**CUSTOM-RU**

**PROTOCOL**

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# PROTOCOL DESCRIPTION

The printer communicates through a protocol that allows to fully control his status.

The protocol structure is as follows:

START FIELD(1 byte): always 01h

LENGTH OF PACKAGE FIELD(2 byte): length of the “COMMAND FIELD” and “DATA FIELD”

COMMAND FIELD(1 byte): command(see below)

DATA FIELD(N byte): data of the commands(see below)

CRC FIELD(1 byte): crc of the fields “LENGTH OF PACKAGE FIELD” “LENGTH OF PACKAGE” “DATA”. CRC is calculated as a 16 bits sum of the byte in the fields(SUM). CRC FIELD is the XOR of the 8 lower bits of SUM with the higher 8 bits of SUM. Example, package:

**01**(START)

**0A 00**(LENGTH OF PACKAGE)

**50**(COMMAND FIELD)

3F 42 0F 00 E8 03 00 00 00(DATA FIELD)

**D4**(CRC FIELD)

Sum of 0A 00 50 3F 42 0F 00 E8 03 00 00 00 = 1D5

CRC = 1 XOR D5 = D4

**NOTE**: in commands description, when the format of the data field is labeled as “LENGTH\_PREFIXED\_TEXT X bytes”, this means that the first 2 bytes are the **length** of the field and then follows **length** chars as text. Maximum size of the text is X bytes. Example:

0500 616263646465

This is a text of 5 chars with value “abcde”

**IMPORTANT: protocol 1.05 and 1.1 commands versions are draft and subjected to any change**

# LIST OF COMMANDS AND DESCRIPTION

## 04H: Get parameters family values

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command 04h. Message length: 7 bytes.

• Operator Password (4 bytes)

• Number of the parameters family to read(2 bytes)

Answer: 04h. Message Length: 4+size of “Values of the parameters family” field.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Values of the parameters family (X bytes)

See appendix A1 for parameters families list.

## 05H: Set parameters family values

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command 05h. Message length: 7+size of “Values of the parameters family to write” field.

• Operator Password (4 bytes)

• Number of the parameters family to write(2 bytes)

• Values of the parameters family to write(X bytes)

Answer: 05h. Message Length: 4 byte.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

See appendix A1 for parameters families list.

## 09H: Get parameters family row values

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command 09h. Message length: 9 bytes.

• Operator Password (4 bytes)

• Number of the parameters family to read (2 bytes)

• Number of the row to read (2 bytes)

Answer: 09h. Message Length: 4+size of “Values of the parameters family row” field.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Values of the parameters family row (X bytes)

See appendix A2 for parameters families list.

## 0AH: Set parameters family row values

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command 0Ah. Message length: 7+size of “Values of the parameters family row to write” field.

• Operator Password (4 bytes)

• Number of the parameters family to write (2 bytes)

• Number of the row to write (2 bytes)

• Values of the parameters family row to write(X bytes)

Answer: 0ah. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

See appendix A2 for parameters families list.

## 13H: Beep

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 13H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 13H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 16H: Technological reset

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 16H. Message length: 5 byte.

• Operator Password (4 bytes)

Answer: 16H. Message length: 3 bytes.

• Error code (2 bytes)

## 1DH: Registration and re-registration

***Command compatibility: OFD protocol 1.0***

Command: 1dH. Message length: 649 bytes.

• Operator Password (4 bytes)

• REGISTRATION TYPE (1 byte, list)

0~ПЕРВАЯ РЕГИСТРАЦИЯ ККТ  
1~ИЗМ. ПАРАМ. ККТ С ЗАМЕНОЙ ФН  
2~ИЗМ. ПАРАМ. ККТ БЕЗ ЗАМЕНЫ ФН

• REASON OF REREGISTRATION (1 byte, list)

1~ЗАМЕНА ФН  
2~ИЗМЕНЕНИЕ ИНН ОФД  
3~ИЗМ. СВЕД. ОБ АДР./ПОЛЬЗОВАТЕЛЕ

• PAYMENT ADDRESS (250 bytes, text)

• USER NAME (250 bytes, text)

• USER INN (12 bytes, text)

• OFD INN (12 bytes, text)

• ECR MODEL REGISTRATION NUMBER (10 bytes, text)

• REGISTRATION NUMBER (20 bytes, text)

• CASHIER (64 bytes, text)

• ENCODING (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• OFFLINE MODE (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• AUTOMATIC (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• SERV HUMAN SPH (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• STRICT ACC FORM (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• ECR FOR INTERNET (1 byte, text)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• AUTOMATIC NUMBER (12 bytes, text)

• TRADITIONAL (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• LIGHT INCOME (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• LIGHT INCOME, NO EXPENSES (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• SINGLE TAX (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• AGRICULTURAL TAX (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• PATENT TAX SYS (1 byte, text)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

Answer: 1dH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

Registration and re-registration

Command: 1dH. Message length: variable number of bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

Bit 1: print(0)/no print(1)

Bit 2: don’t save on file(0)/save on file(1)

Bit 0, 3..15: must be 0

• ТИП РЕГИСТРАЦИИ(1 byte)

0~ПЕРВАЯ РЕГИСТРАЦИЯ ККТ

1~ИЗМ. ПАРАМ. ККТ С ЗАМЕНОЙ ФН

2~ИЗМ. ПАРАМ. ККТ БЕЗ ЗАМЕНЫ ФН

• ИЗМ. СВЕД. О ККТ(1 byte)

1~ЗАМЕНА ФН

2~ЗАМЕНА ОФД

3~ИЗМЕНЕНИЕ РЕКВИЗИТОВ

4~ИЗМЕНЕНИЕ НАСТРОЕК ККТ

• АДРЕС РАСЧЕТОВ(LENGTH\_PREFIXED\_TEXT 256 bytes)

• МЕСТО РАСЧЕТОВ(LENGTH\_PREFIXED\_TEXT 256 bytes)

• НАИМ. ПОЛЬЗОВАТЕЛЯ(LENGTH\_PREFIXED\_TEXT 256 bytes)

• ИНН ПОЛЬЗОВАТЕЛЯ(12 bytes)

• НОМЕР ЗАРЕГИСТРИРОВАННОЙ ККТ(10 bytes)

• РН ККТ(20 bytes)

• КАССИР(LENGTH\_PREFIXED\_TEXT 64 bytes)

• ШФД(1 byte, range 0..1)

• АВТОНОМН. РЕЖИМ(1 byte, range 0..1)

• САЙТ ФНС(LENGTH\_PREFIXED\_TEXT 256 bytes)

• ОФД(256 bytes)

• ИНН ОФД(12 bytes)

• ЭЛ. АДР. ОТПРАВИТЕЛЯ(LENGTH\_PREFIXED\_TEXT 64 bytes)

• АВТОМАТ. РЕЖИМ(1 byte, range 0..1)

• АВТОМАТ(20 bytes)

• ККТ ДЛЯ УСЛУГ(1 byte, range 0..1)

• АС БСО(1 byte, range 0..1)

• ККТ ДЛЯ ИНТЕРНЕТ(1 byte, range 0..1)

• ПРИНТЕР В АВТОМАТЕ(1 byte, range 0..1)

• ПОДАКЦИЗНЫЕ ТОВАРЫ(1 byte, range 0..1)

• ПРОВЕДЕНИЕ АЗАРТНОЙ ИГРЫ(1 byte, range 0..1)

• ПРОВЕДЕНИЕ ЛОТЕРЕИ(1 byte, range 0..1)

• БАНК. ПЛ. АГЕНТ(1 byte, range 0..1)

• БАНК. ПЛ. СУБАГЕНТ(1 byte, range 0..1)

• ПЛ. АГЕНТ(1 byte, range 0..1)

• ПЛ. СУБАГЕНТ(1 byte, range 0..1)

• ПОВЕРЕННЫЙ(1 byte, range 0..1)

• КОМИССИОНЕР(1 byte, range 0..1)

• АГЕНТ(1 byte, range 0..1)

• ОСН(1 byte)

0~НЕТ

1~ДА

• УСН ДОХОД(1 byte)

0~НЕТ

1~ДА

• УСН ДОХОД - РАСХОД(1 byte)

0~НЕТ

1~ДА

• ЕНВД(1 byte)

0~НЕТ

1~ДА

• ЕСН(1 byte)

0~НЕТ

1~ДА

• ПАТЕНТ(1 byte)

0~НЕТ

1~ДА

Answer: 1dH. Message Length: 12 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Document number (4 bytes)

• Document fiscal sign (4 bytes)

## 1EH: Registration close

***Command compatibility: OFD protocol 1.0***

Command: 1eH. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 1eH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 1eH. Message length: 7 bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

Bit 1: print(0)/no print(1)

Bit 2: don’t save on file(0)/save on file(1)

Bit 0, 3..15: must be 0

Answer: 1eH. Message Length: variable number of bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Session number (2 bytes)

• Document number (4 bytes)

• Document fiscal sign (4 bytes)

• Cashier name (LENGTH\_PREFIXED\_TEXT 64 bytes)

## 1FH: Report about payment

***Command compatibility: OFD protocol 1.0***

Command: 1fH. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 1fH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 1fH. Message length: 7 bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

Bit 1: print(0)/no print(1)

Bit 2: don’t save on file(0)/save on file(1)

Bit 0, 3..15: must be 0

Answer: 1fH. Message Length: 12 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Document number (4 bytes)

• Document fiscal sign (4 bytes)

## 21H: Time Programming

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 21H. Message length: 8 bytes.

• Operator Password (4 bytes)

• Time (3 bytes) H-M-S

Answer: 21H. Message length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 22H: Date Programming

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 22H. Message length: 8 bytes.

• Operator Password (4 bytes)

• Date (3 bytes) D-M-Y

Answer: 22H. Message length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 23H: Confirmation of the date of programming

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 23H. Message length: 8 bytes.

• Operator Password (4 bytes)

• Date (3 bytes) D-M-Y

Answer: 23H. Message length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 25H: Cut a check

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 25H. Message length: 6 bytes.

• Operator Password (4 bytes)

• Cut type (1 byte) "0" - complete, "1" - incomplete

Answer: 25H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 28H: Open cash drawer

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 28H. Message length: 6 bytes.

• Operator Password (4 bytes)

• The number of cash drawer (1 byte) 0 1

Answer: 28H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 29H: Feeding

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 29H. Message length: 7 bytes.

• Operator Password (4 bytes)

• Flags (1 byte) Bit 0 - control tape, Bit 1 - check tape, Bit 2 - underlaid document.

• The number of lines (1 byte) 1 ... 255 - maximum number of lines is limited by

printer buffer size, but does not exceed 255

Answer: 29H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 40H: Daily report without clearing

***Command compatibility: OFD protocol 1.0***

Command: 40H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 40H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 40H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 40H. Message Length: 7 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte)

• Day is open(1)/Day is closed(0)(1 byte)

• Session number (2 bytes)

## 41H: Daily report with clearing

***Command compatibility: OFD protocol 1.0***

Command: 41H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 41H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 41H. Message length: 7 bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

Bit 1: print(0)/no print(1)

Bit 2: don’t save on file(0)/save on file(1)

Bit 0, 3..15: must be 0

Answer: 41H. Message Length: variable number of bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte)

• Session number (2 bytes)

• Document number (4 bytes)

• Document fiscal sign (4 bytes)

• Cashier name (LENGTH\_PREFIXED\_TEXT 64 bytes)

## 42H: Statistic report without clearing

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 42H. Message length: 7 bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

20 -> Department report, day

21 -> Department report, period

51 -> Vat report

Answer: 42H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte)

## 43H: Statistic report with clearing

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 43H. Message length: 7 bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

21 -> Department report, period

51 -> Vat report

Answer: 43H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte)

## 50H: Deposit

***Command compatibility: OFD protocol 1.0***

Command: 50H. Message length: 10 bytes.

• Operator Password (4 bytes)

• Amount (5 bytes)

Answer: 50H. Message length: 6 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Through document number (2 bytes)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 50H. Message length: 13 bytes.

• Operator Password (4 bytes)

• Amount (8 bytes)

Answer: 50H. Message length: 14 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Through document number (2 bytes)

• Cash in drawer(8 bytes)

## 51H: Withdrawal

***Command compatibility: OFD protocol 1.0***

Command: 51H. Message length: 10 bytes.

• Operator Password (4 bytes)

• Amount (5 bytes)

Answer: 51H. Message length: 6 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Through document number (2 bytes)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 51H. Message length: 13 bytes.

• Operator Password (4 bytes)

• Amount (8 bytes)

Answer: 51H. Message length: 14 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Through document number (2 bytes)

• Cash in drawer(8 bytes)

## 80H: Sale

***Command compatibility: OFD protocol 1.0***

Command: 80H. Message length: 56 bytes.

• Operator Password (4 bytes)

• Quantity (5 bytes) 0000000000... 9999999999

• Price (5 bytes) 0000000000... 9999999999

• Department number (1 byte) 0 ... 16

• text (40 bytes)

Answer: 80H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 80H. Message length: variable number of bytes.

• Operator Password (4 bytes)

• Flag (1 byte) 0..3

* Bit 0 -> 1 the command has the “Discount/Add-on type” and “Discount/Add-on value” fields
* Bit 1 -> 1 the command has the “Additional property of payment subject(#1191)” field

• Way of payment flag(#1214) (1 byte) 1... 7

• Flag of payment subject(#1212) (1 byte) 1... 13

• Quantity(#1023) (5 bytes) 0000000000... 9999999999

• Price(#1079) (8 bytes) 0000000000... 9999999999

• Department number (1 byte) 0 ... 16

• Discount/Add-on type(1 byte) (only if bit0 of “Flag” field is 1)

* Bit 0: discount(0)/add-on(1)
* Bit 1: value(0)/%(1)

• Discount/Add-on value (8 bytes) 0000000000... 9999999999 (only if bit0 of “Flag” field is 1)

• Text(#1030) (LENGTH\_PREFIXED\_TEXT 53 or 57 bytes, depending on bits “Suppress sale line number if needed” or “Always suppress sale line number”)

• Additional property of payment subject(#1191) (LENGTH\_PREFIXED\_TEXT 64 bytes) (only if bit1 of “Flag” field is 1)

Answer: 80H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 81H: Purchase

***Command compatibility: OFD protocol 1.0***

Command: 81H. Message length: 56 bytes.

• Operator Password (4 bytes)

• Quantity (5 bytes) 0000000000... 9999999999

• Price (5 bytes) 0000000000... 9999999999

• Department number (1 byte) 1 ... 16

• text (40 bytes)

Answer: 81H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

FOR COMMAND 81H, FORMAT IS THE SAME OF COMMAND 80H.

PLEASE CHECK COMMAND 80H(JUST USE 81H IN PLACE OF 80H).

## 82H: Sale Return

***Command compatibility: OFD protocol 1.0***

Command: 82H. Message length: 56 bytes.

• Operator Password (4 bytes)

• Quantity (5 bytes) 0000000000... 9999999999

• Price (5 bytes) 0000000000… 9999999999

• Department number (1 byte) 1 ... 16

• text (40 bytes)

Answer: 82H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

FOR COMMAND 82H, FORMAT IS THE SAME OF COMMAND 80H.

PLEASE CHECK COMMAND 80H(JUST USE 82H IN PLACE OF 80H).

## 83H: Purchase Return

***Command compatibility: OFD protocol 1.0***

Command: 83H. Message length: 56 bytes.

• Operator Password (4 bytes)

• Quantity (5 bytes) 0000000000... 9999999999

• Price (5 bytes) 0000000000... 9999999999

• Department number (1 byte) 1 ... 16

• text (40 bytes)

Answer: 83H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

FOR COMMAND 83H, FORMAT IS THE SAME OF COMMAND 80H.

PLEASE CHECK COMMAND 80H(JUST USE 83H IN PLACE OF 80H).

## 84H: Entry Reverse

***Command compatibility: OFD protocol 1.0***

Command: 84H. Message length: 56 bytes.

• Operator Password (4 bytes)

• Quantity (5 bytes) 0000000000... 9999999999

• Price (5 bytes) 0000000000... 9999999999

• Department number (1 byte) 1 ... 16

• text (40 bytes)

Answer: 84H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 85H: Check closing

***Command compatibility: OFD protocol 1.0***

Command: 85H. Message length: 30 bytes.

• Operator Password (4 bytes)

• Sum of cash (5 bytes) 0000000000... 9999999999

• Sum, Payment Type 2 (5 bytes) 0000000000... 9999999999

• Sum, Payment Type 3 (5 bytes) 0000000000... 9999999999

• Sum, Payment Type 4 (5 bytes) 0000000000... 9999999999

• Sum, Payment Type 5 (5 bytes) 0000000000... 9999999999

Answer: 85H. Message length: 9 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Change/Remainder (5 bytes) 0000000000... 9999999999 (>0 change, <0 remainder to pay)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 85H. Message length: 45 bytes.

• Operator Password (4 bytes)

• Sum of cash (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 2 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 3 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 4 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 5 (8 bytes) 0000000000... 9999999999

Answer: 85H. Message length: 12 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Change/Remainder (8 bytes) 0000000000... 9999999999 (>0 change, <0 remainder to pay)

***Command compatibility: OFD protocols 1.05, 1.1(alternate version, when ticket is closed)***

Command: 85H. Message length: 45 bytes.

• Operator Password (4 bytes)

• Sum of cash (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 2 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 3 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 4 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 5 (8 bytes) 0000000000... 9999999999

Answer: 85H. Message length: variable number of bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Change/Remainder (8 bytes) 0000000000... 9999999999 (>0 change, <0 remainder to pay)

• Session number (2 bytes)

• Check number (2 bytes)

• Document number (4 bytes)

• Document fiscal sign (4 bytes)

• Cashier name (LENGTH\_PREFIXED\_TEXT 64 bytes)

## 86H: Discount

***Command compatibility: OFD protocol 1.0***

Command: 86H. Message length: 10 bytes.

• Operator Password (4 bytes)

• Sum (5 bytes) 0000000000... 9999999999

Answer: 86H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 87H: Extra charge

***Command compatibility: OFD protocol 1.0***

Command: 87H. Message length: 10 bytes.

• Operator Password (4 bytes)

• Sum (5 bytes) 0000000000... 9999999999

Answer: 87H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 88H: Check cancellation

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: 88H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 88H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 89H: Check subtotal

***Command compatibility: OFD protocol 1.0***

Command: 89H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 89H. Message length: 9 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• check Subtotal (5 bytes) 0000000000... 9999999999

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 89H. Message length: 7 bytes.

• Operator Password (4 bytes)

• Flag, bit 0->print(1)/no print(0) (2 bytes)

Answer: 89H. Message length: 16 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• check Subtotal (8 bytes) 0000000000... 9999999999

• Session number (2 bytes)

• Check number (2 bytes)

## 8CH: Repeat document

***Command compatibility: OFD protocol 1.0***

Team: 8CH. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: 8CH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

Note: The command prints a copy of the last closed document

for sale, purchase, sale return and purchase return.

***Command compatibility: OFD protocols 1.05, 1.1***

Team: 8CH. Message length: 7 bytes.

• Operator Password (4 bytes)

• Type of document (2 byte)

0=last fiscal doc(last saved as file)

1=last short report(last from FM)

2=last full report(last from FM)

3=last transmission report(last from FM)

Answer: 8CH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 8DH: Open check

***Command compatibility: OFD protocol 1.0***

Command: 8DH. Message length: 6 bytes.

• Operator Password (4 bytes)

• Document Type (1 byte):

0 - sale;

1 - sale return;

2 – purchase;

3 – purchase return;

• Tax code (1 byte):

0 – AUTOMATIC MODE;

1 - traditional;

2 – light, income;

4 – light, income minus expenses;

8 – Single tax for input earnings;

16 – Single agricultural tax;

32 – Patent taxation system;

Answer: 8DH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 8DH. Message length: 9 bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

Bit 1: print(0)/no print(1)

Bit 2: don’t save on file(0)/save on file(1)

Bit 0, 3..15: must be 0

• Document Type (1 byte):

0 - sale;

1 - sale return;

2 – purchase;

3 – purchase return;

• Tax code (1 byte):

0 – AUTOMATIC MODE;

1 - traditional;

2 – light, income;

4 – light, income minus expenses;

8 – Single tax for input earnings;

16 – Single agricultural tax;

32 – Patent taxation system;

Answer: 8DH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## 8EH: Check closing(ONLY WITH PAYMENTS=0)

***Command compatibility: OFD protocol 1.0***

Command: 8EH. Message length: 30 bytes.

• Operator Password (4 bytes)

• Sum of cash (5 bytes) 0000000000... 9999999999

• Sum, Payment Type 2 (5 bytes) 0000000000... 9999999999

• Sum, Payment Type 3 (5 bytes) 0000000000... 9999999999

• Sum, Payment Type 4 (5 bytes) 0000000000... 9999999999

• Sum, Payment Type 5 (5 bytes) 0000000000... 9999999999

Answer: 8EH. Message length: 9 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Change/Remainder (5 bytes) 0000000000... 9999999999 (>0 change, <0 remainder to pay)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: 8EH. Message length: 45 bytes.

• Operator Password (4 bytes)

• Sum of cash (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 2 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 3 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 4 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 5 (8 bytes) 0000000000... 9999999999

Answer: 8EH. Message length: 12 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Change/Remainder (8 bytes) 0000000000... 9999999999 (>0 change, <0 remainder to pay)

***Command compatibility: OFD protocols 1.05, 1.1(alternate version, when ticket is closed)***

Command: 8EH. Message length: 45 bytes.

• Operator Password (4 bytes)

• Sum of cash (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 2 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 3 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 4 (8 bytes) 0000000000... 9999999999

• Sum, Payment Type 5 (8 bytes) 0000000000... 9999999999

Answer: 8EH. Message length: variable number of bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Change/Remainder (8 bytes) 0000000000... 9999999999 (>0 change, <0 remainder to pay)

• Session number (2 bytes)

• Check number (2 bytes)

• Document number (4 bytes)

• Document fiscal sign (4 bytes)

• Cashier name (LENGTH\_PREFIXED\_TEXT 64 bytes)

## D6H: Check correction payment

***Command compatibility: OFD protocol 1.0***

Command: D6H. Message length: 16 bytes.

• Operator Password (4 bytes)

• Document Type (1 byte):

0 - sale;

2 - purchase;

• Sum of cash (5 bytes) 0000000000... 9999999999

• Sum of no cash (5 bytes) 0000000000... 9999999999

Answer: D6H. Message length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

Command: D6H. Message length: variable number of bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

Bit 1: print(0)/no print(1)

Bit 2: don’t save on file(0)/save on file(1)

Bit 0, 3..15: must be 0

• Correction type (1 byte):

0 - independent;

1 - prescription;

• Document Type (1 byte):

0 - sale;

2 - purchase;

• Tax code (1 byte):

0 – AUTOMATIC MODE;

1 - traditional;

2 – light, income;

4 – light, income minus expenses;

8 – Single tax for inputed earnings;

16 – Single agricultural tax;

32 – Patent taxation system;

• Reason for correction (LENGTH\_PREFIXED\_TEXT 256 bytes)

• Date of the reason of correction (YMD, 3 bytes)

• Doc Number of the reason of correction (LENGTH\_PREFIXED\_TEXT 32 bytes)

• payment 1 - correction purchase (8 bytes)

• payment 2 - correction purchase (8 bytes)

• payment 3 - correction purchase (8 bytes)

• payment 4 - correction purchase (8 bytes)

• payment 5 - correction purchase (8 bytes)

• vat 1 - correction purchase (8 bytes)

• vat 2 - correction purchase (8 bytes)

• vat 3 - correction purchase (8 bytes)

• vat 4 - correction purchase (8 bytes)

• vat 5 - correction purchase (8 bytes)

• vat 6 - correction purchase (8 bytes)

Answer: D6H. Message length: variable number of bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Session number (2 bytes)

• Check number (2 bytes)

• Document number (4 bytes)

• Document fiscal sign (4 bytes)

• Cashier name (LENGTH\_PREFIXED\_TEXT 64 bytes)

## D7H: Get Last Error

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: D7H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: D7H. Message length: 46 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Last error code (2 bytes)

• Internal Error Text (40 bytes ASCII)

## D8H: Send “OFD data”

***Command compatibility: OFD protocol 1.0***

Command: D8H. Message length: 9+size of “<OFD data> value” field.

• Operator Password (4 bytes)

• “OFD data” Id (2 byte): DATA id, must be greater than 1000

• Operation type (1 bytes): must be 0

• Length of “OFD data” (1 bytes): 01...255

• <OFD data> value (X bytes)

Answer: D8H. Message length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

“OFD Data” available:

|  |  |  |  |
| --- | --- | --- | --- |
| ***ID*** | ***Name*** | ***Format*** | ***Position*** |
| ***1008*** | ***Purchaser phone or email address*** | ***Text*** | ***TC, SE*** |

***Command compatibility: OFD protocols 1.05, 1.1***

Command: D8H. Message length: 10+size of “<OFD data> value” field.

• Operator Password (4 bytes)

• “OFD data” Id (2 byte): DATA id, must be greater than 1000

• Operation type (1 bytes): must be 0

• Length of “OFD data” (2 bytes): 01...256

• <OFD data> value (X bytes)

Answer: D8H. Message length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

“OFD Data” available:

|  |  |  |  |
| --- | --- | --- | --- |
| ***ID*** | ***Name*** | ***Format*** | ***Position*** |
| ***0*** | ***Delete all OFD data sent by PC*** | ***-*** | ***SE, TE*** |
| ***1005*** | ***Money transfer operator address*** | ***Text {S}, 256 chars*** | ***SE, TE*** |
| ***1008*** | ***Purchaser phone or email address*** | ***Text +{D} or {S}@{S}, 64 chars*** | ***TE*** |
| ***1016*** | ***Money transfer operator TIN*** | ***Text 10 or 12 chars*** | ***SE, TE*** |
| ***1026*** | ***Money transfer operator name*** | ***Text {S}, 64 chars*** | ***SE, TE*** |
| ***1044*** | ***Paying agent operation*** | ***Text {S}, 24 chars*** | ***SE, TE*** |
| ***1057*** | ***Flag of agent*** | ***Byte*** | ***TE*** |
| ***1073*** | ***Paying agent phone*** | ***Text +{D}, 19 chars*** | ***SE, TE, R*** |
| ***1074*** | ***Payments receiving operator phone*** | ***Text +{D}, 19 chars*** | ***SE, TE, R*** |
| ***1075*** | ***Money transfer operator phone*** | ***Text +{D}, 19 chars*** | ***SE, TE, R*** |
| ***1171*** | ***Supplier phone*** | ***Text +{D}, 19 chars*** | ***SE, TE, R*** |
| ***1222*** | ***Flag of agent by payment subject*** | ***Byte*** | ***SE*** |
| ***1225*** | ***Supplier Name*** | ***Text {S}, 256 chars*** | ***SE*** |
| ***1226*** | ***Supplier TIN*** | ***Text 10 or 12 chars*** | ***SE*** |

***(\*)SE-> applies to sale line, TE->applies to ticket end, R can be repeated***

## D9H: Open Day

***Command compatibility: OFD protocol 1.0***

Command: D9H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: D9H. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

***Command compatibility: OFD protocols 1.05, 1.1***

Command: D9H. Message length: 7 bytes.

• Operator Password (4 bytes)

• Flags (2 bytes)

Bit 1: print(0)/no print(1)

Bit 2: don’t save on file(0)/save on file(1)

Bit 0, 3..15: must be 0

Answer: D9H. Message Length: variable number of bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Session number (2 bytes)

• Document number (4 bytes)

• Document fiscal sign (4 bytes)

• Cashier name (LENGTH\_PREFIXED\_TEXT 64 bytes)

## DAH – OPEN NOT FISCAL DOCUMENT

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: DAH. Message length: 7 bytes.

• Operator Password (4 bytes)

• Open ticket flags(2 bytes):

Bit 0: reserved, must be 0

Bit 1: don’t print cashier

Bit 2: don’t print ECR S/N

Bit 3: reserved, must be 0

Bit 4: reserved, must be 0

Bit 5: don’t print header

Bit 6: don’t print date/time

Bit 7..15: reserved, must be 0

Answer: DAH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## DBH – PRINT TEXT

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: DBH. Message length: 7+size of “Text” field.

• Operator Password (4 bytes)

• Print flag(2 bytes):

bit 1: double width;

bit 2: always 1;

bit 3: half width;

bit 4: double height;

bit 5: border;

bit 6: half height;

bit 11: bold;

bit 12: italic;

• Text (X bytes).

Text can be any char with code>’ ‘(0x20)

Chars 01..05 change the font of the following bytes

Answer: DBH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

SAMPLES:

* Print one line: 3F420F00 0400 3031323334353637383930313233343536373839303132333435363738393031323334353637383930
* Print one line, double height: 3F420F00 1400 3031323334353637383930313233343536373839303132333435363738393031323334353637383930
* Print one line, border: 3F420F00 2400 3031323334353637383930313233343536373839303132333435363738393031323334353637383930
* Print one line, half height:3F420F00 4400 3031323334353637383930313233343536373839303132333435363738393031323334353637383930
* Print one line, double height+border: 3F420F00 3400 3031323334353637383930313233343536373839303132333435363738393031323334353637383930
* Print one line, half height+border: 3F420F00 6400 3031323334353637383930313233343536373839303132333435363738393031323334353637383930
* Print one line, bold: 3F420F00 0408 3031323334353637383930313233343536373839303132333435363738393031323334353637383930
* Print one line, italic: 3F420F00 0410 3031323334353637383930313233343536373839303132333435363738393031323334353637383930
* Print one line, double width: 3F420F00 0600 3031323334353637383930313233343536373839
* Print one line, half width: 3F420F00 0C00 3031323334353637383930313233343536373839303132333435363738393031323334353637383930313233
* one line, use font 1(minimum width) 3F420F00 0400 013031323334
* one line, use font 2 3F420F00 0400 023031323334
* one line, use font 3 3F420F00 0400 033031323334
* one line, use font 4 3F420F00 0400 043031323334
* one line, use font 5(maximum width) 3F420F00 0400 053031323334
* print one line, use font 5(maximum width) for first char font 1: 3F420F00 0400 05300131323334
* print one line, smallest font, maximum number of chars/line(pure font size): 3F420F00 0400 01303132333435363738393031323334353637383930313233343536373839303132333435363738393031323334353637383930313233343536
* print one line, biggest font, minimum number of chars/line(pure font size): 3F420F00 0400 05303132333435363738393031323334353637383930313233343536373839303132333435

## DCH – CUT PAPER

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: DCH. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: DCH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## DDH – PRINT ICON

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: DDH. Message length: 12 bytes.

• Operator Password (4 bytes)

• Icon number to print(1 bytes)(1..25)

• Window height(2 bytes)

• Start X(2 bytes)(must be multiple of 8)

• Start Y(2 bytes)

Answer: DDH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

Sample:

Print icon #10, in a window with height 200, from point(0, 10):

3F420F00 0A C800 0000 0A00

| |

| PAPER |

| |

+-----------------------+ <----+

| | |

| Start(X,Y) | |

| +----------+ | |

| | | | | window height

| | | | |

| | icon | | |

| | | | |

| | | | |

| | | | |

| +----------+ | |

| | |

+-----------------------+ <---+

| |

| |

## DEH – PRINT BARCODE

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

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Case of **FAST BARCODE LIBRARY**

Command: DEH. Message length: 14+size of “Text” field.

• Operator Password (4 bytes)

• Type of library(1 byte): 0=fast barcode library

• Height(2 bytes)

• Scale(2 bytes)

• Margin(2 byte): 0=left, 1=center, 2=right

• Flags(2 bytes)

Bit 0..7 type of barcode:

1: EAN

2: UPC-A or UPC-E

3: Interleaved 2 of 5

4: Code 39

5: Code 128(a,b,c autoselection)

6: Code 128C(compact form for digits)

7: Code 128B, full printable ascii

8: Raw 128 code

Bit 8: No ascii

Bit 9: No checksum

Bit 12: print text double height

Bit 13: no header nor footer

• Text(X bytes)

Answer: DEH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

Sample:

* Print EAN code(1), width 3, scale 3, margin: center, code 4567890: 3F420F00 00 0300 0300 0100 0100 34353637383930
* Print UPC code(2), width 3, scale 1, margin: left, code 45678901234: 3F420F00 00 0300 0100 0000 0200 3435363738393031323334
* Print Interleaved 2 of 5 code(3), width 4, scale 2, margin: right, code 456789012: 3F420F00 00 0400 0200 0200 0300 343536373839303132
* Print Code39 code(4), width 3, scale 1, margin: left, code 678901: 3F420F00 00 0300 0100 0000 0400 363738393031
* Print Code39 code(4) no header, width 3, scale 1, margin: left, code 678901: 3F420F00 00 0300 0100 0000 0420 363738393031
* Print Code39 code(4) with no header, width 3, scale 1, margin: left, code 678901: 3F420F00 00 0300 0100 0000 0420 363738393031
* Print Code39 code(4) with double height text, width 3, scale 1, margin: left, code 678901: 3F420F00 00 0300 0100 0000 0410 363738393031
* Print Code39 code(4) with no text, width 3, scale 1, margin: left, code 678901: 3F420F00 00 0300 0100 0000 0401 363738393031
* Print Code128 code(5), width 3, scale 3, margin: center, code 678901: 3F420F00 00 0300 0300 0000 0500 363738393031

-----------------------------------------

Case of **EXTENDED BARCODE LIBRARY**

Command: DEH. Message length: 12+size of “Text” field.

• Operator Password (4 bytes)

• Type of library(1 byte): 1=slow barcode library

• Code(2 bytes):

6: QRCODE

8: PDF417

• Scale(2 bytes)

• Flags(2 bytes):

Bit 0: type

Bit 1: code

Bit 2: checksum

• Text(X bytes)

Answer: DEH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

Sample:

* QR-Code, Scale=5, flags=1, code 4567890: 3F420F00 01 0600 0500 0100 34353637383930
* QR-Code with text code, Scale=5, flags=0, code 4567890: 3F420F00 01 0600 0500 0000 34353637383930
* QR-Code with text header, Scale=5, flags=2, code 4567890: 3F420F00 01 0600 0500 0200 34353637383930
* PDF417, Scale=2, flags=1, code 4567890: 3F420F00 01 0800 0200 0100 34353637383930

## DFH – CLOSE NOT FISCAL DOCUMENT

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: DFH. Message length: 7 bytes.

• Operator Password (4 bytes)

• Close ticket flags(2 bytes):

Bit 0: reserved, must be 0

Bit 1: don’t print ECR S/N

Bit 2: don’t cut paper

Bit 3..15: reserved, must be 0

Answer: DFH. Message Length: 4 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

## E0H: Fiscal memory status(fm command 30h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E0H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: E0H. Message Length: 34 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: state of life cycle phase(1 byte)

• Answer from FM: recent document(1 byte)

• Answer from FM: document data(1 byte)

• Answer from FM: session state(1 byte)

• Answer from FM: flags and warnings(1 byte)

• Answer from FM: date and time(5 bytes)

• Answer from FM: FSD number(16 bytes)

• Answer from FM: last FD document(4 bytes)

## E1H: Fiscal memory serial number(fm command 31h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E1H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: E1H. Message Length: 20.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: FSD number (16 bytes)

## E2H: Fiscal memory expiry date(fm command 32h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E2H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: E2H. Message Length: 9 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: FSD expiration date (3 bytes)

• Answer from FM: available registrations (1 byte, signed)

• Answer from FM: performed registrations (1 byte, signed)

## E3H: Fiscal memory version(fm command 33h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E3H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: E3H. Message Length: 21 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: FSD FW version string(16 bytes)

• Answer from FM: FW type(1 byte)

## E4H: Fiscal memory – ofd status(fm command 20h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E4H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: E4H. Message Length: 17 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: data exchange status(1 byte)

• Answer from FM: state of message reading from fdo(1 byte)

• Answer from FM: quantity of message for transmission(2 bytes)

• Answer from FM: document number for fdo, which is first in queue(4 bytes)

• Answer from FM: document date for fdo, which is first in queue (5 byte)

## E5H: Fiscal memory – get fiscal document by number(fm command 40h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E5H. Message length: 9 bytes.

• Operator Password (4 bytes)

• Fiscal document number (4 bytes)

Answer: E5H. Message Length: 6+size of “Answer from FM: fiscal document data” field.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: document type(1 byte)

• Answer from FM: if ack from fdo is received(1 byte)

• Answer from FM: fiscal document data(X byte)

## E6H: Fiscal memory - get fiscal document ack from server(fm command 41h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E6H. Message length: 9 bytes.

• Operator Password (4 bytes)

• Fiscal document number (4 bytes)

Answer: E6H. Message Length: 4+size of “Answer from FM: Acknowledge about document receiving from FDO” field.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: Acknowledge about document receiving from FDO (X bytes)

## E7H: Fiscal memory – get quantity of not acked doc from server(fm command 42h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E7H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: E7H. Message Length: 6 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: Quantity of not confirmed FD (2 bytes)

## E8H: Fiscal memory – get fiscalization totals(fm command 43h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E8H. Message length: 6 bytes.

• Operator Password (4 bytes)

• Number of registration (1 byte)

Answer: E8H. Message Length: 52 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: date and time(5 bytes)

• Answer from FM: TIN(12 bytes)

• Answer from FM: ECR reg number(20 bytes)

• Answer from FM: taxation code(1 byte)

• Answer from FM: working mode(1 byte)

• Answer from FM: reregistration reason(1 byte)

• Answer from FM: fiscal doc number(4 bytes)

• Answer from FM: fiscal sign(4 bytes)

## E9H: Fiscal memory – get fiscalization STVL(fm command 44h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: E9H. Message length: 8 bytes.

• Operator Password (4 bytes)

• Number of registration (1 byte)

• TLV parameter (2 bytes)

Answer: E9H. Message Length: 4+size of “Answer from FM: TLV parameter” field.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: TLV parameter (X bytes)

## EAH: Fiscal memory – get fiscal document(fm command 45h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: EAH. Message length: 9 bytes.

• Operator Password (4 bytes)

• Fiscal document number (4 bytes)

Answer: EAH. Message length: 8 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: Fiscal document type (2 bytes)

• Answer from FM: Fiscal document length (2 bytes)

## EBH: Fiscal memory – get fiscal document TVL(fm command 46h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: EBH. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: EBH. Message Length: 4+size of “Answer from FM: TLV(STLV) Fiscal document data” field.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: TLV(STLV) Fiscal document data (X bytes)

## ECH: Fiscal memory – get recent session parameters(fm command 10h)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: ECH. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: ECH. Message Length: 9 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Answer from FM: Session state (1 byte)

• Answer from FM: Session number (2 bytes)

• Answer from FM: Check number(2 bytes)

## F0H: Read actual date/time

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: F0H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F0H. Message Length: 9 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Day(1 byte)

• Month(1 byte)

• Year(1 byte)

• Hour(1 byte)

• Minute(1 byte)

## F1H: Printer status

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: F1H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F1H. Message Length: 7 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• BYTE STATUS 1

• bit 0: Cover open: 0->closed

• bit 1: Paper present: 0->paper present

• bit 2: Paper near end: 0->paper not near end

• bit 3: cutter error: 0->cutter not in error

• bit 4: Virtual paper near end: 0->paper not virtual near end

• BYTE STATUS 2

• bit 0: no fm: 0->fm present – reserved in Russia

• bit 1: 0-> day is not open, 1 -> day is open

• bit 2: date not set: 1->date set

• bit 3: fm ko: 0->fm ok – reserved in Russia

• bit 4: reset needed: 0->not needed

• bit 5: hw init jumper set: 0->not insert

• bit 6: serialized: 0->non serialized

• bit 7: idle state: 1->idle

• BYTE STATUS 3

• bit 0: the printer is printing: 0->not printing

• bit 1: printer error: 0->no error

• bit 2: learning mode: 0->no learning, NOT USED IN RUSSIA

## F3H: Receipt status

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: F3H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F3H. Message Length: 7 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Fiscal receipt in progress (1 byte): 0 -> not in progress

• Non fiscal receipt in progress (1 byte) : 0 -> not in progress

• Fiscal receipt step (1 byte) :

0 -> not in progress

1 -> ticket open, no sale done

2 -> sale

3 -> payments

4 -> change print

5 -> fixed lines(opt)

6 -> closing executed

7 -> courtesy messages

8 -> ejection

9 -> non fiscal open

## F4H: Last receipt status

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: F4H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F4H. Message Length: 19 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Day(1 bytes)

• Month(1 bytes)

• Year(1 bytes)

• Hour(1 bytes)

• Minute(1 bytes)

• Number of the ticket(2 bytes)

• total of the ticket(8 bytes)

## F5H: Grand totals counters status

***Command compatibility: OFD protocol 1.0***

Command: F5H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F5H. Message Length: 52 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• grand totals of sale (8 byte)

• grand totals of return sale (8 byte)

• grand totals of purchase (8 byte)

• grand totals of return purchases (8 byte)

• grand totals of sale corrections(8 byte)

• grand totals of purchase corrections(8 byte)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: F5H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F5H. Message Length: 564 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• number of ticket - sale(4 bytes)

• payment 1 - sale (8 bytes)

• payment 2 - sale (8 bytes)

• payment 3 - sale (8 bytes)

• payment 4 - sale (8 bytes)

• payment 5 - sale (8 bytes)

• vat 1 - sale (8 bytes)

• vat 2 - sale (8 bytes)

• vat 3 - sale (8 bytes)

• vat 4 - sale (8 bytes)

• vat 5 - sale (8 bytes)

• vat 6 - sale (8 bytes)

• number of ticket - return of sale(4 bytes)

• payment 1 - return of sale (8 bytes)

• payment 2 - return of sale (8 bytes)

• payment 3 - return of sale (8 bytes)

• payment 4 - return of sale (8 bytes)

• payment 5 - return of sale (8 bytes)

• vat 1 - return of sale (8 bytes)

• vat 2 - return of sale (8 bytes)

• vat 3 - return of sale (8 bytes)

• vat 4 - return of sale (8 bytes)

• vat 5 - return of sale (8 bytes)

• vat 6 - return of sale (8 bytes)

• number of ticket - purchase(4 bytes)

• payment 1 - purchase (8 bytes)

• payment 2 - purchase (8 bytes)

• payment 3 - purchase (8 bytes)

• payment 4 - purchase (8 bytes)

• payment 5 - purchase (8 bytes)

• vat 1 - purchase (8 bytes)

• vat 2 - purchase (8 bytes)

• vat 3 - purchase (8 bytes)

• vat 4 - purchase (8 bytes)

• vat 5 - purchase (8 bytes)

• vat 6 - purchase (8 bytes)

• number of ticket - return of purchase(4 bytes)

• payment 1 - return of purchase (8 bytes)

• payment 2 - return of purchase (8 bytes)

• payment 3 - return of purchase (8 bytes)

• payment 4 - return of purchase (8 bytes)

• payment 5 - return of purchase (8 bytes)

• vat 1 - return of purchase (8 bytes)

• vat 2 - return of purchase (8 bytes)

• vat 3 - return of purchase (8 bytes)

• vat 4 - return of purchase (8 bytes)

• vat 5 - return of purchase (8 bytes)

• vat 6 - return of purchase (8 bytes)

• number of ticket, independent - correction sale(4 bytes)

• number of ticket, prescripriton - correction sale(4 bytes)

• payment 1 - correction sale (8 bytes)

• payment 2 - correction sale (8 bytes)

• payment 3 - correction sale (8 bytes)

• payment 4 - correction sale (8 bytes)

• payment 5 - correction sale (8 bytes)

• vat 1 - correction sale (8 bytes)

• vat 2 - correction sale (8 bytes)

• vat 3 - correction sale (8 bytes)

• vat 4 - correction sale (8 bytes)

• vat 5 - correction sale (8 bytes)

• vat 6 - correction sale (8 bytes)

• number of ticket, independent - correction purchase(4 bytes)

• number of ticket, prescripriton - correction purchase(4 bytes)

• payment 1 - correction purchase (8 bytes)

• payment 2 - correction purchase (8 bytes)

• payment 3 - correction purchase (8 bytes)

• payment 4 - correction purchase (8 bytes)

• payment 5 - correction purchase (8 bytes)

• vat 1 - correction purchase (8 bytes)

• vat 2 - correction purchase (8 bytes)

• vat 3 - correction purchase (8 bytes)

• vat 4 - correction purchase (8 bytes)

• vat 5 - correction purchase (8 bytes)

• vat 6 - correction purchase (8 bytes)

## F6H: Day totals counters status

***Command compatibility: OFD protocol 1.0***

Command: F6H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F6H. Message Length: 72 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• number of sale tickets(2 byte)

• grand totals of sale (8 byte)

• number of return sale tickets(2 byte)

• grand totals of return sale (8 byte)

• number of purchase tickets(2 byte)

• grand totals of purchase (8 byte)

• number of return purchases tickets(2 byte)

• grand totals of return purchases (8 byte)

• number of sale corrections tickets(2 byte)

• grand totals of sale corrections(8 byte)

• number of purchase corrections tickets(2 byte)

• grand totals of purchase corrections(8 byte)

• cash in the drawer(8 byte)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: F6H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F6H. Message Length: 564 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• number of ticket - sale(4 bytes)

• payment 1 - sale (8 bytes)

• payment 2 - sale (8 bytes)

• payment 3 - sale (8 bytes)

• payment 4 - sale (8 bytes)

• payment 5 - sale (8 bytes)

• vat 1 - sale (8 bytes)

• vat 2 - sale (8 bytes)

• vat 3 - sale (8 bytes)

• vat 4 - sale (8 bytes)

• vat 5 - sale (8 bytes)

• vat 6 - sale (8 bytes)

• number of ticket - return of sale(4 bytes)

• payment 1 - return of sale (8 bytes)

• payment 2 - return of sale (8 bytes)

• payment 3 - return of sale (8 bytes)

• payment 4 - return of sale (8 bytes)

• payment 5 - return of sale (8 bytes)

• vat 1 - return of sale (8 bytes)

• vat 2 - return of sale (8 bytes)

• vat 3 - return of sale (8 bytes)

• vat 4 - return of sale (8 bytes)

• vat 5 - return of sale (8 bytes)

• vat 6 - return of sale (8 bytes)

• number of ticket - purchase(4 bytes)

• payment 1 - purchase (8 bytes)

• payment 2 - purchase (8 bytes)

• payment 3 - purchase (8 bytes)

• payment 4 - purchase (8 bytes)

• payment 5 - purchase (8 bytes)

• vat 1 - purchase (8 bytes)

• vat 2 - purchase (8 bytes)

• vat 3 - purchase (8 bytes)

• vat 4 - purchase (8 bytes)

• vat 5 - purchase (8 bytes)

• vat 6 - purchase (8 bytes)

• number of ticket - return of purchase(4 bytes)

• payment 1 - return of purchase (8 bytes)

• payment 2 - return of purchase (8 bytes)

• payment 3 - return of purchase (8 bytes)

• payment 4 - return of purchase (8 bytes)

• payment 5 - return of purchase (8 bytes)

• vat 1 - return of purchase (8 bytes)

• vat 2 - return of purchase (8 bytes)

• vat 3 - return of purchase (8 bytes)

• vat 4 - return of purchase (8 bytes)

• vat 5 - return of purchase (8 bytes)

• vat 6 - return of purchase (8 bytes)

• number of ticket, independent - correction sale(4 bytes)

• number of ticket, prescripriton - correction sale(4 bytes)

• payment 1 - correction sale (8 bytes)

• payment 2 - correction sale (8 bytes)

• payment 3 - correction sale (8 bytes)

• payment 4 - correction sale (8 bytes)

• payment 5 - correction sale (8 bytes)

• vat 1 - correction sale (8 bytes)

• vat 2 - correction sale (8 bytes)

• vat 3 - correction sale (8 bytes)

• vat 4 - correction sale (8 bytes)

• vat 5 - correction sale (8 bytes)

• vat 6 - correction sale (8 bytes)

• number of ticket, independent - correction purchase(4 bytes)

• number of ticket, prescripriton - correction purchase(4 bytes)

• payment 1 - correction purchase (8 bytes)

• payment 2 - correction purchase (8 bytes)

• payment 3 - correction purchase (8 bytes)

• payment 4 - correction purchase (8 bytes)

• payment 5 - correction purchase (8 bytes)

• vat 1 - correction purchase (8 bytes)

• vat 2 - correction purchase (8 bytes)

• vat 3 - correction purchase (8 bytes)

• vat 4 - correction purchase (8 bytes)

• vat 5 - correction purchase (8 bytes)

• vat 6 - correction purchase (8 bytes)

## F7H: Ticket totals status

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

Command: F7H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F7H. Message Length: 55 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• extra charge(8 byte)

• discount(8 byte)

• void(8 byte)

• return(8 byte) -> not used Russia

• sub total(8 byte)

• remainder(8 byte)

• number of receipt(2 byte)

• ticket is open(1 byte): 0->not open

## F8H - ADDITIONAL INFO(RESERVED)

***Command compatibility: OFD protocol 1.0***

Command: F8H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F8H. Message Length: 9 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• type of open ticket (1 byte)

0->no ticket open(or different ticket open from below list)

1->sale ticket open

2->return sale ticket open

3->purchase ticket open

4->return purchase ticket open

• number of tickets in the day (2 byte)

• number of documents in the day (2 byte)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: F8H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F8H. Message Length: 17 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• type of open ticket (1 byte)

0->no ticket open(or different ticket open from below list)

1->sale ticket open

2->return sale ticket open

3->purchase ticket open

4->return purchase ticket open

• number of tickets in the day (2 byte)

• number of documents in the day (2 byte)

• last FD document number(4 bytes)

• last FD document fiscal sign(4 bytes)

## F9H: Not transmitted counters status

***Command compatibility: OFD protocols 1.05, 1.1***

Command: F8H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F8H. Message Length: 564 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• number of ticket - sale(4 bytes)

• payment 1 - sale (8 bytes)

• payment 2 - sale (8 bytes)

• payment 3 - sale (8 bytes)

• payment 4 - sale (8 bytes)

• payment 5 - sale (8 bytes)

• vat 1 - sale (8 bytes)

• vat 2 - sale (8 bytes)

• vat 3 - sale (8 bytes)

• vat 4 - sale (8 bytes)

• vat 5 - sale (8 bytes)

• vat 6 - sale (8 bytes)

• number of ticket - return of sale(4 bytes)

• payment 1 - return of sale (8 bytes)

• payment 2 - return of sale (8 bytes)

• payment 3 - return of sale (8 bytes)

• payment 4 - return of sale (8 bytes)

• payment 5 - return of sale (8 bytes)

• vat 1 - return of sale (8 bytes)

• vat 2 - return of sale (8 bytes)

• vat 3 - return of sale (8 bytes)

• vat 4 - return of sale (8 bytes)

• vat 5 - return of sale (8 bytes)

• vat 6 - return of sale (8 bytes)

• number of ticket - purchase(4 bytes)

• payment 1 - purchase (8 bytes)

• payment 2 - purchase (8 bytes)

• payment 3 - purchase (8 bytes)

• payment 4 - purchase (8 bytes)

• payment 5 - purchase (8 bytes)

• vat 1 - purchase (8 bytes)

• vat 2 - purchase (8 bytes)

• vat 3 - purchase (8 bytes)

• vat 4 - purchase (8 bytes)

• vat 5 - purchase (8 bytes)

• vat 6 - purchase (8 bytes)

• number of ticket - return of purchase(4 bytes)

• payment 1 - return of purchase (8 bytes)

• payment 2 - return of purchase (8 bytes)

• payment 3 - return of purchase (8 bytes)

• payment 4 - return of purchase (8 bytes)

• payment 5 - return of purchase (8 bytes)

• vat 1 - return of purchase (8 bytes)

• vat 2 - return of purchase (8 bytes)

• vat 3 - return of purchase (8 bytes)

• vat 4 - return of purchase (8 bytes)

• vat 5 - return of purchase (8 bytes)

• vat 6 - return of purchase (8 bytes)

• number of ticket, independent - correction sale(4 bytes)

• number of ticket, prescripriton - correction sale(4 bytes)

• payment 1 - correction sale (8 bytes)

• payment 2 - correction sale (8 bytes)

• payment 3 - correction sale (8 bytes)

• payment 4 - correction sale (8 bytes)

• payment 5 - correction sale (8 bytes)

• vat 1 - correction sale (8 bytes)

• vat 2 - correction sale (8 bytes)

• vat 3 - correction sale (8 bytes)

• vat 4 - correction sale (8 bytes)

• vat 5 - correction sale (8 bytes)

• vat 6 - correction sale (8 bytes)

• number of ticket, independent - correction purchase(4 bytes)

• number of ticket, prescripriton - correction purchase(4 bytes)

• payment 1 - correction purchase (8 bytes)

• payment 2 - correction purchase (8 bytes)

• payment 3 - correction purchase (8 bytes)

• payment 4 - correction purchase (8 bytes)

• payment 5 - correction purchase (8 bytes)

• vat 1 - correction purchase (8 bytes)

• vat 2 - correction purchase (8 bytes)

• vat 3 - correction purchase (8 bytes)

• vat 4 - correction purchase (8 bytes)

• vat 5 - correction purchase (8 bytes)

• vat 6 - correction purchase (8 bytes)

## FAH: Get Cash in Drawer counter status

***Command compatibility: OFD protocols 1.05, 1.1***

Command: F9H. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: F9H. Message Length: 12 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Cash in Drawer(8 bytes)

## FFH: Informations

***Command compatibility: OFD protocols 1.0***

Command: FFH. Message length: 5 bytes.

• Operator Password (4 bytes)

Answer: FFH. Message Length: 56 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Printer Model(16 bytes)

• Version(16 bytes)

• ECR S/N(20 bytes)

***Command compatibility: OFD protocols 1.0 (alternate version)***

Command: FFH. Message length: 6 bytes.

• Operator Password (4 bytes)

• Information type. Must be == 1 (1 byte)

Answer: FFH. Message Length: 21 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Fiscal State(1 byte)

• Actual FM in use or last FM used(16 bytes)

***Command compatibility: OFD protocols 1.05, 1.1***

Command: FFH. Message length: 7 bytes.

• Operator Password (4 bytes)

• Information type. (2 byte) 0 or 1

*Answer when “Information type” is 0*

Answer: FFH. Message Length: 56 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Printer Model(16 bytes)

• Version(16 bytes)

• ECR S/N(20 bytes)

*Answer when “Information type” is 1*

Answer: FFH. Message Length: 21 bytes.

• Error code (2 bytes)

• Serial number of the operator (1 byte) 1 ... 99

• Fiscal State(1 byte)

• Actual FM in use or last FM used(16 bytes)

## APPENDIX A1 – Family Code list

***Command compatibility: OFD protocols 1.0***

**Family Code 016** – VAT TABLE – 16 bytes

• VAT 1 (2 bytes, range: 0-9999)

• VAT 2 (2 bytes, range: 0-9999)

• VAT 3 (2 bytes, range: 0-9999)

• VAT 4 (2 bytes, range: 0-9999)

• VAT 5 (2 bytes, range: 0-9999)

• VAT 6 (2 bytes, range: 0-9999)

• VAT 7 (2 bytes, range: 0-9999)

• VAT 8 (2 bytes, range: 0-9999)

***Command compatibility: OFD protocols 1.05, 1.1***

**Family Code 016** – VAT TABLE – 12 bytes

• VAT 1 (2 bytes, range: 0-9999)

• VAT 2 (2 bytes, range: 0-9999)

• VAT 3 (2 bytes, range: 0-9999)

• VAT 4 (2 bytes, range: 0-9999)

• VAT 5 (2 bytes, range: 0-9999)

• VAT 6 (2 bytes, range: 0-9999)

***Command compatibility: OFD protocols 1.0***

**Family Code 018** – PRINTER PARAMETERS – 5 bytes

• PRINT ENERGY (1 byte, list)

0~-24%  
1~-20%  
2~-16%  
3~-12%  
4~-8%  
5~-4%  
6~ 0  
7~+4%  
8~+8%  
9~+12%  
10~+16%  
11~+20%  
12~+24%

• PRINTER SPEED (1 byte, list)

55~55%  
70~70%  
100~100%

• BOTTOM LINE FEED (1 byte, range 0..20)

• INTERLINE COMPRESSION (1 byte, range 0..2)

• ENABLE CUTTER (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

***Command compatibility: OFD protocols 1.05, 1.1***

**Family Code 018** – PRINTER PARAMETERS – 9 bytes

• PRINT ENERGY (1 byte, list)

0~-24%  
1~-20%  
2~-16%  
3~-12%  
4~-8%  
5~-4%  
6~ 0  
7~+4%  
8~+8%  
9~+12%  
10~+16%  
11~+20%  
12~+24%

• PRINTER SPEED (1 byte, list)

55~55%  
70~70%  
100~100%

• BOTTOM LINE FEED (1 byte, range 0..20)

• INTERLINE COMPRESSION (1 byte, range 0..2)

• TICKET FORMAT (4 byte, range 0..4095)

* bit 0: “Suppress sale line number if needed”
* bit 1: “Always suppress sale line number”
* bit 2: “Suppress fiscal logo printing”
* bit 3: “QR-code mixed with data”
* bit 4: “Compact sale line”
* bit 5: “No tag *Payment subject flag*, #1212”
* bit 6: “No tag *Way of payment flag*, #1214”
* bit 7: “No tag *Additional property of payment subject*, #1191”
* bit 8: “No tag *Flag of agent by payment subject*, #1222”
* bit 9: “No tag *Agent data*, #1223”
* bit 10: “No tag *Supplier data*, #1224”
* bit 11: “No tag *Supplier name*, #1226”

• ENABLE CUTTER (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

***Command compatibility: OFD protocols 1.0***

**Family Code 019** – GENERAL CONFIGURATION – 3 bytes

• MANDATORY SUBTOTAL (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• CASH DRAWER VOLTAGE (1 byte, list)

0~24V  
1~12V  
2~6V

• FPU MODE (1 byte, list)

0~АВТО РЕЖИМ  
1~ПРИНУД.FPU  
2~ПРИНУД.ЛОКАЛ.  
3~ПРИНУД.АННУЛ.

***Command compatibility: OFD protocols 1.05, 1.1***

**Family Code 019** – GENERAL CONFIGURATION – 4 bytes

• MANDATORY SUBTOTAL (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• CASH DRAWER VOLTAGE (1 byte, list)

0~24V  
1~12V  
2~6V

• FPU MODE (1 byte, list)

0~АВТО РЕЖИМ  
1~ПРИНУД.FPU  
2~ПРИНУД.ЛОКАЛ.  
3~ПРИНУД.АННУЛ.

• ADD EXTRA INFO (1 byte)

0~255

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

**Family Code 021** – HEADER – 405 bytes

• HEADER LINE 1 - PROPERTY (1 bytes, see table 021-1)

• HEADER LINE 1 - TEXT (44 bytes, text)

• HEADER LINE 2 - PROPERTY (1 bytes, see table 021-2)

• HEADER LINE 2 - TEXT (44 bytes, text)

• HEADER LINE 3 - PROPERTY (1 bytes, see table 021-2)

• HEADER LINE 3 - TEXT (44 bytes, text)

• HEADER LINE 4 - PROPERTY (1 bytes, see table 021-2)

• HEADER LINE 4 - TEXT (44 bytes, text)

• HEADER LINE 5 - PROPERTY (1 bytes, see table 021-2)

• HEADER LINE 5 - TEXT (44 bytes, text)

• HEADER LINE 6 - PROPERTY (1 bytes, see table 021-2)

• HEADER LINE 6 - TEXT (44 bytes, text)

• HEADER LINE 7 - PROPERTY (1 bytes, see table 021-2)

• HEADER LINE 7 - TEXT (44 bytes, text)

• HEADER LINE 8 - PROPERTY (1 bytes, see table 021-2)

• HEADER LINE 8 - TEXT (44 bytes, text)

• HEADER LINE 9 - PROPERTY (1 bytes, see table 021-2)

• HEADER LINE 9 - TEXT (44 bytes, text)

TABLE 021-1

0~НЕТ  
2~ДВОЙНАЯ ВЫСОТА  
3~ДВОЙНАЯ ШИРИНА  
4~ДВ. ВЫСОТА+ШИРИНА  
5~ЖИРНЫЙ  
6~СЖАТЫЙ  
7~СЖАТЫЙ+ЖИРНЫЙ  
8~КУРСИВ

200~НОМЕР КАРТИНКИ 1

201~НОМЕР КАРТИНКИ 2

202~НОМЕР КАРТИНКИ 3

203~НОМЕР КАРТИНКИ 4

204~НОМЕР КАРТИНКИ 5

205~НОМЕР КАРТИНКИ 6

206~НОМЕР КАРТИНКИ 7

207~НОМЕР КАРТИНКИ 8

208~НОМЕР КАРТИНКИ 9

209~НОМЕР КАРТИНКИ 10

210~НОМЕР КАРТИНКИ 11

211~НОМЕР КАРТИНКИ 12

212~НОМЕР КАРТИНКИ 13

213~НОМЕР КАРТИНКИ 14

214~НОМЕР КАРТИНКИ 15

215~НОМЕР КАРТИНКИ 16

216~НОМЕР КАРТИНКИ 17

217~НОМЕР КАРТИНКИ 18

218~НОМЕР КАРТИНКИ 19

219~НОМЕР КАРТИНКИ 20

220~НОМЕР КАРТИНКИ 21

221~НОМЕР КАРТИНКИ 22

222~НОМЕР КАРТИНКИ 23

223~НОМЕР КАРТИНКИ 24

224~НОМЕР КАРТИНКИ 25

TABLE 021-2

0~НЕТ  
2~ДВОЙНАЯ ВЫСОТА  
3~ДВОЙНАЯ ШИРИНА  
4~ДВ. ВЫСОТА+ШИРИНА  
5~ЖИРНЫЙ  
6~СЖАТЫЙ  
7~СЖАТЫЙ+ЖИРНЫЙ  
8~КУРСИВ

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

**Family Code 023** – FOOTER – 405 bytes

• FOOTER LINE 1 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 1 - TEXT (44 bytes, text)

• FOOTER LINE 2 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 2 - TEXT (44 bytes, text)

• FOOTER LINE 3 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 3 - TEXT (44 bytes, text)

• FOOTER LINE 4 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 4 - TEXT (44 bytes, text)

• FOOTER LINE 5 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 5 - TEXT (44 bytes, text)

• FOOTER LINE 6 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 6 - TEXT (44 bytes, text)

• FOOTER LINE 7 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 7 - TEXT (44 bytes, text)

• FOOTER LINE 8 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 8 - TEXT (44 bytes, text)

• FOOTER LINE 9 - PROPERTY (1 bytes, see table 023-1)

• FOOTER LINE 9 - TEXT (44 bytes, text)

TABLE 023-1

0~НЕТ  
2~ДВОЙНАЯ ВЫСОТА  
3~ДВОЙНАЯ ШИРИНА  
4~ДВ. ВЫСОТА+ШИРИНА  
5~ЖИРНЫЙ  
6~СЖАТЫЙ  
7~СЖАТЫЙ+ЖИРНЫЙ  
8~КУРСИВ

200~НОМЕР КАРТИНКИ 1

201~НОМЕР КАРТИНКИ 2

202~НОМЕР КАРТИНКИ 3

203~НОМЕР КАРТИНКИ 4

204~НОМЕР КАРТИНКИ 5

205~НОМЕР КАРТИНКИ 6

206~НОМЕР КАРТИНКИ 7

207~НОМЕР КАРТИНКИ 8

208~НОМЕР КАРТИНКИ 9

209~НОМЕР КАРТИНКИ 10

210~НОМЕР КАРТИНКИ 11

211~НОМЕР КАРТИНКИ 12

212~НОМЕР КАРТИНКИ 13

213~НОМЕР КАРТИНКИ 14

214~НОМЕР КАРТИНКИ 15

215~НОМЕР КАРТИНКИ 16

216~НОМЕР КАРТИНКИ 17

217~НОМЕР КАРТИНКИ 18

218~НОМЕР КАРТИНКИ 19

219~НОМЕР КАРТИНКИ 20

220~НОМЕР КАРТИНКИ 21

221~НОМЕР КАРТИНКИ 22

222~НОМЕР КАРТИНКИ 23

223~НОМЕР КАРТИНКИ 24

224~НОМЕР КАРТИНКИ 25

***Command compatibility: OFD protocols 1.0***

**Family Code 030** – OFD PARAMETERS – 258 bytes

• FDO WEB SITE (128 bytes, text)

• FDO WEB SITE PORT (2 bytes, range 1..65535)

• WEB SITE FOR CHECK (128 bytes)

***Command compatibility: OFD protocols 1.05, 1.1***

**Family Code 030** – OFD PARAMETERS – 130 bytes

• FDO WEB SITE (128 bytes, text)

• FDO WEB SITE PORT (2 bytes, range 1..65535)

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

**Family Code 910** – COMMUNICATION PARAMETERS – 11 bytes

• PROTOCOL (1 byte, list)

0~NONE  
4~CUSTOM  
5~CUSTOM DLL  
7~CUSTOM RU

• BAURATE (4 bytes, list)

96~9600  
192~19200  
384~38400  
576~57600  
1152~115200

• BIT NUMBER (1 byte, list)

8~8,NONE,1  
7~7,ODD,1

• XON-XOFF TX FOOTER (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• XON-XOFF TX ECHO (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• HANDSHAKE (1 byte, list)

0~NONE  
1~RTS/CTS  
2~XON/XOFF

• DISPLAY LINE (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• PC CHANNEL (1 byte, list)

0~АВТО РЕЖИМ  
2~RS232  
3~Wi-Fi  
4~Bluetooth  
5~Ethernet  
6~USB

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

**Family Code 911** – Eth PARAMETERS – 25 bytes

• ENABLE DHCP (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• IP ADDRESS (4 bytes, ip format)

• NETWORK MASK (4 bytes, ip format)

• GATEWAY (4 bytes, ip format)

• DNS (4 bytes, ip format)

• PORT (2 bytes, range 0..65535)

• MACID (6 bytes, read only. When writing family code 911 must be present, value is ignored)

## APPENDIX A2 – tables list

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

**Family Code 120** – DEPARTMENT PARAMETERS – Number of rows: 16, size of row: 71 bytes

• DESCRIPTION (30 bytes, text)

• PRICE (8 bytes, range 0.. 999999999999)

• DEPT VAT CODE (1 bytes, range 1.. 8)

• SINGLE ITEM RECEIPT (1 byte, list)

0~DISABLED  
1~ENABLED

• WRITE-OFFS EN OP (1 byte, list)

0~ALL OPERATORS  
1~ONLY ENABLED OP.

• VOID ENABLED OP (1 byte, list)

0~ALL OPERATORS  
1~ONLY ENABLED OP.

• DISC/MARKUP ENABOP (1 byte, list)

0~ALL OPERATORS  
1~ONLY ENABLED OP.

• DEPT ENABLED OP (1 byte, list)

0~ALL OPERATORS  
1~ONLY ENABLED OP.

• MIN AMOUNT (8 bytes, range 0.. 999999999999)

• MAX AMOUNT (8 bytes, range 0.. 999999999999)

• DISC/MARKUP MODE (1 bytes, range 0.. 20)

• MACRO FUNCTION (1 bytes, range 0.. 10)

• PRICE 1 (8 bytes, range 0.. 999999999999)

• DEPTS GROUPS (1 bytes, range 1.. 6)

***Command compatibility: OFD protocols 1.0***

**Family Code 320** – OPERATOR PARAMETERS – Number of rows: 8, size of row: 84 bytes

• CODE (1 byte, range 0..99)

• PASSWORD (2 bytes, range 0..9999)

• DESCRIPTION (64 bytes, text)

• TEMPORARY OPERATOR (1 byte, list)

0~НЕ ВРЕМЕННЫЙ  
1~ВРЕМЕННЫЙ

• PROGRAM OPERATOR (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• PROGRAMMING MODE (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• ZEROSETTING MODE (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• READING MODE (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• REGISTERING MODE (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• REFUNDS (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• WRITE-OFFS (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• PAYMENT (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• DISC/MARKUP (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• DEPARTMENT (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• DISC/MARKUP ON SBT (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• VOID (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• OPERATOR ZEROSET (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• OPEARTOR REPORT (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• FISCAL ZEROSETTING (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• MACRO FUNCTION (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

***Command compatibility: OFD protocols 1.05, 1.1***

**Family Code 320** – OPERATOR PARAMETERS – Number of rows: 8, size of row: 96 bytes

• CODE (1 byte, range 0..99)

• PASSWORD (2 bytes, range 0..9999)

• DESCRIPTION (64 bytes, text)

• TIN CASSIERE (12 bytes, text)

• TEMPORARY OPERATOR (1 byte, list)

0~НЕ ВРЕМЕННЫЙ  
1~ВРЕМЕННЫЙ

• PROGRAM OPERATOR (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• PROGRAMMING MODE (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• ZEROSETTING MODE (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• READING MODE (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• REGISTERING MODE (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• REFUNDS (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• WRITE-OFFS (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• PAYMENT (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• DISC/MARKUP (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• DEPARTMENT (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• DISC/MARKUP ON SBT (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• VOID (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• OPERATOR ZEROSET (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• OPEARTOR REPORT (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• FISCAL ZEROSETTING (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

• MACRO FUNCTION (1 byte, list)

0~ОПЕР.ЗАПРЕЩЕНА  
1~ОПЕР.РАЗРЕШЕНА

***Command compatibility: OFD protocols 1.0, 1.05, 1.1***

**Family Code 520** – PAYMENT PARAMETERS – Number of rows: 4, size of row: 54 bytes

• ENABLE (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• DESCRIPTION (30 bytes)

• NO CASH (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• OPEN CASH DRAWER (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• MANDATORY SUBTOTAL (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• MANDATORY AMOUNT (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• CHANGE FORBIDDEN (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• DRAWER ONLY POS (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• RESERVED TO OPERATOR (1 byte, list)

0~ЗАПРЕЩЕН  
1~РАЗРЕШЕН

• MAX AMOUNT (8 bytes, range 0.. 999999999999)

• AMOUNT (8 bytes, range 0.. 999999999999)