obsolete
4	061 to 069	No function
4	070	Obsolete
4	071	Obsolete
4	072	Obsolete
4	073 to 200	No function
4	201	
4	202	

Command		Notes
H1	H2	
4	203	
4	204	
4	205	
4	206	
4	207	
4	208	
4	209	
4	210	
4	211	
4	212	
4	213	
4	214	
4	215	
4	216	
4	217 to 218	Reserved
4	219	
4	220 to 224	No function
4	225	
4	226	Obsolete
4	227	
4	228	
4	229	
4	230	No function (Box office reading only possible via the keyboard)
4	231	
4	232	
4	233	Obsolete
4	234	
4	235 to 236	No function
4	237	
4	238	
4	239 to 252	No function
4	253	
4	254	No function
4	255	
4	256 to 257	No function
4	258	Reserved
4	259	No function
4	260	Obsolete
4	261 to 269	No function
4	270	Obsolete
4	271	Obsolete
4	272	No function
4	273	
4	274 to 294	No function
4	295	
4	296 to 297	Reserved
4	298	Obsolete
4	299	Reserved
4	300	Obsolete

**12.5. H1=9 Commands**

Command		Notes
H1	H2	
9	001	No function
9	002	Reserved
9	003	
9	004	
9	005	No function
9	006	No function
9	007	
9	008	
9	009	Reserved
9	010	Reserved
9	011	Reserved
9	012	
9	013	
9	014	Reserved
9	015	Reserved
9	016	
9	017	No function
9	018	No function
9	019	From firmware 10.01 (modified) / 6.01 (native)
9	020	
9	021	Reserved
9	022	
9	023	No function
9	024	No function
9	025	From February 2021 BN 247
9	026 to 201	No function
9	202	Reserved
9	203	No function
9	204	
9	205	
9	206	No function
9	207	
9	208	No function
9	209	Reserved
9	210	Reserved
9	211	No function
9	212	
9	213	
9	214	Reserved
9	215	No function
9	216	No function
9	217	From firmware 7.03 (modified) / 6.00 (native)
9	218	From firmware 10.01 (modified) / 6.01 (native)
9	219	From firmware 10.01 (modified) / 6.01 (native)
9	220	No function
9	221	No function
9	222	
9	223	Reserved
9	224	Reserved
9	225	No function

Command		Notes
H1	H2	
9	226	E-Receipt firmware only

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### 13. APPENDIX B – KEYBOARD CONFIGURATION INSTRUCTIONS

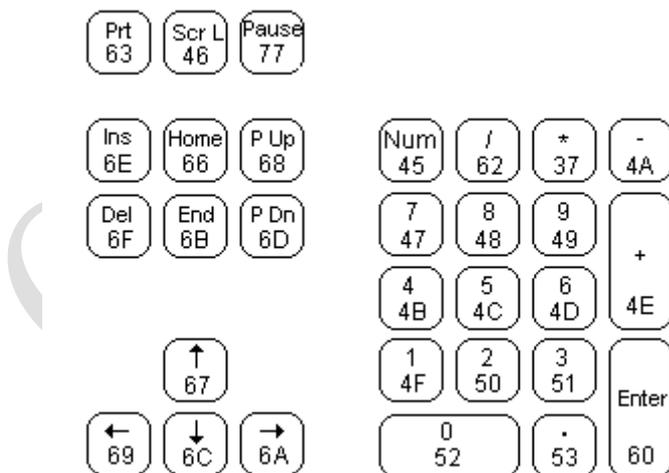
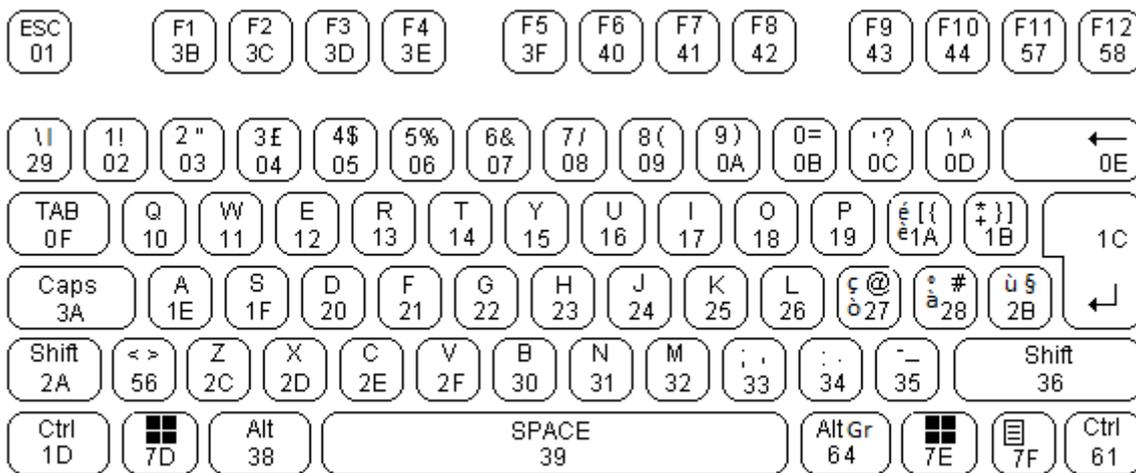
The [H1=4; H2=029 – SET KEYBOARD FUNCTION ASSOCIATIONS](#) command is used to associate a specific function to particular key be it PC QWERTY, POS 32 key or other.

Correspondingly, the [H1=4; H2=229 – GET KEYBOARD FUNCTION ASSOCIATIONS](#) command is used to request a particular current key / function association setting.

For all keyboards except the 23/24 key bundled keyboard, to associate a particular function, proceed as follows:

- 1) Single out the fixed scan code associated with your chosen key from the specific keyboard representation:

#### QWERTY Keyboard



Regarding the POS keyboards, for each key the scan code and scan code ref are indicated along with the default function:

### 32 Key POS Keyboard

Scan Code				Scan Code Ref			
↑S <b>1Fh</b>	↑G <b>22h</b>	Chiave <b>2Eh</b>	All Void <b>3Eh</b>	↑S <b>27</b>	↑G <b>52</b>	Chiave <b>33</b>	All Void <b>12</b>
Sconto <b>40h</b>	Reso <b>3Dh</b>	PLU Generico <b>42h</b>	Void <b>3Bh</b>	Sconto <b>11</b>	Reso <b>4</b>	PLU Generico <b>10</b>	Void <b>5</b>
Sconto % <b>3Fh</b>	Magg. % <b>41h</b>	Rep. 2 <b>50h</b>	Storno <b>3Ch</b>	Sconto % <b>3</b>	Magg. % <b>131</b>	Rep. 2 <b>114</b>	Storno <b>6</b>
CL Clear <b>6Fh</b>	X <b>37h</b>	Rep. 1 <b>4Ah</b>	Assegni <b>58h</b>	CL Clear <b>241</b>	X <b>124</b>	Rep. 1 <b>123</b>	Assegni <b>7</b>
7 PRS <b>08h</b>	8 TUV <b>09h</b>	9 WXY <b>0Ah</b>	Non Riscosso <b>43h</b>	7 PRS <b>61</b>	8 TUV <b>62</b>	9 WXY <b>70</b>	Non Riscosso <b>1</b>
4 GHI <b>05h</b>	5 JKL <b>06h</b>	6 MN <b>07h</b>	Credito <b>57h</b>	4 GHI <b>37</b>	5 JKL <b>46</b>	6 MN <b>54</b>	Credito <b>9</b>
1 <b>02h</b>	2 ABC <b>03h</b>	3 DEF <b>04h</b>	Sub Totale <b>4Eh</b>	1 <b>22</b>	2 ABC <b>30</b>	3 DEF <b>38</b>	Sub Totale <b>121</b>
0 OQZ <b>0Bh</b>	00 <b>62h</b>	, <b>33h</b>	Contante / Totale <b>60h</b>	0 OQZ <b>69</b>	00 <b>202</b>	, <b>65</b>	Contante / Totale <b>218</b>

Chiave = Key

Sconto = Discount

Reso = Refund (Z-91 only. Refunds are converted to Storni)

PLU Generico = Generic PLU

Sconto % = % Discount

Magg. % = % Surcharge

Rep. 2 = Department 2

Storno = Correction

Rep. 1 = Department 1

Assegni = Cheques

Non Riscosso = Ticket (Bear in mind that Not Paid (non riscosso) is now distinct from ticket payments)

Credito = Credit (now equal to Not Paid Goods and Services (Non Riscosso Beni e Servizi)).

Subtotale = Subtotal

Contante = Cash

## 56/60 Key POS Keyboard – Scan Code

<b>Annullo</b> 3Bh	<b>Storno</b> 3Ch	<b>Reso</b> 3Dh	<b>All Void</b> 3Eh	<b>Sconto %</b> 3Fh	<b>Sconto</b> 40h	<b>Magg. %</b> 41h	<b>Rep 8</b> 48h	<b>Rep 9</b> 49h	<b>Rep 10</b> 52h	<b>Non Riscosso</b> 43h	<b>Ticket 1</b> 27h
<b>Uscite</b> 16h	<b>Entrate</b> 12h	<b>Operatore</b> 18h	<b>Plu / Plu Generico</b> 42h	<b>7 P R S</b> 08h	<b>8 T U V</b> 09h	<b>9 W X Y</b> 0Ah	<b>Rep 5</b> 4Ch	<b>Rep 6</b> 4Dh	<b>Rep 7</b> 47h	<b>Bancomat</b> 0Ch	<b>Carta di Credito</b> 2Bh
<b>↑S</b> 1Fh	<b>↑G</b> 22h	<b>Chiave</b> 2Eh	<b>Codice Cliente</b> 14h	<b>4 G H I</b> 05h	<b>5 J K L</b> 06h	<b>6 M N</b> 07h	<b>Codice Fiscale</b> 30h	<b>Rep 3</b> 51h	<b>Rep 4</b> 4Bh	<b>Assegni</b> 58h	<b>Credito</b> 57h
<b>Plu 5</b> 1Dh	<b>Plu 6</b> 36h	<b>Plu 7</b> 34h	<b>Plu 8</b> 35h	<b>1</b> 02h	<b>2 A B C</b> 03h	<b>3 D E F</b> 04h	<b>X</b> 37h	<b>Reparto Iva 20%</b> 50h		<b>Sub Totale</b> 4Eh	
<b>Plu 1</b> 0Fh	<b>Plu 2</b> 0Dh	<b>Plu 3</b> 38h	<b>Plu 4</b> 2Ah	<b>0 O Q Z</b> 0Bh	<b>00</b> 62h	<b>,</b> 33h	<b>CL/CLEAR</b> 6Fh	<b>Reparto Iva 10%</b> 4Ah		<b>Contante / Totale</b> 60h	

## 56/60 Key POS Keyboard – Scan Code Ref

<b>Annullo</b> 5	<b>Storno</b> 6	<b>Reso</b> 4	<b>All Void</b> 12	<b>Sconto %</b> 3	<b>Sconto</b> 11	<b>Magg. %</b> 131	<b>Rep 8</b> 117	<b>Rep 9</b> 125	<b>Rep 10</b> 112	<b>Non Riscosso</b> 1	<b>Ticket 1</b> 76
<b>Uscite</b> 60	<b>Entrate</b> 36	<b>Operatore</b> 68	<b>Plu / Plu Generico</b> 10	<b>7 P R S</b> 61	<b>8 T U V</b> 62	<b>9 W X Y</b> 70	<b>Rep 5</b> 115	<b>Rep 6</b> 116	<b>Rep 7</b> 108	<b>Bancomat</b> 78	<b>Carta di Credito</b> 93
<b>↑S</b> 27	<b>↑G</b> 52	<b>Chiave</b> 33	<b>Codice Cliente</b> 44	<b>4 G H I</b> 37	<b>5 J K L</b> 46	<b>6 M N</b> 54	<b>Codice Fiscale</b> 50	<b>Rep 3</b> 122	<b>Rep 4</b> 107	<b>Assegni</b> 7	<b>Credito</b> 120
<b>Plu 5</b> 20	<b>Plu 6</b> 99	<b>Plu 7</b> 73	<b>Plu 8</b> 74	<b>1</b> 22	<b>2 A B C</b> 30	<b>3 D E F</b> 38	<b>X</b> 124	<b>Reparto Iva 20%</b> 114		<b>Sub Totale</b> 121	
<b>Plu 1</b> 13	<b>Plu 2</b> 85	<b>Plu 3</b> 17	<b>Plu 4</b> 18	<b>0 O Q Z</b> 69	<b>00</b> 202	<b>,</b> 65	<b>CL/CLEAR</b> 241	<b>Reparto Iva 10%</b> 123		<b>Contante / Totale</b> 218	

Annullo = Void  
Storno = Correction  
Reso = Refund (Z-91 only. Refunds are converted to Storni)  
Annullo Globale = All Void  
PLU Generico = Generic PLU  
Sconto % = % Discount  
Sconto = Discount  
Magg. % = % Surcharge  
Operatore = Operator  
Uscite = Cash Out  
Entrate = Cash In  
Chiave = Key  
Rep = Department  
Bancomat = Credit Card 2  
Carta di Credito = Credit Card 1  
Assegni = Cheques  
Non Riscosso = Ticket (Bear in mind that Not Paid (non riscosso) is now distinct from ticket payments)  
Credito = Credit (now equal to Not Paid Goods and Services (Non Riscosso Beni e Servizi)).  
Codice Fiscale = Personal tax code  
Codice Cliente = Customer code  
Reparto Iva 20% = Department 2 which is mapped to tax group 2 set to 10% by default  
Reparto Iva 10% = Department 1 which is mapped to tax group 1 set to 22% by default  
Subtotale = Subtotal  
Contante = Cash

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- 2) Search for the hex scan code in the SCAN CODE column of the Codes Table(s) below.
- 3) With regards to a PC QWERTY keyboard, check that the KEY column shows a corresponding key.
- 4) Extract the EPSON decimal scan code reference value associated with the hex key scan code (NUM column). It represents the SCAN CODE REF field used in the fiscal communication protocol command. The grey background denotes keys belonging to a 32 key POS keyboard. Kp = numeric keypad.

Codes Table

NUM	KEY	SCAN CODE	FUNC NUM	FUNCTION	NUM	KEY	SCAN CODE	FUNC NUM	FUNCTION
000				Unusable	040				Unusable
001	F9	43	113	Ticket	041				
002				Unusable	042	V	2F	96	Currency
003	F5	3F	109	% Discount	043	F	21	123	Invoice
004	F3	3D	105	Refund <sup>[1]</sup>	044	T	14	136	Client code
005	F1	3B	014	Void	045	R	13	997	Reserved <sup>[2]</sup>
006	F2	3C	112	Storno (correction)	046	5 %	06	005	5
007	F12	58	098	Cheque	047				
008				Unusable	048				
009	F10	44	097	Credit / Credit card	049	N	31	111	Do not calculate
010	F8	42	103	PLU GENERICO	050	B	30	137	Multiple code types
011	F6	40	110	Discount	051	H	23	125	Vis. product
012	F4	3E	119	All void	052	G	22	102	↑G
013	Tab	0F	056	PLU 1	053	Y	15	117	MxN 2
014					054	6 &	07	006	6
015				Unusable	055				
016					056				Unusable
017	Alt (Left)	38	058	PLU 3	057				
018	Shift (Left)	2A	059	PLU 4	058	M	32	999	No function
019				Unusable	059	J	24	999	No function
020	Cntrl (Left)	1D	060	PLU 5	060	U	16	107	Cash out
021	Q	10	122	Override limit	061	7 /	08	007	7
022	1 !	02	001	1	062	8 (	09	008	8
023					063				Unusable
024				Unusable	064				
025					065	, ;	33	015	,
026	Z	2C	124	Prod. code	066	K	25	999	No function
027	S	1F	101	↑S	067	I	17	139	Surcharge
028	A	1E	114	Choose price	068	O	18	118	Operator
029	W	11	115	Last total	069	0 =	0B	000	0
030	2 "	03	002	2	070	9 )	0A	009	9
031					071				Unusable
032				Unusable	072				
033	C	2E	138	Key (Chiave)	073	. :	34	62	PLU 7
034	X	2D	116	MxN 1	074	-	35	63	PLU 8
035	D	20	194	Receipt + Invoice	075	L	26	193	Credit note (Obsolete)
036	E	12	106	Cash in	076	Ò ç @	27	126	Ticket 1
037	4 \$	05	004	4	077	P	19	104	PLU entry
038	3 £	04	003	3	078	' ?	0C	141	Credit card 2
039				Unusable	079				Unusable

<sup>[1]</sup> Refund key for Z-91 only. Refunds in open documents are converted to Storni.

<sup>[2]</sup> NUM 045 has FUNC 997 paired with it by default. The value 997 is for internal use only and is read-only so cannot be assigned to a NUM (even 045). If attempted, error 16 is returned.

NUM	KEY	SCAN CODE	FUNC NUM	FUNCTION	NUM	KEY	SCAN CODE	FUNC NUM	FUNCTION				
080	Unusable				126	Unusable							
081					127	Not on standard keyboard	DC	126	Ticket 1				
082					128		DD	127	Ticket 2				
083					129		DE	128	Ticket 3				
084	Unusable				130	Unusable							
085					i ^	0D	057	PLU 2	131	F7	41	108	% Surcharge
086					Unusable				132	Unusable			
087									133				
088	134												
089	Shift (Right)	36	061	PLU 6	135	Unusable							
090	Unusable				136								
091					137								
092					138								
093	ù §	2B	140	Credit card 1	139	Unusable							
094	Not on standard keyboard	80	056	PLU 1	140								
095		81	057	PLU 2	141								
096		82	058	PLU 3	142								
097		83	059	PLU 4	143								
098		84	060	PLU 5	144								
099		85	061	PLU 6	145								
100		86	062	PLU 7	146								
101		87	063	PLU 8	147								
102		88	064	PLU 9	148								
103		89	065	PLU 10	149	Not on standard keyboard							
104	Unusable				150					D2	140	Credit card 1	
105					151					D3	141	Credit card 2	
106					152					8A	66	PLU 11	
107	Kp 4	4B	019	Dep. 4	153					8B	67	PLU 12	
108	Kp 7	47	022	Dep. 7	154					8C	68	PLU 13	
109	Unusable				155					8D	69	PLU 14	
110					Not on standard keyboard					CD	027	Dep. 12	156
111	CE	028	Dep. 13	157						8F	71	PLU 16	
112	Kp 0	52	025	Dep. 10	158					90	72	PLU 17	
113	Kp .	53	026	Dep. 11	159	91	73	PLU 18					
114	Kp 2	50	017	Dep. 2	160	92	74	PLU 19					
115	Kp 5	4C	020	Dep. 5	161	93	75	PLU 20					
116	Kp 6	4D	021	Dep. 6	162	94	76	PLU 21					
117	Kp 8	48	023	Dep. 8	163	95	77	PLU 22					
118	Esc	01	998 <sup>[1]</sup>	Reserved <sup>[1]</sup>	164	96	78	PLU 23					
119	Unusable				165	97	79	PLU 24					
120					F11	57	097	Credit / Credit card	166	98	80	PLU 25	
121	Kp +	4E	099	Subtotal	167	99	81	PLU 26					
122	Kp 3	51	018	Dep. 3	168	9A	82	PLU 27					
123	Kp -	4A	016	Dep. 1	169	9B	83	PLU 28					
124	Kp *	37	013	X	170	9C	84	PLU 29					
125	Kp 9	49	024	Dep. 9	171	9D	85	PLU 30					
						9E	150	PLU 31					

<sup>[1]</sup> NUM 118 has FUNC 998 paired with it by default. The value 998 is for internal use only and is read-only so cannot be assigned to a NUM (even 118). If attempted, error 16 is returned.

NUM	KEY	SCAN CODE	FUNC NUM	FUNCTION	NUM	KEY	SCAN CODE	FUNC NUM	FUNCTION
172	Not on standard keyboard	9F	151	PLU 32	214	Unusable			
173		A0	152	PLU 33	215				
174		A1	153	PLU 34	216				
175		A2	154	PLU 35	217				
176		A3	155	PLU 36	218				
177		A4	156	PLU 37	219	Unusable			
178		A5	157	PLU 38	220				
179		A6	158	PLU 39	221				
180		A7	159	PLU 40	222				
181		A8	160	PLU 41	223				
182		A9	161	PLU 42	224				
183		AA	162	PLU 43	225				
184		AB	163	PLU 44	226				
185		AC	164	PLU 45	227				
186		AD	165	PLU 46	228				
187		AE	166	PLU 47	229				
188		AF	167	PLU 48	230				
189		B0	168	PLU 49	231				
190		B1	169	PLU 50	232				
191		B2	170	PLU 51	233				
192	B3	171	PLU 52	234					
193	B4	172	PLU 53	235					
194	B5	173	PLU 54	236					
195	B6	174	PLU 55	237					
196	B7	175	PLU 56	238					
197	B8	176	PLU 57	239					
198	B9	177	PLU 58	240					
199	BA	178	PLU 59	241	Delete	6F	012	CL / Clear	
200	BB	179	PLU 60	242	Unusable				
201	Unusable			243					
202	Kp /	62	010	00					244
203	Not on standard keyboard	BC	180	PLU 61					245
204		BD	181	PLU 62					246
205		BE	182	PLU 63					247
206		BF	183	PLU 64					248
207		C0	184	PLU 65					249
208		C1	185	PLU 66					250
209		C2	186	PLU 67					251
210		C8	187	PLU 68	252				
211		C9	188	PLU 69	253				
212		CA	189	PLU 70	254				
213	Unusable			255					

In the case of the 23/24 key bundled keyboard, to associate a particular function, proceed as follows:

- 1) Single out the fixed EPSON decimal scan code reference associated with your chosen key from the specific keyboard representation (not the scan code itself which we can ignore):

### 23/24 Key Bundled Keyboard

↑G 52	Chiave 33	Storno 6	All Void 12
CL Clear 241	X 124	Sconto % 3	Void 5
7 P R S 61	8 T U V 62	9 W X Y 70	Rep.1 123
4 G H I 37	5 J K L 46	6 M N 54	Sub Totale 121
1 22	2 A B C 30	3 D E F 38	Contante
0 O Q Z 69	000 <sup>[1]</sup> 69	, 65	218

Chiave = Key  
Storno = Correction  
Sconto % = % Discount  
Rep. 1 = Department 1  
Subtotale = Subtotal  
Contante = Cash

- 2) Extract the decimal scan code reference value associated with the chosen key (NUM column). It represents the SCAN CODE REF field used in the fiscal communication protocol command.

### Codes Table

NUM	KEY	NUM	KEY
003	Sconto %	061	7
005	Void	062	8
006	Storno	065	,
012	All Void	069	0 / 000 <sup>[1]</sup>
022	1	070	9
030	2	121	Subtotale
033	Chiave	123	Rep. 1
037	4	124	X
038	3	218	Contante
046	5	241	CL Clear
052	↑G		
054	6		

<sup>[1]</sup> Please note that keys 0 and 000 have the same 069 code. 000 sends the "0" scan code three times to the printer.

For all keyboards, once you have the scan code reference, proceed as follows:

- 1) Search for the desired function in the table below.
- 2) Look up the numeric function code in the adjacent column. It represents the FUNCTION field used in the fiscal communication protocol command.

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## Key – Function Association Table:

KEY FUNCTION	CODE
0 to 9	000 to 009
00	010
000	011
CL / CLEAR	012
X	013
CANCEL / VOID	014
,	015
DEP 1 to DEP 40	016 to 055
PLU 1 to PLU 30	056 to 085
CASH 1 to CASH 5	086 to 090
CURR 1 to CURR 5	091 to 095
CURRENCY	096
CREDIT / CREDIT CARD	097
CHEQUES	098
SUBTOTAL / OPEN DRAWER	099
CASH / TOTAL	100
↑S	101
↑G	102
PLU	103
PLU-ENTRY	104
REFUND <sup>[1]</sup>	105
CASH IN	106
CASH OUT	107
% SURCHARGE	108
% DISCOUNT	109
AMOUNT DISCOUNT	110
DO NOT CALCULATE	111
STORNO (CORRECTION)	112
TICKET	113
CHOOSE PLU / DEP PRICE	114

KEY FUNCTION	CODE
LAST DOCUMENT INVOICE	123
PRODUCT CODE	124
VISUALISE PRODUCT	125
TICKET 1 to 10	126 to 135
CLIENT CODE	136
PERSONAL OR BUSINESS TAX CODE, CLIENT NUMBER OR LOTTERY CODE	137
CHIAVE (KEY)	138
AMOUNT SURCHARGE	139
CREDIT CARD 1 to 10	140 to 149
PLU 31 to PLU 70	150 to 189
EMPLOYEE (OBSOLETE)	190
AGREEMENT (OBSOLETE)	191
TICKET SURPLUS (OBSOLETE)	192
CREDIT NOTE (OBSOLETE)	193
DOCUMENT + INVOICE	194
DECIMAL QUANTITY	195
DIRECT INVOICE	196
REQUEST E-MAIL	197
VERIFY RECEIPT AS IMAGE NUMBER (OBSOLETE)	198
ACTIVATE RECEIPT AS IMAGE (OBSOLETE)	199
ACTIVATE PHP	200
DEP 41 to DEP 99	201 to 259
INDIRECT DEP	260
DEPOSIT (ACCONTO)	261
FREE OF CHARGE (OMAGGIO)	262
SINGLE USE VOUCHER (BUONO MONOUSO)	263
MULTIPLE TICKETS	264
NOT PAID GOODS AND SERVICES	265
NOT PAID GOODS	266
NOT PAID SERVICES	267

LAST TOTAL	115
MxN (1)	116
MxN (2)	117
OPERATOR	118
VOID TOTAL / CANCEL ALL	119
NOT USED	120
NOT USED	121
OVERRIDE LIMIT	122

NOT PAID INVOICES	268
NOT PAID RT INVOICES <sup>[2]</sup>	269
NOT PAID NATIONAL HEALTH SERVICE (SSN)	270
GENERIC PAYMENT DISCOUNT	271
MULTI-USE VOUCHER PAYMENT DISCOUNT (BUONO MULTIUSO)	272
EMISSION MODE <sup>[3]</sup>	273
CLIENT ID <sup>[3]</sup>	274

<sup>[1]</sup> Refund function 105 for Z-91 only. Refunds in open documents are converted to Storni.  
INTERNAL RESERVED FUNCTIONS = 997 and 998 (Read only and not to assign)  
NO FUNCTION = 999

<sup>[2]</sup> For future use

<sup>[3]</sup> E-Receipt firmware only

- 3) Prepare the **H1=4; H2=029** message with the two extrapolated values.

TX

4	029	SCAN CODE REF	FUNCTION
---	-----	---------------	----------

Field	Description	Length	Range / Value
SCAN CODE REF	Decimal key scan code reference	3 bytes	000 to 255
FUNCTION	Fiscal function or other function	3 bytes	001 to 999

For example:

Key F6 associated with DEPARTMENT 6:

- 1) The F6 key has scan code 40.
- 2) The associated Rep. 1 NUM value is 011 (after having checked that the KEY column contains F6).
- 3) In the Key – Function Association Table, DEPARTMENT 6 corresponds with function code 021 (016 for Department 1 + offset of 5).
- 4) Therefore, the following values are used:
  - SCAN CODE REF = 011
  - FUNCTION = 021

TX

4	029	SCAN CODE REF	FUNCTION
---	-----	---------------	----------

Field	Description	Length	Value
SCAN CODE REF	Decimal key scan code reference	3 bytes	011
FUNCTION	Fiscal function or other function	3 bytes	021

Another example:

Key Rep. 1 associated with DEPARTMENT 2:

- 1) The associated NUM value is 123 (after having checked that the KEY column contains Rep .1).
- 2) In the Key – Function Association Table, DEPARTMENT 2 corresponds with function code 017 (016 for Department 1 + offset of 1).
- 3) Therefore, the following values are used:
  - SCAN CODE REF = 123
  - FUNCTION = 017

TX

4	029	SCAN CODE REF	FUNCTION
---	-----	---------------	----------

Field	Description	Length	Value
SCAN CODE REF	Decimal key scan code reference	3 bytes	123
FUNCTION	Fiscal function	3 bytes	017

## 14. APPENDIX C – SUPPORTED CHARACTER SETS

Regarding text and display lines, the fiscal printer has limited character set support. The following range is supported:

- 20 Hex (32 Dec, 0010 0000 Bin) to FF Hex (255 Dec, 1111 1111 Binary)

Characters 7B Hex, 7C Hex and 7D Hex respectively “{”, “[” and “}” are reserved.

The 60 Hex (96 decimal) "`" grave accent character is reserved. Can be used as an alternative for euro symbol printing (not displaying).

Two sets should be considered:

1. From 20 Hex to 7F Hex – International Character Set U.S.A
2. From 80 Hex to FF Hex – Code page OEM-437

Regarding characters beyond 7F, it is important to note that these are always relative to code page OEM-437 (table 0 PC437 USA), therefore the connected PC must also support this character set.

The ASCII code chr\$(138) is used for example to print the accented character "è". Operating systems often change the internal UNICODE / UTF-8 encoding to other codes in their own way according to the language and international settings.

The presence of unsupported characters (present in descriptions destined for the printer) are replaced by spaces as they cannot be printed.

By default, the "£" character (code 156 / 0x9C Hex) prints and displays the euro symbol (€ character).

**14.1 From 20 Hex a 7F Hex – International Character Set U.S.A**

The characters that might not coincide with the PC characters are highlighted in **red** since they vary from country to country. The fiscal printer is set to the default set (U.S.A.). The **violet** cells relate to the three reserved characters that cannot be in any case printed (“{“, “|” and “}”). The character highlighted in **green** is the one reserved for euro symbol printing (not displaying). The following table shows the supported characters:

HEX	0	1	2	3	4	5	6	7	
HEX	BIN	0000	0001	0010	0011	0100	0101	0110	0111
0	0000			SP 32	0 48	@ 64	P 80	´ 96	p 112
1	0001			!	1 49	A 65	Q 81	a 97	q 113
2	0010			”	2 50	B 66	R 82	b 98	r 114
3	0011			# 35	3 51	C 67	S 83	c 99	s 115
4	0100			\$ 36	4 52	D 68	T 84	d 100	t 116
5	0101			% 37	5 53	E 69	U 85	e 101	u 117
6	0110			& 38	6 54	F 70	V 86	f 102	v 118
7	0111			’ 39	7 55	G 71	W 87	g 103	w 119
8	1000			( 40	8 56	H 72	X 88	h 104	x 120
9	1001			) 41	9 57	I 73	Y 89	i 105	y 121
A	1010			* 42	:	J 74	Z 90	j 106	z 122
B	1011			+ 43	;	K 75	[ 91	k 107	
C	1100			, 44	<	L 76	\ 92	l 108	
D	1101			- 45	=	M 77	] 93	m 109	
E	1110			. 46	>	N 78	^ 94	n 110	~ 126
F	1111			/ 47	?	O 79	_ 95	o 111	SP 127

**14.2 From 80 Hex to FF Hex – Code Page OEM-437**

Fiscal printers support characters in the interval A0 Hex to FF Hex. The following table shows the supported characters:

HEX	8	9	A	B	C	D	E	F
0	Ç 128	É 144	á 160	☼ 176	Ł 192	⋈ 208	α 224	≡ 240
1	Ü 129	æ 145	í 161	☼ 177	Ł 193	⋈ 209	β 225	± 241
2	é 130	Æ 146	ó 162	☼ 178	Τ 194	Π 210	Γ 226	≥ 242
3	â 131	ô 147	ú 163	∣ 179	ƒ 195	ℒ 211	π 227	≤ 243
4	ä 132	ö 148	ñ 164	† 180	- 196	ℓ 212	Σ 228	∫ 244
5	à 133	ò 149	Ñ 165	‡ 181	† 197	ƒ 213	σ 229	∫ 245
6	å 134	û 150	ä 166	∥ 182	ƒ 198	π 214	μ 230	÷ 246
7	ç 135	ù 151	ó 167	π 183	∥ 199	‡ 215	τ 231	≈ 247
8	ê 136	ÿ 152	ÿ 168	‡ 184	ℒ 200	‡ 216	φ 232	° 248
9	ë 137	ö 153	ˆ 169	∥ 185	ƒ 201	∫ 217	θ 233	• 249
A	è 138	Ü 154	ˆ 170	∥ 186	⋈ 202	Γ 218	Ω 234	• 250
B	ï 139	ϕ 155	½ 171	π 187	⋈ 203	■ 219	δ 235	√ 251
C	î 140	£ € 156	¼ 172	∫ 188	∥ 204	■ 220	ω 236	∞ 252
D	ï 141	¥ 157	ı 173	∥ 189	= 205	∣ 221	φ 237	² 253
E	Ä 142	ℙ 158	« 174	∫ 190	∥ 206	∣ 222	ε 238	■ 254
F	Å 143	f 159	» 175	∫ 191	⋈ 207	■ 223	∩ 239	SP 255

Regarding code 156, the euro symbol is printed and displayed. Code 96 can also be used to print the euro symbol. However, in this case it will maintain the grave accent on the customer display.

**15. APPENDIX D – CHARACTER LIMITS**

<b>Line type</b>	<b>Number of digits in amount</b>	<b>Maximum number of characters in a line</b>
Retail header lines <sup>[1]</sup>	n/a	40
Additional header	n/a	46
Commercial documents: - Sale descriptions - Discount descriptions (types 0 and 3) - Surcharge descriptions (types 5 and 8) - Correction descriptions (storni) - Refund/return descriptions - Additional description in commercial document - Additional description during partial payment phase (Commercial documents only).	n/a	Flag 4-014/60 = 0: First line: 25 Second line: 13  Flag 4-014/60 = 1: Single line: 38
Commercial documents: - Surcharge descriptions (types 6 and 7)	9	33
	8	35
	7	36
	6	37
	<= 5	38
Commercial documents: - Discount descriptions (types 1 and 2)	9	32
	8	34
	7	35
	6	36
	<= 5	38
Commercial documents: - Modifiers - Payment descriptions	n/a	38
Direct invoices and invoices based on the last commercial document: - Sale descriptions - Surcharge descriptions	9	22
	8	24
	7	25
	6	26
	5	28
	4	29
	3	30
Direct invoices and invoices based on the last commercial document: - Correction descriptions (storni) - Discount descriptions	9	21
	8	23
	7	24
	6	25
	5	27
	4	28
	3	29
Additional description in body of direct invoice or invoice based on last commercial document	n/a	37
Trailer lines after the total	n/a	46
Additional trailer / promotional lines after the fiscal serial number	n/a	46
Management document body lines	n/a	46
Invoice additional header lines	n/a	46
Invoice client lines	n/a	46
Courtesy message / trailer lines in invoices	n/a	46

<sup>[1]</sup> The maximum number of characters in a retail header line is 40.

With commercial documents, if quantity != 1 – An additional line is printed above the description that contains the quantity and the unit price as follows:

- Quantity with decimal – Always three decimals (with comma before) and "x" suffix. For example, 1,500x
- Quantity without decimals (whole numbers) – No decimals and "x" suffix. For example, 2 x

If the operator 50 offset is used, the line with the quantity and the unit price is always printed even if the quantity is equal to 1.

With direct invoices and invoices based on the last commercial document, if the quantity is not a whole number – An additional line is printed above the description that contains:

- Flag 44 = 0 – Always three decimals (with comma before) and no suffix. For example, 1,500
- Flag 44 = 1 – Always three decimals (with comma before), some spaces, the "x" suffix and the unit price. For example, 1,500 x

With direct invoices and invoices based on the last commercial document, if the quantity is a whole number but != 1 – Depends on flag 44:

- Flag 44 = 0 – Prints the quantity on the same line as the description on the left.
- Flag 44 = 1 – An additional line is printed above the description. It contains the quantity, some spaces, the "x" suffix and the unit price. For example, 10 x

With direct invoices and invoices based on the last commercial document – If the quantity = 1, prints "1" on the same line as the description on the left irrespective of flag 44.

With commercial documents, if quantity != 1, the unit price is printed on the same line as the quantity. The next line contains the description and the total. If the description is > 25 characters and flag 4-014/60 = 0, the total and the second half of the description are printed on an additional line.

With direct invoices and invoices based on the last commercial document, the total and the description may be printed on two distinct lines. This depends on the description length and the value of the transaction.

Regarding sales, discounts, surcharges, payments, refunds and corrections (storni), the character limits per transaction (not per line) are always:

- Commercial documents 38
- Direct invoices 37
- Last commercial document invoices 37

Regarding modifiers, the character limits per transaction (not per line) are always:

- Commercial documents 38

## 16. APPENDIX E – REPRINTING AND READING FROM MPD (EJ) COMMANDS

The printer must be in the logged in condition otherwise Error 17 impossible now is returned.

The table below summarises the MPD (EJ) commands.

H1 H2 Command	Description	9999?
1-047	Reprint last emitted commercial document	n/a
3-098	Reprint based on document number (Commercial documents only)	Yes
3-099	Reprint based on date (Commercial documents only)	n/a
3-100	Read based on document number (Commercial documents only)	No
3-101	Read based on date (Commercial documents only)	n/a
3-103	Reprint or read by date and by document type	n/a
3-104	Reprint or read by document number and by document type	Yes

The 9999? column refers to the option of setting both the start number and the end number to the special 9999 value which in turn is interpreted as a request to read or reprint the last emitted commercial document. The 9999 option does not work in the following circumstances:

1. When DAY OPENED is false.
2. The request arrives after midnight and the last commercial document emission was before midnight.
3. With 3-104 if the previous document was an invoice.
4. 3-104 DOC TYPE not set to zero (if 1, Error 16 is returned).

Error 16 is returned in the following cases:

1. Point 4 above
2. 3-098 point 1 above
3. 3.098 point 2 above

In all 3-104 9999 cases apart from point 4 above, the printer replies with 3-104 even if no data was found.

From firmware 9.01 (native) and 11.04 (modified) onwards, "Online" or "Offline" data is saved to the MPD (DGFE) whenever an electronic payment is performed.

## **17. APPENDIX F – PLU MANAGEMENT**

### **17.1. Product Code**

Setting flag SET 14/09 COD. PRODOTTO to the LUNGO (long) setting enables longer codes to be managed (up to 40 digits / characters). The CORTO (short) setting limits codes to 9 digits / characters.

### **17.2. External PLU Prerequisites**

External PLUs are no longer supported.

### **17.3. Lookup Order**

After having read a barcode, the printer only looks in the RAM internal PLU database.

### **17.4. External PLUs after RAM Reset or Reactivation (Ripristino)**

External PLUs are no longer supported.

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## 18. APPENDIX G – ERROR 02 (SET 14/11 AUTOMATICO)

The commands that alter their response whenever the paper low condition exists, and the SET 14/11 TX FINE CARTA flag is equal to AUTOMATICO (automatic), are listed below. It is a warning rather than an error.

The following commands generate the Error 02 response in all cases:

H1=1; H2=030 – CASH CREDIT RECOVERY  
H1=1; H2=031 – CASH IN  
H1=1; H2=032 – CASH OUT  
H1=1; H2=038 – CHEQUE CREDIT RECOVERY  
H1=1; H2=039 – CHEQUE IN  
H1=1; H2=040 – CHEQUE OUT

The following commands generate the Error 02 response with commercial documents and direct invoices but only if the SET 14/29 JAVAPOS-UPOS flag is set to NO:

H1=1; H2=028 – PRINT REC VOID  
H1=1; H2=084 – PRINT REC TOTAL

The following command generates the Error 02 response with commercial documents and direct invoices but only if the SET 14/29 JAVAPOS-UPOS flag is set to SI (yes):

H1=1; H2=087 – END COMMERCIAL DOCUMENT OR DIRECT INVOICE

The following command generates the Error 02 response with commercial documents and direct invoices irrespective of the SET 14/29 JAVAPOS-UPOS flag setting:

H1=1; H2=088 – RESET PRINTER

## 19. APPENDIX H – HISTORICAL VAT

Four blocks of historical VAT each one with nine rates can be used to handle cases where the VAT rate has changed due to a government decree or similar. The table below illustrates all VATs and natures:

VAT Index / Group	Description
0	N4 ESENTE nature
1 to 9	Active VAT
10 to 18	Other natures
19	No longer available
21 to 29	Historical VAT
31 to 39	
41 to 49	
51 to 59	
20, 30, 40 and 50	Not used

In case of commercial refund or void documents, the correct VAT must be used. However, the rate may have changed in the intervening period from when the original reference document was emitted and the emission of the refund or void document. With non-automatic emissions, simply designate one or more departments to old VAT, assign one or more of the 36 historical rates to them and then indicate the department(s) in the transaction commands. To correctly handle automatic commercial void documents, a new command has been introduced:

- H1=9; H2=012 – SET VAT EXTENDED (HISTORICAL) TABLE DEPARTMENT OFFSETS

Four cut-off dates can be setup. Department offsets are employed. The "old" departments should be set with the desired historical VAT groups (4-002 command). It may be convenient to map departments and VATs on a one-to-one basis (Dep 21 = VAT 21, Dep 22 = VAT 22 etc.).

Index	Default offset <sup>[1]</sup>	Last validity date
1	20 (21 to 29)	DDMMYYYY
2	30 (31 to 39)	DDMMYYYY
3	40 (41 to 49)	DDMMYYYY
4	50 (51 to 59)	DDMMYYYY

<sup>[1]</sup> Personalised offsets can also be configured as described in the 9-012 command.

Dates should be in chronological order from index 1 to 4. Example:

VAT rate change from 1<sup>st</sup> Jan 2023 => Ending date 1 = 31122022

VAT rate change from 1<sup>st</sup> Jul 2023 => Ending date 2 = 30062023

## 20. APPENDIX I – CASH PAYMENT ROUNDING 4-015 / 27

Rounding is only applied if the payment or payments are exclusively in cash.

The 4-015 / 27 rounding setting has four possible values:

- 0 = No rounding
- 1 = Standard Rounding
- 2 = Round Down only (do not round up 3, 4, 8 and 9)
- 3 = Round Up only (do not round down 1, 2, 6 and 7)

The following table details the possible rounding operations:

Commercial Document Total	4-015 / 27 Parameter Setting									
	1 - Standard			2 – Only Down			3 – Only Up			
	Payment Due	Sc. a Pag.	Wording	Payment Due	Sc. a Pag.	Wording	Payment Due	Sc. a Pag.	Wording	
1.00	1.00	n/a	n/a	1.00	n/a	n/a	1.00	n/a	n/a	
1.01		0.01	Down		0.01	Down				1.01
1.02		0.02			0.02					1.02
1.03	1.05	n/a	Up	1.03	n/a	1.05	Up			
1.04			1.04							
1.05		0.01	Down	1.05			0.01		Down	1.06
1.06							0.02			1.07
1.07	1.10	n/a	Up	1.08	n/a	1.10	Up			
1.08				1.09						
1.09										

Sc. A Pag. (Sconto a Pagare) line is only printed when rounding down.

Wording column refers to the line automatically printed below in the DETTAGLIO FORME di PAGAMENTO section as follows:

- Round down wording = Arrot. DL N.50/2017
- Round up wording = di cui Arrot. DL N.50/2017

Wordings are hard coded in firmware and cannot be altered.

Rounding amounts are printed in the X-01 report.

Example layouts can be found in the [Commercial Document with Rounding](#) chapter.

When emitting commercial refund documents, care must be taken if a different payment method is used for the refund (sale reference document with rounding and refund document without or vice-versa). Depending on the individual circumstances, the printer may refuse to emit the refund document. The solution varies and should be handled on a case-by-case basis. If you encounter problems, please contact EPSON supplying as much information as possible.

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