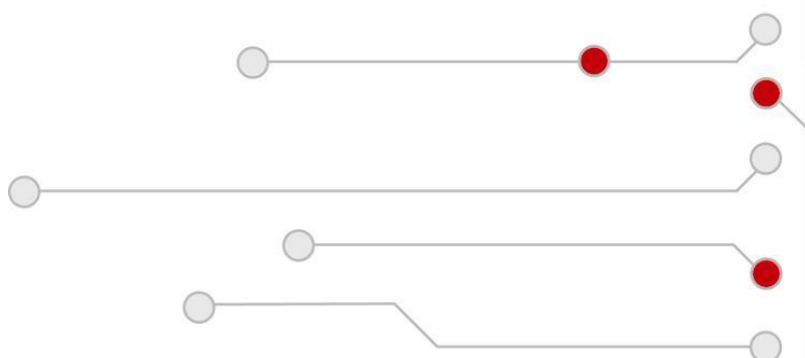


ELECTRONIC CASH REGISTERS

CHD 7
CHD 2050
CHD 3030
CHD 3050
CHD 3850
CHD 5850
CHD 5880
CHD 6800



ECRO DRIVER DESCRIPTION



Computer Hardware Design SIA
CHD Europe SIA

Revision history:

Date	Description of modifications	Author
11.01.2008	Initial version	NN
21.01.2008	Minor modifications	NN
11.07.2008	Table numbers and formats added. Report numbers added.	VlaR, Alex
22.09.2008	Report formats added.	NN
25.09.2008	Daily financial report format changed (moved RA /PO from tender sub-report to separate sub-reports)	AJ NN
14.10.2008	Driver return code section updated.	NN
03.11.2008	Department type field added	VlaR
15.11.2008	RA / PO operation name sections added	NN
27.11.2008	Tender section updated	NN
16.12.2008	Fiscal printer mode commands added	NN
18.12.2008	Minor documentation restructure	NN
28.01.2009	Note about CHDVFP at the beginning of fiscal printer section added	VlaR
30.01.2009	Fiscal printer protocol: tender amount, PLU price and department name parameters made optional	NN
06.02.2009	INI-file parameter default values added	NN
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01.06.2009	Missing sections / fields added Transaction start / suspend fiscal commands added	NN VlaR
30.06.2009	Transaction resume fiscal command updated	NN
16.07.2009	Modifier fiscal command updated	NN
04.08.2009	Linked PLU section added	NN
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21.08.2009	Printing option section added	NN
15.09.2009	Clerk report section added	NN
16.09.2009	Keyboard layout commands added	NN
23.09.2009	Modifier fiscal command updated Customer report section added	NN NN
15.10.2009	Low level fiscal printer commands removed Transaction log command description added	NN
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07.12.2009	Transaction log sale/return line format enhanced	NN
11.12.2009	Country independent (ISO 8601:2004) date/time format used	NN
18.03.2010	Transaction log sale/return line format enhanced	NN
15.04.2010	Service reminder command data example updated	NN
05.05.2010	COM port, Ethernet, on-line mode and macro key sections added ECR error codes updated	NN
18.05.2010	Moved from option flags to system settings ReceiptPrintEnabled JournalPrintEnabled flags, instead of those 2 option flags introduced ReceiptPrintInRegModeOn JournalPrintInXmodeOn flags	AJ
26.05.2010	Added HALO/LALO field for tender record	AJ
27.05.2010	Clerk profile field added – “training mode on”	AJ
02.06.2010	Printing option field added – “negative sales total on report”	Alex
11.06.2010	Report arrangement section added Keyboard layout key descriptions added	AJ
11.06.2010	2 new in-store bar code types added	AJ
14.06.2010	System setting commands added	NN
22.06.2010	Missing option flags added	NN
08.07.2010	Item print options: new flag added	NN
15.07.2010	FTP settings section added	NN

30.07.2010	Financial/clerk report counter descriptions updated	NN
09.08.2010	Item print option added – “print graphical logo after paper cut”	NN
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16.11.2010	New INI-file parameters added	NN
25.11.2010	Added compact tax print flag to option flags	AJ
25.07.2011	Automatic promotion section added	NN
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01.08.2011	Added Total barcode section	AJ
04.08.2011	Transaction log section updated	NN
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09.02.2012	New fields added	NN
14.02.2012	New INI-file parameters added	NN
26.03.2012	Added <i>LogFilePath</i> property description	MA
15.10.2012	Added option flags missing description	MA
17.10.2012	Added printing option flags missing description	MA
29.10.2012	Changed no sale counter to misc. counters and added 2 counters	MA
07.11.2012	New Cashback flag in Tender	Alex
17.01.2013	Added key names	AJ
18.01.2013	Updated tax info	AJ
31.07.2013	Added Measurement unit section access	AJ
21.01.2014	Added PRG13 fields 40-42, PRG27 fields 12-16	AJ
18.02.2014	Added PRG5 and PRG40 sections	AJ
20.02.2014	Added PRG13 fields 43-44	AJ
26.02.2014	Added PRG13 field 45	AJ
07.03.2014	Added PRG13 field 46	AJ
23.05.2014	Added PRG3 field 13	AJ
03.12.2014	Added PRG19 field 38	AJ
17.12.2015	Updated PRG8 field tender type introducing different terminals	AJ
06.07.2016	Updated PRG1 section with IgnoreWarning flag	AB
01.02.2017	Added graphical logo (29 command) clear and read possibility	AB

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Introduction

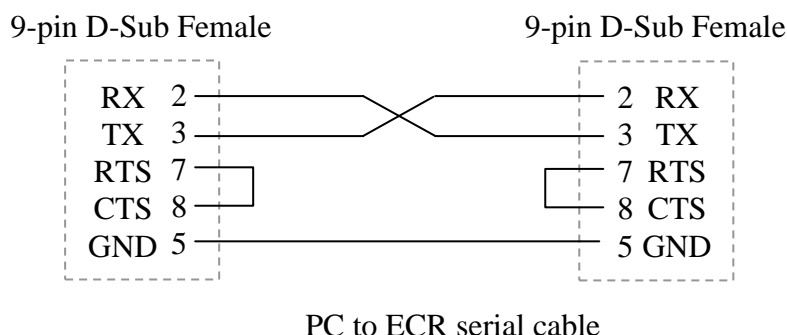
SDRV is a command line tool for communicating with a new generation CHD ECRs (CHD3320, CHD5620 etc.). It provides a set of commands for ECR table (PLU, departments) and setting (date, time, option flags) modification, allows to reads various reports, set receipt graphical logo and much more. It also provides a fiscal printer mode commands. In short – if some action can be performed manually, it can also be performed using SDRV.

1. CONNECTING ECR TO PC

In order to communicate SDRV must be able to connect to ECR. Local ECR can be connected to a PC via a serial cable or via a standard network cable. Remote ECR should be connected to a network, which is accessible from the PC where SDRV runs.

1.1. Serial cable connection

1. Connect ECR to a PC using serial cable (see the picture below).



2. To test the connection use the following command:

```
SDRV.exe read 1 dept.csv /ComNumber=N
```

where *N* is a PC serial port number used to connect to ECR.

1.2. Ethernet connection

1. Connect ECR to a PC or to a one of network devices (switch, hub, router, etc.).
2. Configure ECR network settings (PRG-mode section 53).

3. Generate ECR communication password (S-mode section 5).
4. To test the connection use the following command:

SDRV.exe read 1 dept.csv /IpAddress=192.168.1.102 /TcpPort=2000 /Password=12345

where */IpAddress*, */TcpPort* and */Password* correspond to ECR configuration.

2. DATA PRESET COMMANDS

Driver usage:

SDRV.exe command data filename [parameters]

Command – action to perform on selected data.

Command	Description
<i>Read</i>	Used to read ECR table records into an output file.
<i>Send</i>	Used to add/update ECR table with records from an input file.
<i>Delete</i>	Used to delete ECR table records. Record numbers are taken from an input file.
<i>Clear</i>	Used to delete clear ECR table (delete all records).
<i>Init</i>	Used to reinitialize ECR table (fill with default records)
<i>ClearAndSend</i>	Combines clear and send actions. Used to clear table and fill it with records from an input file.

Data – ECR PGR-mode section number. Input / output file field sequence is the same as in corresponding PGR-mode section (see sub-sections below).

Filename – an input or an output file name (depending on the command).

Parameters – INI-file parameters in form /Name=Value. Used to override INI-file configuration.

2.1. Departments

Data type: 1

Command line examples:

```
sdrv.exe send 1 dept.txt
sdrv.exe read 1 dept.txt
sdrv.exe delete 1 dept.txt
sdrv.exe clear 1
```

Mandatory fields:

№	Description	Type	Value
0	Number	Integer	1 ... department count
1	Name	String	Max 20 symbols
2	Price	Decimal	0.00 ... 9999999.99
3	Tax	Integer	1 ... number of taxes, 0 – non-taxable
4	HALO/LALO High / low price limits	Integer	00 ... 77 Digit 1 – number of high price limit digits, 0 – no limit Digit 2 – number of low price limit digits, 0 – no limit
5	Negative	Integer	0 – disabled, 1 – enabled
6	Allow zero price	Integer	0 – disabled, 1 – enabled

Optional fields:

Nº	Description	Type	Value
7	Department Type	Integer	1 – Normal department (default) 2 – Deposit (for countries which have deposits) 3 – Tare (for countries which have tare)
8	Single item	Integer	0 – disabled (default), 1 – enabled
9	Unit of measures	Integer	0 ... measurement unit count
10	Ignore modifiers	Integer	0 – Disabled (default). Modifiers for sales in this department will work normally. 1 – Enabled. Modifiers for sales in this department will be ignored (in subtotal/total case) or cause error (in item case).

File example:

```
15, "Dept 15", 4.88, 4, 0, 0, 0, 1
78, "Dept 78", 39.32, 3, 0, 0, 0, 1
88, "Dept 88", 36.26, 0, 0, 0, 0, 1
```

2.2. PLUs

Data type: 3

Command line examples:

```
sdrv.exe send 3 plu.txt
sdrv.exe read 3 plu.txt
sdrv.exe delete 3 plu.txt
sdrv.exe clear 3
```

Mandatory fields:

Nº	Description	Type	Value
0	Number	Integer	Max 13 digits
1	Name	String	Max 20 symbols
2	Price level 1 price	Decimal	0.00 ... 99999999.99
3	Price level 2 price	Decimal	0.00 ... 99999999.99
4	Price level 3 price	Decimal	0.00 ... 99999999.99
5	Tax	Integer	1 ... number of taxes, 0 – non-taxable
6	Department	Integer	0 ... 99
7	HALO/LALO High / low price limits	Integer	00 ... 77 Digit 1 – number of high price limit digits, 0 – no limit Digit 2 – number of low price limit digits, 0 – no limit
8	Negative item	Integer	0 – disabled, 1 – enabled
9	Allow zero price	Integer	0 – disabled, 1 – enabled

Optional fields:

Nº	Description	Type	Value
10	PLU group	Integer	1 ... PLU group count, 0 – not used (default)
11	Allow price override	Integer	0 – disabled, 1 – enabled
12	Quantity compulsory	Integer	0 – disabled, 1 – enabled

13	Skip print on receipt (if zero price)	Integer	0 – disabled, 1 – enabled
----	--	---------	---------------------------

File example:

```
165, "PLU 165", 1.23, 4.56, 7.89, 1, 4, 0, 0, 0
2056, "PLU 2056", 1.23, 4.56, 7.89, 3, 65, 0, 0, 0, 0,
2567, "PLU 2567", 1.23, 4.56, 7.89, 4, 65, 0, 0, 0, 0, 0, 0
```

2.3. Linked PLUs

Data type: 4

Command line examples:

```
sdrv.exe send 4 linkedPlu.txt
sdrv.exe read 4 linkedPlu.txt
sdrv.exe delete 4 linkedPlu.txt
sdrv.exe clear 4
```

Mandatory fields:

No	Description	Type	Value
0	Main PLU number	Integer	Max 13 digits
1	Linked PLU 1 number	Integer	Max 13 digits, 0 – not used

Optional fields:

No	Description	Type	Value
2	Linked PLU 2 number	Integer	Max 13 digits, 0 – not used (default)
3	Linked PLU 3 number	Integer	Max 13 digits, 0 – not used (default)
4	Linked PLU 4 number	Integer	Max 13 digits, 0 – not used (default)
5	Linked PLU 5 number	Integer	Max 13 digits, 0 – not used (default)

File example:

```
1, 22, 23
2, 73
```

2.4. PLU group

Data type: 5

Command line examples:

```
sdrv.exe send 5 pluGroup.txt
sdrv.exe read 5 pluGroup.txt
sdrv.exe delete 5 pluGroup.txt
sdrv.exe clear 5
```

Mandatory fields:

No	Description	Type	Value
0	Number	Integer	1 ... PLU group count
1	Name	String	Max 20 symbols
2	Automatic promotion number	Integer	0 ... 99
3	Modifier number	Integer	0 ... 99
4	Kitchen printer number	Integer	0 ... 99

File example:

1, "PLU group 1", 0, 0, 1

2.5. Tenders

Data type: 8

Command line examples:

sdrv.exe send 8 tender.txt

sdrv.exe read 8 tender.txt

sdrv.exe delete 8 tender.txt

sdrv.exe clear 8

Mandatory fields:

No	Description	Type	Value
0	Number	Integer	1 ... tender count
1	Name	String	Max 20 symbols
2	Currency number	Integer	0 ... 99

Optional fields:

No	Description	Type	Value
3	Amount entry compulsory	Integer	0 – disabled, 1 – enabled (by default 0)
4	Over tender prohibited	Integer	0 – disabled, 1 – enabled (by default 0)
5	Under tender prohibited	Integer	0 – disabled, 1 – enabled (by default 0)
6	Tender type	Integer	0 – payment with CASH, 1 – payment with terminal POINT (LV, LT), 2 – payment with terminal HYPERCOM (CH), 3 – payment with terminal NETS (LV (PAX), DK, IL) (CH), 4 – payment with terminal MobilePay (DK (Android)) (by default 0)
7	Subtotal granularity	Decimal	0.01 ... 9999999.99 (by default 0.01)
8	Open cash drawer	Integer	0 – disabled, 1 – enabled (by default 0)
9	RA prohibited	Integer	0 – disabled, 1 – enabled (by default 0)
10	PO prohibited	Integer	0 – disabled, 1 – enabled (by default 0)
11	Disable negative amount in drawer	Integer	0 – disabled, 1 – enabled (by default 0)
12	HALO/LALO	Integer	00...XY, where X, Y - 0...7; X – HALO, Y - LALO
13	Cashback	Integer	0 – disabled, 1 – enabled (by default 0)

File example:

```
1, "CASH", 1
2, "CREDIT", 2
```

2.6. Discounts / markups

Data type: 9

Command line examples:

```
sdrv.exe send 9 modifier.txt
sdrv.exe read 9 modifier.txt
sdrv.exe delete 9 modifier.txt
sdrv.exe clear 9
```

Mandatory fields:

No	Description	Type	Value
0	Number	Integer	1 ... modifier count
1	Name	String	Max 20 symbols
2	Amount	Decimal	0.00 ... 9999999.99
3	Percent rate	Decimal	0.00 ... 99.99
4	Discount / markup	Integer	0 – markup 1 – discount
5	Amount / percent rate	Integer	0 – amount discount/markup 1 – percent discount/markup
6	Fixed / open	Integer	0 – open (amount / rate must be entered) 1 – fixed (use preset amount / rate)
7	Modifier type	Integer	1 – item. Applied to preceding item 2 – subtotal. Applied for current sale total (subtotal) 3 – item or subtotal, depending on the modifier's position in a receipt. 4 – total modifier. Applied for a sale total. The total modifier can be registered anytime during a sale, it will be executed and printed at sale finalization (payment).

Optional fields:

No	Description	Type	Value
8	PLU group	Integer	1 – PLU group count, 0 – not used (default)

File example:

```
1, "", 0.00, 0.00, 1, 1, 0, 1
2, "VIP discount", 0.00, 10.00, 1, 1, 1, 2
```

2.7. Automatic promotions

Data type: 10

Command line examples:

sdrv.exe send 10 promotions.txt

sdrv.exe read 10 promotions.txt

sdrv.exe clear 10

Data format:

Nº	Description	Type	Value
0	Number	Integer	1 ... automatic promotion count
1	Trigger condition	Integer	1 – quantity 2 – amount
2	Modifier	Integer	1 ... modifier count The modifier should be a subtotal modifier.
3	Quantity	Decimal	0.001 ... 999999.999 0.000 – always apply modifier (default)
4	Amount	Decimal	0.01 ... 9999999.99 0.00 – always apply modifier (default)
5	PLU group	Integer	1 ... PLU group count, 0 – all items (default)

File example:

1, 1, 7, 3, 0, 5

2.8. ECR number

Data type: 12

Command line examples:

sdrv.exe send 12 EcrID.txt

sdrv.exe read 12 EcrID.txt

sdrv.exe clear 12

Data format:

Nº	Description	Type	Value
1	ECR number (ID)	String	Max 20 symbols

2.9. Option flags

Data type: 13

Command line examples:

sdrv.exe send 13 optionFlags.txt

sdrv.exe read 13 optionFlags.txt

sdrv.exe init 13

Data format:

No	Description	Type	Value
1	Beep on key press	Integer	0 – disabled, 1 – enabled
2	Join department and financial reports	Integer	0 – disabled, 1 – enabled
3	Print zeros in reports	Integer	0 – disabled, 1 – enabled
4	Subtotal compulsory	Integer	0 – disabled, 1 – enabled
5	Price level affects single item	Integer	0 – disabled, 1 – enabled
6	Print header on journal for reports only	Integer	0 – disabled, 1 – enabled
7	Receipt copy enabled	Integer	0 – disabled, 1 – enabled
8	Reset receipt counter on Z1 report	Integer	0 – disabled, 1 – enabled
9	Item modifiers affect PLU / department totals	Integer	0 – disabled, 1 – enabled Currently this field is ignored!
10	Allow sale and refund in same transaction	Integer	0 – disabled, 1 – enabled
11	Single line tender control transactions	Integer	0 – disabled, 1 – enabled
12	Print on journal in PRG mode	Integer	0 – disabled, 1 – enabled
13	Receipt cut type	Integer	0 – no cut 1 – full cut 2 – partial cut
14	Paper economic mode	Integer	0 – disabled, 1 – enabled
15	Allow change in foreign currency	Integer	0 – disabled, 1 – enabled
16	Clerk system	Integer	0 – disabled, 1 – enabled
17	Print receipt at transaction end	Integer	0 – disabled, 1 – enabled
18	Center text logo	Integer	0 – disabled, 1 – enabled
19	Receipt printing in REG mode ON	Integer	0 – disabled, 1 – enabled
20	Journal printing in X mode ON	Integer	0 – disabled, 1 – enabled
21	REG-mode price entry input masking	Integer	0 – disabled, 1 – enabled
22	Print Net grand total on Z1 report	Integer	0 – disabled, 1 – enabled
23	Print rounded subtotal on receipt	Integer	0 – disabled, 1 – enabled
24	Clerk auto log-out	Integer	0 – disabled, 1 – enabled
25	Multiple single item receipts	Integer	0 – disabled, 1 – enabled
26	Recalculate taxes on daily financial Z1 report	Integer	0 – disabled, 1 – enabled
27	Compact tax print format	Integer	0 – disabled, 1 – enabled
28	Print on receipt in PRG mode	Integer	0 – disabled, 1 – enabled
29	Automatic Summer / Winter time change	Integer	0 – disabled, 1 – enabled
30	Allow change in foreign currency in transaction payment currency only, e.g. if no payment in tender with specified currency, disable change in that currency	Integer	0 – disabled, 1 – enabled
31	Defines price input behaviour	Integer	0 – entered amount divided by 100 (12 will result in 0,12 added to transaction) 1 – entered amount multiplied by 100 (12 will result in 12,00 added to transaction)
32	Should cash drawer be opened on X reports	Integer	0 – disabled, 1 – enabled
33	Shift key operation mode (All non-fiscal countries except CH)	Integer	0 – Till next key press 1 – Till next shift key press 2 – Till transaction end
34	Hospitality	Integer	0 – disabled, 1 – enabled
35	Should cash drawer be opened on Z reports	Integer	0 – disabled, 1 – enabled
36	Show confirmation before customer EFT slip	Integer	0 – disabled, 1 – enabled

	print. It is possible to choose to print EFT slip or to skip printing if confirmation is showed		
37	Track number should be entered before starting transaction	Integer	0 – disabled, 1 – enabled
38	Allow transaction browsing using list. If allowed ("1") user can't void lines partially, for example, if registered 1 PLU with discount, then it should be voided using list, not conventional registration	Integer	0 – disabled, 1 – enabled
39	Normalize transaction on closing table and before printing receipt after tender	Integer	0 – disabled, 1 – enabled
40	Automatic tender with cash and clerk log-out on Dallas key removal	Integer	0 – disabled, 1 – enabled
41	Close track and clerk log-out on Dallas key removal	Integer	0 – disabled, 1 – enabled
42	Open drawer on negative subtotal	Integer	0 – disabled, 1 – enabled
43	Use 12h clock	Integer	0 – disabled, 1 – enabled
44	Allow Z report if tables opened	Integer	0 – disabled, 1 – enabled
45	Supervisor open table report prints all clerk opened tables	Integer	0 – disabled, 1 – enabled
46	Delete opened tables on Z report	Integer	0 – disabled, 1 – enabled

2.10. Date

Data type: 14

Command line examples:

sdry.exe send 14 newDate.txt

sdry.exe read 14 date.txt

Data format:

No	Description	Type	Value
1	Current date	String	Format: YYYY.MM.DD

File example:

"2005.12.01"

2.11. Time

Data type: 15

Command line examples:

sdry.exe send 15 newTime.txt

sdry.exe read 15 time.txt

Data format:

No	Description	Type	Value
1	Current time	String	Format: HH:MM:SS

File example:

"12:05:04"

2.12. Currencies

Data type: 16

Command line examples:

sdrv.exe send 16 currency.txt

sdrv.exe read 16 currency.txt

sdrv.exe clear 16

Data format:

No	Description	Type	Value
0	Number	Integer	1 ... currency count
1	Name	String	Max 20 symbols
2	Exchange rate	Decimal	0 ... 99999.99999

Optional fields:

No	Description	Type	Value
3	Currency decimal count	Integer	2 – default value
4	Exchange rate direction	Integer	0 – foreign currency in local currency (default) 1 – local currency in foreign currency

File example:

1, "LVL", 1.00000
2, "EUR", 0.70280
3, "USD", 0.48000
4, "LTL", 0.20400
5, "EEK", 0.04500

2.13. Printing fonts and heights

Data type: 18

Command line examples:

sdrv.exe send 18 printOptions.txt

sdrv.exe read 18 printOptions.txt

sdrv.exe init 18

Data format:

No	Description	Type	Value
----	-------------	------	-------

1	Receipt height	Integer	1 – half height 2 – normal height 3 – double height
2	Journal height	Integer	Same as 1
3	Receipt font	Integer	1 – text font 1 2 – text font 2
4	Journal font	Integer	Same as 3
5	Text logo height	Integer	Same as 1
6	Footer height	Integer	Same as 1
7	ECR serial number height	Integer	Same as 1
8	Receipt number height	Integer	Same as 1
9	Sale items height	Integer	Same as 1
10	Sales total height	Integer	Same as 1
11	Tendered amount height	Integer	Same as 1
12	Change amount height	Integer	Same as 1
13	Customer number height	Integer	Same as 1
14	Customer name height	Integer	Same as 1

2.14. Printing options

Data type: 19

Command line examples:

sdrv.exe send 19 printOptions.txt

sdrv.exe read 19 printOptions.txt

sdrv.exe init 19

Data format:

No	Description	Type	Value
1	Print PLU code on sales receipts	Integer	0 – disabled, 1 – enabled
2	Print tax names and totals on sales receipts	Integer	0 – disabled, 1 – enabled
3	Print zero price on sales receipts	Integer	0 – disabled, 1 – enabled
4	Print subtotal amount on sales receipts	Integer	0 – disabled, 1 – enabled
5	Print no sale receipts	Integer	0 – disabled, 1 – enabled
6	Print tax grand totals on financial report	Integer	0 – disabled, 1 – enabled
7	Print graphical logo on sales receipts	Integer	0 – disabled, 1 – enabled
8	Print currency rate in reports	Integer	0 – disabled, 1 – enabled
9	Print total in 2 nd currency units on sales receipts	Integer	0 – disabled, 1 – enabled
10	Print in-store barcode quantity	Integer	0 – disabled, 1 – enabled
11	Print ECR number	Integer	0 – disabled, 1 – enabled
12	Print taxable amount on sales receipts	Integer	0 – disabled, 1 – enabled
13	Print taxable with tax amount on sales receipts	Integer	0 – disabled, 1 – enabled
14	Print tax amount on sales receipts	Integer	0 – disabled, 1 – enabled
15	Print foreign currency rate on sales receipts	Integer	0 – disabled, 1 – enabled
16	Print grand total on financial report	Integer	0 – disabled, 1 – enabled
17	Print taxes on financial report	Integer	0 – disabled, 1 – enabled
18	Print no-sale on financial report	Integer	0 – disabled, 1 – enabled
19	Negative sales on reports	Integer	0 – disabled, 1 – enabled
20	Print PC communication info on journal	Integer	0 – disabled, 1 – enabled
21	Print graphical logo after paper cut	Integer	0 – disabled, 1 – enabled
22	Print text logo after paper cut	Integer	0 – disabled, 1 – enabled
23	Print error correct total on reports	Integer	0 – disabled, 1 – enabled
24	Print negative transaction total on reports	Integer	0 – disabled, 1 – enabled

25	Print return total on reports	Integer	0 – disabled, 1 – enabled
26	Print modifier totals on reports	Integer	0 – disabled, 1 – enabled
27	Print graphical logo on reports	Integer	0 – disabled, 1 – enabled
28	Print total barcode on receipts	Integer	0 – disabled, 1 – enabled
29	Print department turnover percent on reports	Integer	0 – disabled, 1 – enabled
30	Print item count on sales receipts	Integer	0 – disabled, 1 – enabled
31	Print rounding on sales receipts	Integer	0 – disabled, 1 – enabled
32	Print rounding difference amount on daily financial report	Integer	0 – disabled, 1 – enabled
33	Print daily non-fiscal receipt count on daily financial report	Integer	0 – disabled, 1 – enabled
34	Print receipt copy count on daily financial report	Integer	0 – disabled, 1 – enabled
35	Print Daily X1 report count on daily financial report	Integer	0 – disabled, 1 – enabled
36	Print short header (2 lines) on single item receipts	Integer	0 – disabled, 1 – enabled
37	Print Plu barcode	Integer	0 – disabled, 1 – enabled
38	Print TAX total on receipt	Integer	0 – disabled, 1 – enabled

2.15. COM port settings

Data type: 23

Command line examples:

sdrv.exe send 23 comPorts.txt

sdrv.exe read 23 comPorts.txt

sdrv.exe clear 23

Data format:

No	Description	Type	Value
0	COM port number	Integer	1 ... COM port count
1	Device type	Integer	0 – none 1 – communications 2 – barcode scanner 3 – scale () 4 – MSR 5 – external printer 6 – fiscal memory 7 – scale (Pc100) 8 – scale (MK152TH21) 9 – scale (CasAp) 19 – modem (Insys336pro30) 20 – EFT terminal (Hypercom T4220) 21 – EFT terminal (Dancard I5100)
2	Baud rate	Integer	1 – 2400 2 – 4800 3 – 9600 4 – 19200 5 – 38400 6 – 57600 7 – 115200

3	Data bits	Integer	1 – 8 bits 2 – 7 bits
4	Parity	Integer	1 – none 2 – odd 3 – even
5	Stop bits	Integer	1 – 1 stop bit 2 – 2 stop bits
6	Flow control	Integer	1 – none 2 – hardware 3 – software

File example:

```
1, 1, 5, 1, 2, 1, 1
2, 2, 3, 1, 1, 1, 1
```

2.16. PLU presets

This table defines PLU number keyboard shortcuts (see ECR manual S-mode section 4 for keyboard programming details).

Data type: 24

Command line examples:

```
sdrv.exe send 24 presetPlu.txt
sdrv.exe read 24 presetPlu.txt
sdrv.exe clear 24
```

Data format:

No	Description	Type	Value
0	Preset PLU number	Integer	1 ... preset PLU count
1	PLU number	Integer	Max 13 digits

File example:

```
1, 1234567890123
2, 0000567890123
3, 1
```

2.17. Clerks

Data type: 26

Command line examples:

```
sdrv.exe send 26 clerk.txt
sdrv.exe read 26 clerk.txt
sdrv.exe delete 26 clerk.txt
sdrv.exe clear 26
```

Mandatory fields:

No	Description	Type	Value
0	Number	Integer	1 ... clerk count
1	Name	String	Max 20 symbols
2	Dallas key number	Binary	12 hex digits, 0x00 – Dallas key is not used
3	Password	String	Max 20 symbols

Optional fields:

No	Description	Type	Value
4	Clerk profile	Integer	1 ... clerk profile count, 0 – not used (default)

File example:

```
1, "Clerk 01", 0x00, "1q2W3e"
2, "Clerk 02", 0x1FB35678C0D2, ""
```

2.18. Clerk profiles

Data type: 27

Command line examples:

```
sdrv.exe send 27 clerkProfiles.txt
sdrv.exe read 27 clerkProfiles.txt
sdrv.exe clear 27
```

Data format:

No	Description	Type	Value
0	Number	Integer	1 ... clerk profile count
1	Profile name	String	Max 20 symbols
2	S-mode access allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
3	PRG-mode access allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
4	REG-mode access allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
5	X-mode access allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
6	Z-mode access allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
7	Refund allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
8	Void allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
9	Error correct allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
10	Price shift allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
11	Training mode on	Integer	0 – not allowed, 1 – allowed (by default 0)
12	All table access	Integer	0 – not allowed, 1 – allowed (by default 0)
13	Sales transactions allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
14	Table transactions allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
15	Previous orders correction allowed	Integer	0 – not allowed, 1 – allowed (by default 0)
16	Period reports allowed	Integer	0 – not allowed, 1 – allowed (by default 0)

File example:

```
1, "Manager", 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1
```

2, "Operator", 0, 0, 1, 0, 0, 0, 0, 1, 0, 1, 1, 1, 0, 0

2.19. Graphical logo

Data type: 29

Command line examples:

sdrv.exe send 29 logo.bmp

sdrv.exe read 29 logo.bmp

sdrv.exe clear 29

Logo sizes:

ECR type	Width (fixed)	Max height
CHD3320	288	288
CHD5620	384	384

2.20. Taxes

Data type: 30

Command line examples:

sdrv.exe send 30 tax.txt

sdrv.exe read 30 tax.txt

sdrv.exe clear 30

Data format:

No	Description	Type	Value
0	Number	Integer	1 ... tax count
1	Percents rate	Decimal	0 ... 99.99
2	Tax type	Integer	0 – Non - taxable 1 – VAT (default) 2 – Add-on
3	Is active (PL only)	Integer	0 – not active 1 – active (default for all countries except PL)

File example:

1, 10.00, 1, 1
2, 5.00, 1, 1
3, 21.00, 1, 1

2.21. Text header

Data type: 31

sdrv.exe clear 34

Data format:

No	Description	Type	Value
0	Number	Integer	Max 16 digits
1	Info line 1	String	Max 20 symbols
2	Info line 2	String	Max 20 symbols
3	Info line 3	String	Max 20 symbols
4	Info line 4	String	Max 20 symbols
5	Modifier	Integer	1 ... modifier count
6	Percent rate	Decimal	0.00 ... 99.99

File example:

```
1, "John Smith", "Memorial Drive 17", "", "", 2, 10.00
```

2.24. Kitchen printer

Data type: 40

Command line examples:

sdrv.exe send 40 kp.txt

sdrv.exe read 40 kp.txt

sdrv.exe delete 40 kp.txt

sdrv.exe clear 40

Mandatory fields:

No	Description	Type	Value
0	Number	Integer	1 ... Kitchen printer count
1	Name	String	Max 20 symbols
2	Printer type	Integer	0 - Printer is inactive 1 - ECR printer 2 - ETHERNET printer 3 - RS232 printer
3	ETHERNET printer IP	String	XXX.XXX.XXX.XXX format string
4	ETHERNET printer port	Integer	1 ... 65535
5	ECR RS232 port number	Integer	0 - off, 1 ... ECR serial port count
6	Printing width	Integer	20 - 64 characters
7	Single item on ticket	Integer	0 - off, 1 - on
8	Print item price	Integer	0 - off, 1 - on
9	Print items bold	Integer	0 - off, 1 - on
10	Print items in double height	Integer	0 - off, 1 - on

File example:

```
1, "", 3, "000.000.000.000", 0, 0, 32, 0, 0, 0, 0
```

2.25. PLU barcode

Data type: 42

Command line examples:

sdrv.exe send 42 pluBarcode.txt

sdrv.exe read 42 pluBarcode.txt

sdrv.exe init 42

Data format:

No	Description	Type	Value
1	Barcode type	Integer	1 – FCCCCCvvvvvL 2 – FCCCCCvvvvvL 3 – FCCCCCCCvvvvL 4 – FFCCCCvvvvvL 5 – FFCCCCvvvvvL 6 – FFCCCCCvvvvL, where F – fixed programmable digits (0...99), C – PLU cods v – changing part C – price checksum L – barcode checksum
2	Fixed programmable digits	Integer	0 – 99 depending on barcode type
3	Decimal count of changing part	Integer	0 – 6 depending on barcode type

2.26. Total barcode

Data type: 43

Command line examples:

sdrv.exe send 43 totalBarcode.txt

sdrv.exe read 43 totalBarcode.txt

sdrv.exe init 43

Data format:

No	Description	Type	Value
1	Barcode type	Integer	1 – AAAAAAAvvvvL 2 – AAAAAAAvvvvL 3 – AAAAAAvvvvvL 4 – AAAAAACvvvvL 5 – AAAAAACvvvvL, where A – articul data (0...9), v – changing part C – price checksum L – barcode checksum
2	Articul	Integer	0 – 99999999 depending on barcode type
3	Decimal count of changing part	Integer	0 – 6 depending on barcode type

2.27. In store barcodes

This table defines special barcodes (barcode structure), which can be used by a shop to include an item price or weight into a barcode.

Data type: 44

Command line examples:

sdrv.exe send 44 barcodes.txt

sdrv.exe read 44 barcodes.txt

sdrv.exe clear 44

Data format:

No	Description	Type	Value
0	Number	Integer	20 ... 29
1	Variable part type	Integer	1 – PLU code 2 – Price 3 – Weight 4 – Price with check sum 5 – Weight with check sum
2	Variable part digit count	Integer	4 ... 5, 0 – no variable part
3	Variable part decimal count	Integer	0 ... 4 or 0 ... 5, depending on field 1

Internal barcodes should be in the following format: NNF...FV...VC

NN – barcode number (2 digits)

F...F – barcode fixed part digits

V...V – barcode variable part digits

C – barcode check sum (1 digit)

Total barcode digit count should be 13.

If we use the below configuration barcode 207777771234X (X is a check digit) defines an item 207777770000X with an included price 12.34.

File example:

```
20, 2, 4, 2
21, 2, 4, 1
22, 2, 4, 0
23, 3, 4, 3
24, 3, 4, 2
25, 3, 4, 1
26, 1, 0, 0
27, 1, 0, 0
28, 2, 5, 2
29, 3, 5, 3
```

2.28. Report arrangement

This table allows to define report lists to print.

Data type: 45

Command line examples:

```
sdrv.exe send 45 reportArrangements.txt
```

```
sdrv.exe read 45 reportArrangements.txt
```

```
sdrv.exe clear 45
```

Mandatory fields format:

No	Description	Type	Value
0	Number	Integer	1 ... report arrangement count
1	Report type 1	Integer	1 ... 99
2	Report type 2	Integer	1 ... 99
3	Report type 3	Integer	1 ... 99
4	Report type 4	Integer	1 ... 99
5	Report type 5	Integer	1 ... 99

File example:

```
1, 3, 13, 0, 0, 0
```

```
2, 0, 0, 0, 0, 0
```

2.29. Measurement unit

This table allows defining measurement units for items.

Data type: 46

Command line examples:

```
sdrv.exe send 46 measurementUnits.txt
```

```
sdrv.exe read 46 measurementUnits.txt
```

```
sdrv.exe clear 46
```

Mandatory fields format:

No	Description	Type	Value
0	Number	Integer	1 ... measurement unit count
1	Unit name	String	1 ... 10

File example:

```
1, "pcs"
```

```
2, "kg"
```

2.30. Card ranges

This table assigns magnetic card ranges to card types (customer card, credit card etc.).

Data type: 47

Command line examples:

sdrv.exe send 47 cardRanges.txt

sdrv.exe read 47 cardRanges.txt

sdrv.exe clear 47

Mandatory fields format:

No	Description	Type	Value
0	Number	Integer	1 ... card range count
1	Range begin	Integer	0 ... 999999
2	Range end	Integer	Range begin ... 999999
3	Card type	Integer	1 – Customer 2 – Tender (credit card)
4	Tender number	Integer	1 ... tender count, 0 – no tender

Optional fields:

No	Description	Type	Value
5	Customer number	Integer	Max 16 digits, 0 – not used (default)

File example:

```
1, 0001, 1000, 1, 0
2, 1001, 2000, 2, 2
3, 2001, 3000, 2, 3
```

2.31. Paid out operation names

Data type: 48

Command line examples:

sdrv.exe send 48 PO.txt

sdrv.exe read 48 PO.txt

sdrv.exe clear 48

Data format:

No	Description	Type	Value
0	Number	Integer	1 ... PO count
1	Operation name	String	Max 20 symbols

File example:

```
1, "INVENTORY"
2, "LOTTERY"
```

2.32. Receive on account operation names

Data type: 49

Command line examples:

sdrv.exe send 49 RA.txt

sdrv.exe read 49 RA.txt

sdrv.exe clear 49

Data format:

№	Description	Type	Value
0	Number	Integer	1 ... RA count
1	Operation name	String	Max 20 symbols

File example:

1, "RECEIVE ON ACCOUNT"

2, "LOTTERY"

2.33. Macro key

Data type: 51

Command line examples:

sdrv.exe send 51 macro.txt

sdrv.exe read 51 macro.txt

Data format:

№	Description	Type	Value
0	Macro ID	Integer	1 ... macro key count
1...10	Key value	Integer	See keyboard layout section field 1

File example:

1, 4001, 4002, 4003

2, 6049, 6048, 13001

2.34. FTP settings

Data type: 52

Command line examples:

sdrv.exe send 52 Ftp.txt

sdrv.exe read 52 Ftp.txt
sdrv.exe clear 52

Data format:

No	Description	Type	Value
1	Server IP address	String	XXX.XXX.XXX.XXX format string
2	User name	String	Max 20 symbols
3	Password	String	Max 20 symbols
4	FTP client mode	Integer	0 – passive mode 1 – active mode Currently this field is ignored! Passive mode is used.

Country specific fields (SG):

No	Description	Type	Value
5	Mall code	String	Max 20 symbols
6	Tenant code	String	Max 20 symbols
7	FTP report file type	Integer	1 – type 1 2 – type 2

File example:

"192.168.001.055"
 "john"
 "12345"
 0

2.35. Ethernet settings

Data type: 53

Command line examples:

sdrv.exe send 53 Ethernet.txt
sdrv.exe read 53 Ethernet.txt
sdrv.exe clear 53

Data format:

No	Description	Type	Value
1	IP address	String	XXX.XXX.XXX.XXX format string
2	Subnet mask	String	Same as 1
3	Gateway	String	Same as 1
4	Port number	Integer	1 ... 65535
5	Password	String	0 – 9999999999

File example:

"192.168.001.001"
 "255.255.255.000"
 "192.168.001.254"
 2000
 "1234567890"

2.36. On-line protocol settings

Data type: 54

Command line examples:

sdrv.exe send 54 OnLine.txt

sdrv.exe read 54 OnLine.txt

sdrv.exe clear 54

Data format:

No	Description	Type	Value
1	Server IP address	String	XXX.XXX.XXX.XXX format string
2	Server port number mask	Integer	1 ... 65535
3	Data lookup order	Integer	0 – local DB only (remote DB lookup is disabled) 1 – check local DB, if not found check remote DB 2 – check remote DB, if not found check local DB 3 – remote DB only
4	Send transaction log	Integer	0 – do not send, 1 – send

File example:

"255.255.255.000"

2222

1

0

2.37. System settings

Data type: 82

Command line examples:

sdrv.exe read 82 System.txt

sdrv.exe send 82 System.txt

File record format:

No	Description	Type	Value
1	Local currency decimal places	Integer	Read only
2	Transaction rounding	Integer	Not used. Always 0
3	End rounding	Integer	Singapore version only
4	Date/time format	Integer	Not used. Always 0
5	Language	Integer	1 – 1 st language 2 – 2 nd language 3 – 3 rd language
6	MAC address	Integer	Not used. Always 0
7	Printing density	Integer	1 – minimal density. 6 – maximal density.
8	S-mode password	String	Max 20 symbols
9	PRG-mode password	String	Max 20 symbols

10	Z-mode password	String	Max 20 symbols
11	ECR serial number	String	Max 16 symbols
12	Shop ID	String	Max 16 symbols
13	Electronic journal enabled	Integer	0 – disabled, 1 – enabled
14	Electronic journal near full line count	Integer	0 – electronic journal line count
15	Print receipt	Integer	0 – disabled, 1 – enabled
16	Print journal	Integer	0 – disabled, 1 – enabled
17	Transaction log storage	Integer	0 – none 1 – memory 2 – file system (SD-card) 3 – both memory and file system
18	Electronic journal years to keep	Integer	0 – not used
19	Reduced power mode time in secodns	Integer	0 – not used
20	Minimum power mode time in secodns	Integer	0 – not used

File example:

```

2
1
0
0
2
0
1
""
""
""
""
""
0
500
1
1
0
0
600
300

```

2.38. Keyboard layout

Data type: 84

Command line examples:

sdrv.exe send 84 keyboard.txt

sdrv.exe read 84 keyboard.txt

Data format:

№	Description	Type	Value
0	Key ID	Integer	Format: LKKK L – One digit layout number (see table below) KKK – Three digit key number (0 – ECR key count)

1	Key value	Integer	Format: [F]FDDD [F]F – One or two digit function code (see table below) DDD – Three digit function data (see table below)
---	-----------	---------	---

Layout number:

Value	Description
1	Main
2	Shift
3	Alpha
4	Alpha 2

Function code and data:

Code	Description	Data
0	None	0
1	Paper feed for joined receipt and journal printers	0
2	Receipt paper feed	0
3	Journal paper feed	0
4	Department	Department number
5	Macro	Macro number
6	Alpha-numeric character	Character
7	2 zeros	0
8	3 zeros	0
9	Price	0
10	Price level	0
11	Switch to "Alpha" layout	0
12	Error correct	0
13	Price modifier	Modifier number
14	Quantity	0
15	Received on account	RA number
16	Paid out	PO number
17	Switch to "Shift" layout	0
18	PLU	0
19	Preset PLU	Preset PLU number
20	Clerk	0
21	Return	0
22	Void	0
23	Clear	0
24	No sale	0
25	Subtotal	0
26	Tender	Tender number
27	Up arrow	0
28	Down arrow	0
29	Scale	0
30	Customer	0
31	Receipt copy	0
32	Keylock mode (CHD3030/CHD3050 ECRs)	0
33	Multi-character	Multi-character number
34	Double functionality key for RA and UP (arrow)	RA number
35	Double functionality key for PO and DOWN (arrow)	PO number
36	Currency	Currency number

37	Toggles receipt printing in REG mode	0
38	Switches to tax group (RCS)	Tax group number
39	Bottle item sale	0
40	Bottle item return	0
41	Invoice number entry	0
42	Enables customer discount logic for current transaction (RCS)	0
43	Open (start new or resume) if not started or close (suspend) started transaction	0
44	Display list (currently for REG mode transaction) UNUSED currently	0
45	Start print open track report	0
46	Print bill for specified table	0
47	Changes taxes for items in transaction	0
48	Starts internal barcode scanner	0
49	Starts track (table) transfer sequence	0

File example:

```
1000,2000
1001,3000
1002,11000
1003,4005
1004,4010
```

2.39. Service reminder

Data type: 95

Command line examples:

```
sdrv.exe send 95 serviceReminder.txt
sdrv.exe read 95 serviceReminder.txt
sdrv.exe init 95
```

Data format:

No	Description	Type	Value
1	Display message text	String	Max 20 symbols
2	Display start date	String	Format: YYYY.MM.DD
3	Printer message text	String	Max 20 symbols
4	Print start date	String	Format: YYYY.MM.DD

File example:

```
"CALL SERVICE",
"2010.02.01",
"CALL SERVICE",
"2010.03.01"
```

3. REPORT COMMANDS

Driver usage:

SDRV.exe command report filename [parameters]

Command – action to perform on selected report.

Command	Description
<i>Read</i>	Used to read ECR report into an output file.
<i>Clear</i>	Used to clear ECR report data.
<i>ReadAndClear</i>	Combines read and clear actions. Used to read and clear ECR report data (similar to Z-report).

NOTE: *Clear* command is allowed only if corresponding data has been read and where were no transactions in between *Read* and *Clear*. Otherwise driver will return “command error” return code (see Appendix A).

Report – a report number. Driver report numbers agree with ECR report numbers plus 100. For example, if ECR daily financial report number is 1 then the driver’s daily financial report number will be 101.

Filename – an output file name.

Parameters – INI-file parameters in form /Name=Value. Used to override INI-file configuration.

3.1. Daily financial report Z1

Report number: 101

Command line examples:

sdrv.exe read 101 sales_Z1.txt

sdrv.exe clear 101

NOTE: *Clear* command for daily financial Z1 report is disabled at all for most of countries due to fiscal regulations.

Daily financial report consists of multiple record groups. First record field specifies the group; other record fields contain record data.

Record groups:

Value	Description
1	Tax counters
2	Sales counters
3	Tender counters

4	Receive on account counters
5	Paid out counters
6	Discount/mark-up counters
7	Sales grand total counters
8	Tax grand total counters
9	Correction counters
10	No sale counters

Tax counter record format:

No	Description	Type	Value
0	Record type	Integer	Always 1
1	Tax number	Integer	1 ... tax count, 0 – non-taxable
2	Tax	Decimal	–999999999999.99 ... 999999999999.99
3	Taxable	Decimal	–999999999999.99 ... 999999999999.99
4	Taxable with tax	Decimal	–999999999999.99 ... 999999999999.99

Sales counter record format:

No	Description	Type	Value
0	Record type	Integer	Always 2
1	Counter number	Integer	1 ... counter count (see table below)
2	Operation count	Decimal	0 ... 99999999
3	Amount	Decimal	–999999999999.99 ... 999999999999.99

Counter number:

Value	Description
1	Gross sales
2	Net sales
3	Negative items (departments/PLU)
4	Negative transactions

Tender counter record format:

No	Description	Type	Value
0	Record type	Integer	Always 3
1	Tender number	Integer	1 ... tender count
2	Operation count	Integer	0 ... 99999999
3	Sales amount in tender currency	Decimal	–999999999999.99 ... 999999999999.99
4	Sales amount in local currency	Decimal	–999999999999.99 ... 999999999999.99
5	In drawer amount in tender currency	Decimal	–999999999999.99 ... 999999999999.99
6	In drawer amount in local currency	Decimal	–999999999999.99 ... 999999999999.99

Receive on account counter record format:

No	Description	Type	Value
0	Record type	Integer	Always 4
1	Received on account	Integer	1 ... received on account count

	number		
2	Tender number	Integer	1 ... tender count
3	Operation count	Integer	0 - 99999999
4	Amount in tender currency	Decimal	-999999999999.99 ... 999999999999.99
5	Amount in local currency	Decimal	-999999999999.99 ... 999999999999.99

Paid out counter record format:

No	Description	Type	Value
0	Record type	Integer	Always 5
1	Paid out number	Integer	1 ... paid out count
2	Tender number	Integer	1 ... tender count
3	Operation count	Integer	0 ... 99999999
4	Amount in tender currency	Decimal	-999999999999.99 ... 999999999999.99
5	Amount in local currency	Decimal	-999999999999.99 ... 999999999999.99

Modifier (discount/markup) counter record format:

No	Description	Type	Value
0	Record type	Integer	Always 6
1	Modifier number	Integer	1 ... modifier count
2	Operation count	Integer	0 ... 99999999
3	Amount	Decimal	-999999999999.99 ... 999999999999.99

Sales grand total counter record format:

No	Description	Type	Value
0	Record type	Integer	Always 7
1	Counter number	Integer	Always 1
2	Gross sales amount	Decimal	-999999999999.99 ... 999999999999.99
3	Net sales amount	Decimal	-999999999999.99 ... 999999999999.99

Tax grand total counter record format:

No	Description	Type	Value
0	Record type	Integer	Always 8
1	Tax number	Integer	1 ... tax count, 0 – non-taxable
2	Tax amount	Decimal	-999999999999.99 ... 999999999999.99

Correction record format:

No	Description	Type	Value
0	Record type	Integer	Always 9
1	Counter number	Integer	1 ... counter count (see table below)

2	Operation count	Integer	0 ... 99999999
3	Amount	Decimal	-999999999999.99 ... 999999999999.99

Counter number:

Value	Description
1	Item void
2	Modifier void
3	Error correction
4	Refunds
5	Cancelled transactions

Misc. counters record format:

No	Description	Type	Value
0	Record type	Integer	Always 10
1	Counter number	Integer	1 ... counter count (see table below)
2	Operation count	Integer	0 ... 99999999

Counter number:

Value	Description
1	No sale
2	Receipt copy count
3	Daily financial X reports

File example:

```

1, 1, 0.92, 5.08, 6.00
1, 2, 0.00, 0.00, 0.00
1, 3, 0.00, 0.00, 0.00
1, 4, 0.00, 0.00, 0.00
1, 0, 0.00, 0.00, 1.23
2, 1, 1, 7.23
2, 2, 1, 7.23
2, 3, 0, 0.00
2, 4, 0, 0.00
3, 1, 1, 2.00, 2.00, 0.20, 0.20
3, 2, 1, 7.44, 5.23, 10.00, 7.03
3, 3, 0, 0.00, 0.00, 0.00, 0.00
3, 4, 0, 0.00, 0.00, 0.00, 0.00

```

} Tax records
 } Sales records
 } Tender records

4, 1, 1, 1, 2.00, 2.00	}	Received on account records
4, 1, 2, 1, 7.44, 5.23		
4, 1, 3, 0, 0.00, 0.00		
4, 1, 4, 0, 0.00, 0.00		
4, 2, 1, 0, 0.00, 0.00		
4, 2, 2, 0, 0.00, 0.00		
4, 2, 3, 0, 0.00, 0.00		
4, 2, 4, 0, 0.00, 0.00		
4, 3, 1, 0, 0.00, 0.00		
4, 3, 2, 0, 0.00, 0.00		
4, 3, 3, 0, 0.00, 0.00	}	Paid out records
4, 3, 4, 0, 0.00, 0.00		
5, 1, 1, 1, 2.00, 2.00		
5, 1, 2, 1, 7.44, 5.23		
5, 1, 3, 0, 0.00, 0.00	}	Paid out records
5, 1, 4, 0, 0.00, 0.00		
5, 2, 1, 0, 0.00, 0.00		
5, 2, 2, 0, 0.00, 0.00		
5, 2, 3, 0, 0.00, 0.00	}	Paid out records
5, 2, 4, 0, 0.00, 0.00		
5, 3, 1, 0, 0.00, 0.00		
5, 3, 2, 0, 0.00, 0.00		
5, 3, 3, 0, 0.00, 0.00	}	Paid out records
5, 3, 4, 0, 0.00, 0.00		
6, 1, 0, 0.00		
6, 2, 0, 0.00		
6, 3, 0, 0.00	}	Modifier records
6, 4, 0, 0.00		
6, 5, 0, 0.00		
6, 6, 0, 0.00		
6, 7, 0, 0.00		
6, 8, 0, 0.00		
6, 9, 0, 0.00		
6, 10, 0, 0.00		
7, 1, 7.23, 7.23	← Sales grand total record	
8, 1, 0.92	}	Tax grand total records
8, 2, 0.00		
8, 3, 0.00		
8, 4, 0.00		
8, 0, 0.00	}	Correction records
9, 1, 0, 0.00		
9, 2, 0, 0.00		
9, 3, 0, 0.00		
9, 4, 0, 0.00		
9, 5, 0, 0.00	}	Misc counters
10, 1, 0		
10, 2, 0		
10, 3, 0		

3.2. Daily financial report Z2

Report number: 102

Command line examples:

sdrv.exe read 102 sales_Z2.txt

sdrv.exe clear 102

Data format: the same as in daily financial Z1 report.

3.3. Department report Z1

Report number: 103

Command line examples:

sdrv.exe read 103 dept_Z1.txt

sdrv.exe clear 103

Data format:

No	Description	Type	Value
0	Department number	Integer	1 ... department count
1	Department name	String	Max 20 symbols
2	Sales quantity	Decimal	0 ... 999999.999
3	Sales amount	Decimal	-999999999999.99 ... 999999999999.99

File example:

```
1, "DEPT 01", 3.245, 3.12
2, "DEPT 02", 4.000, 2.00
3, "DEPT 03", 3.000, 0.75
```

3.4. Department report Z2

Report number: 104

Command line examples:

sdrv.exe read 104 dept_Z2.txt

sdrv.exe clear 104

Data format: the same as in department Z1 report.

3.5. PLU report Z1

Report number: 105

Command line examples:

sdrv.exe read 105 plu_Z1.txt

sdrv.exe clear 105

Data format:

No	Description	Type	Value
0	PLU number	Integer	1 ... 10^{14} - 1
1	Name	String	Max 20 symbols
2	Sales quantity	Decimal	0 ... 999999.999
3	Sales amount	Decimal	-999999999999.99 ... 999999999999.99

File example:

```
1, "PLU 1", 2.000, 2.46
2, "PLU 2", 1.000, 1.25
```

3.6. PLU report Z2

Report number: 106

Command line examples:

```
sdrv.exe read 106 plu_Z2.txt
sdrv.exe clear 106
```

Data format: the same as in PLU Z1 report.

3.7. Clerk report Z1

Report number: 108

Command line examples:

```
sdrv.exe read 108 clerk_Z1.txt
sdrv.exe clear 108
```

Data format:

No	Description	Type	Value
0	Clerk number	Integer	1 ... clerk count
1	Counter number	Integer	1 ... counter count (see table below)
2	Operation count	Decimal	0 ... 99999999
3	Amount	Decimal	-999999999999.99 ... 999999999999.99

Counter number:

Value	Description
1	Net sales
2	Received on account total
3	Paid out total
4	Discount total
5	Add-on total
6	Item void
7	Not used!
8	Error correction

9	Refunds
10	Cancelled transactions
11	Negative items (departments/PLU)

File example:

```
1, 1, 28, 152.461
1, 2, 1, 500.00
```

3.8. Clerk report Z2

Report number: 109

Command line examples:

```
sdrv.exe read 109 clerk_Z2.txt
sdrv.exe clear 109
```

Data format: the same as in clerk Z1 report.

3.9. Hourly report

Report number: 112

Command line examples:

```
sdrv.exe read 112 hourly.txt
sdrv.exe clear 112
```

Data format:

No	Description	Type	Value
0	Hour	Integer	1 ... 24 (1 means 00:00 – 00:59)
1	Operation count	Integer	0 ... 99999999
2	Sales amount	Decimal	-999999999999.99 ... 999999999999.99

File example:

```
11, 28, 152.46
12, 42, 163.25
13, 36, 231.25
```

3.10. In drawer report

Report number: 113

Command line examples:

```
sdrv.exe read 113 in_drawer.txt
```

Data format:

No	Description	Type	Value
0	Tender number	Integer	1 ... tender count
1	Tender name	String	Max 20 symbols
2	Amount in tender currency	Decimal	–999999999999.99 ... 999999999999.99
3	Amount in local currency	Decimal	–999999999999.99 ... 999999999999.99

File example:

```
1, "CASH LVL", 3.00, 3.00
2, "CASH EUR", 5.25, 3.69
```

3.11. Customer report Z1

Report number: 136

Command line examples:

```
sdrv.exe read 136 customer_Z1.txt
sdrv.exe clear 136
```

Data format:

No	Description	Type	Value
0	Customer number	Integer	1 ... $10^{15} - 1$
1	Operation count	Decimal	0 ... 99999999
2	Sales amount	Decimal	–999999999999.99 ... 999999999999.99

File example:

```
1000123, 6, 152.461
1000124, 2, 50.00
```

3.12. Customer report Z2

Report number: 137

Command line examples:

```
sdrv.exe read 137 customer_Z2.txt
sdrv.exe clear 137
```

Data format: the same as in customer Z1 report.

3.13. Transaction log

Command number: 200

Command line examples:

```
sdrv.exe read 200 trn_log.txt
sdrv.exe clear 200
```

Transaction log consists of multiple records. First record field specifies the record type; other fields contain record data.

Transaction log header record format:

No	Description	Type	Value
1	Record type	Number	Always 0
2	Transaction log version	Number	Currently 2 or 3
3	ECR serial number	String	
4	Shop Id	String	
5	ECR number	String	
6	Transaction log report number	Number	Currently not used (always 0).

Example:

```
0, 3, "12345678", "Test shop", "11122", 0
```

Transaction header record format:

No	Description	Type	Value
1	Record type	Number	Always 1
2	Transaction type	Number	1 – retail 2 – tender control 3 – no-sale
3	Receipt number	Number	
4	Cancelled flag	Number	1 – cancelled, 0 – not cancelled
5	Transaction start time	String	Format: YYYY.MM.DD HH:MM:SS
6	Transaction end time	String	Format: YYYY.MM.DD HH:MM:SS
7	Clerk number	Number	0 means no clerk

Example:

```
1, 1, 2, 0, "04.05.2008 12:31", "04.05.2007 12:32"
```

Department record format:

No	Description	Type	Value
1	Record type	Number	Always 2
2	Department number	Number	
3	Department name	String	Starting from version 3
4	Tax	Number	
5	Quantity	Number	Signed quantity (affected by void and return flags)
6	Unit price	Number	Signed unit price (affected by negative flag)
7	Printed amount	Number	Amount printed on the receipt
8	Actual amount	Number	Amount with price modifiers included (subtotal or/and item discounts etc.)
9	Return flag	Number	1 – return, 0 – sale
10	Void flag	Number	1 – void, 0 – non-void

11	Negative flag	Number	1 – negative item, 0 – normal item
12	Price source	Number	0 – manual price entry, 1 – department price

Example:

2,1,1,2.000,1.23,2.46,2.46,0,0,0

Department with item name record format:

No	Description	Type	Value
1	Record type	Number	Always 15
2	Department number	Number	
3	Item name	String	
4	Tax	Number	
5	Quantity	Number	Signed quantity (affecteded by void and return flags)
6	Unit price	Number	Signed unit price (affected by negative flag)
7	Printed amount	Number	Amount printed on the receipt
8	Actual amount	Number	Amount with price modifiers included (subtotal or/and item discounts etc.)
9	Return flag	Number	1 – return, 0 – sale
10	Void flag	Number	1 – void, 0 – non-void
11	Negative flag	Number	1 – negative item, 0 – normal item
12	Price source	Number	0 – manual price entry, 1 – department price

Example:

2,1,"Item #123",1,2.000,1.23,2.46,2.46,0,0,0

PLU record format:

No	Description	Type	Value
1	Record type	Number	Always 3
2	PLU number	Number	
3	PLU name	String	Starting from version 3
4	Tax	Number	
5	Quantity	Number	Signed quantity (affecteded by void and return flags)
6	Unit price	Number	Signed unit price (affected by negative flag)
7	Printed amount	Number	Amount printed on the receipt
8	Actual amount	Number	Amount with price modifiers included (subtotal or/and item discounts etc.)
9	Return flag	Number	1 – return, 0 – sale
10	Void flag	Number	1 – void, 0 – non-void
11	Negative flag	Number	1 – negative item, 0 – normal item
12	Price source	Number	0 – manual price entry, 1,2, ... – PLU price level

Example:

3,1,5,2.000,1.23,2.46,2.46,0,0,0

Item modifier record format:

No	Description	Type	Value
1	Record type	Number	Always 4
2	Modifier number	Number	
3	Discount flag	Number	1 – discount, 0 – add-on
4	Percent rate flag	Number	1 – percent modifier, 0 – amount modifier

5	Amount	Number	
6	Percent rate	Number	

Example:

4,2,1,1,-1.23,10.00

Subtotal modifier record format:

No	Description	Type	Value
1	Record type	Number	Always 5
2	Modifier number	Number	
3	Discount flag	Number	1 – discount, 0 – add-on
4	Percent rate flag	Number	1 – percent modifier, 0 – amount modifier
5	Amount	Number	
6	Percent rate	Number	

Example:

5,3,1,1,-5.53,10.00

Customer modifier record format:

No	Description	Type	Value
1	Record type	Number	Always 6
2	Customer number	Number	
3	Modifier number	Number	
4	Discount flag	Number	1 – discount, 0 – add-on
5	Percent rate flag	Number	1 – percent modifier, 0 – amount modifier
6	Amount	Number	
7	Percent rate	Number	

Example:

6,113681159209,4,1,1,-1.23,10.00

Subtotal record format:

No	Description	Type	Value
1	Record type	Number	Always 7
2	Tender number	Number	
3	Currency number	Number	
4	Displayed amount	Number	
5	Total Flag	Number	

Example:

7,1,1,15.27,0

Tender record format:

No	Description	Type	Value
1	Record type	Number	Always 8
2	Tender number	Number	
3	Currency number	Number	
4	Tender amount in local currency	Number	

5	Tender amount	Number	
---	---------------	--------	--

Example:

8,1,1,15.27,15.27

Comment record format:

No	Description	Type	Value
1	Record type	Number	Always 10
2	Comment text	String	

Example:

10,"Some comment"

Receive on account record format:

No	Description	Type	Value
1	Record type	Number	Always 11
2	Tender number	Number	
3	Count	Number	
4	Amount	Number	

Example:

11,1,5,10.00

Paid out record format:

No	Description	Type	Value
1	Record type	Number	Always 12
2	Tender number	Number	
3	Count	Number	
4	Amount	Number	

Example:

12,2,1,12.25

Customer record format:

No	Description	Type	Value
1	Record type	Number	Always 13
2	Customer number	Number	

Example:

13,113681159209

Tax record format:

No	Description	Type	Value
1	Record type	Number	Always 14
2	Tax number	Number	
3	Taxable with tax	Number	

4	Taxable amount	Number	
5	Tax amount	Number	

Example:

14,1,13.68,11.59,2.09

Total modifier registration record format:

No	Description	Type	Value
1	Record type	Number	Always 16
2	Modifier number	Number	
3	Discount flag	Number	1 – discount, 0 – add-on
4	Percent rate flag	Number	1 – percent modifier, 0 – amount modifier
5	Amount	Number	Amount or 0 if modifier is a percent modifier
6	Percent rate	Number	Rate or 0 if modifier is an amount modifier

Example:

15,4,1,1,0,10.00

Total modifier record format:

No	Description	Type	Value
1	Record type	Number	Always 17
2	Modifier number	Number	
3	Discount flag	Number	1 – discount, 0 – add-on
4	Percent rate flag	Number	1 – percent modifier, 0 – amount modifier
5	Amount	Number	
6	Percent rate	Number	

Example:

16,4,1,1,11.30,10.00

4. INI-FILE STRUCTURE AND SETTINGS

SDRV.ini file contains driver configuration parameters. It consists of a single *[Common]* section with common parameters and multiple *[ECR_n]* sections with ECR specific parameters. Parameters from *[ECR_n]* section override ones from *[Common]* section.

In case of single *[ECR_n]* section it is used by default. In case of multiple *[ECR_n]* sections a section to use must be specified. This can be done by */ECR=n* command line parameter or by “*DefaultECR*” *[Common]* section parameter.

NOTE: Configuration parameters can also be specified via command line (see driver usage) and if so will override INI-file settings.

4.1. Standard settings

DefaultECR

[ECR_n] section number to use.

DbgErrorLog = 0...3

- 0 = do not write debug info (default)
- 1 = write debug info only in case of unrecoverable error
- 2 = write debug info in case of any error
- 3 = always write debug messages

Delimiter = any character

CSV-file field delimiter. By default is ‘,’.

IgnoreDuplicates = 0...1

Ignore input file records with duplicating numbers, i.e. do not interpret them as a syntax error. By default is 0.

[ECR_n] section

ComNumber

(WINDOWS) PC serial port number. Used when ECR is connected via a serial port.

TTY

(LINUX) PC serial port, tty name. Used when ECR is connected via a serial port.

IpAddress

ECR IP address. Used then ECR is connected via a network.

TcpPort

ECR TCP port. Used then ECR is connected via a network.

Password

Password used to authorize a communication session. Password is mandatory if ECR is connected via a network.

4.2.**4.3. Advanced settings.**

All settings below are optional. By default they are set to optimal values. But in certain situations advanced users (for example service personnel) may want to change these settings.

StandardLog = 0...1

Use or do not use the standard log file. Standard log file contain started, finished, statistics and also error messages. By default is 1.

EcrCommMaxTime

Maximal byte transfer time between ECR and PC in milliseconds. By default 100ms for local ECR and 1000ms for network ECR.

EcrOperationMaxTime

Maximal ECR operation (command processing) time in milliseconds. By default 2000ms.

EcrRecoveryTime

Sleep time in milliseconds after a communication error. By default 2000ms.

EcrDisconnectTime

Sleep time in milliseconds after disconnecting from ECR. By default 0ms.

RetryCount

Retry count on communication errors. By default 1.

ComSettings

Additional serial port configuration in windows "mode" utility format (for details see Windows help). By default "baud=38400 parity=o data=8 stop=1 rts=hs dtr=hs octs=on".

SerialProtocolRetryCount

Retry count on communication errors (serial port low-level protocol). By default 10.

SerialProtocolResponseMaxTime

Maximal response time in milliseconds (serial port low-level protocol). By default 1000ms.

RecordsInPacket

When sending data specifies number of records to be put into a single packet. By default 1. In case of slow Ethernet connection this can significantly decrease data send time.

FileEncoding

Specifies CSV file encoding which will be converted to EcrEncoding when file will be send to ECR. If data is read from ECR, parameter specifies in which encoding CSV file with received data must be saved. Can be **used only together with** EcrEncoding

EcrEncoding

Specifies encoding used by ECR. When data is send to ECR, parameter specifies to which encoding data must be converted before sending it to ECR. When data is read from ECR, parameter specifies from which encoding data must be converted.

4.4. Examples

Simple INI –file for ECR connected via serial port:

```
[ECR_1]
ComNumber = 10
```

Simple INI –file for ECR connected via Ethernet:

```
[ECR_1]
IpAddress = 159.148.235.12
TcpPort = 2000
Password = 1234023406
```

5. DIRECTORY STRUCTURE

Location of configuration and log files depends on the operating system used.

By default:

- Windows version of the driver reads *configuration* INI-file from the directory, where the driver is located. The same directory is used to write *standard* and *debug* log files.
- Linux version of the driver reads *configuration* INI-file from directory */etc/sdrv* (driver has to be granted read access). Linux is case sensitive. *Configuration* INI-file name must be *SDRV.ini*. *Standard* and *debug* log files are written to */var/log/sdrv* (driver has to be granted write access to these files).

It is also possible to change log file location by settings *LogFilePath* property.

LogFilePath = "C:\Log Files\SDRV\log_1.txt"

6. APPENDIX A: DRIVER RETURN CODES

Error code	Description
0	OK
1	Command line error
2	Input file contains badly formatted, duplicate or empty records
3	ECR is busy
4	Command can not be executed in current context
5	Communication error
10	Configuration error (bad or missing parameter)
11	Authorization failed (bad password)
12	Protocol is not activated
13	File open/read/write error
14	Some input file records were rejected by ECR
15	Unknown command
50	System error
99	Internal driver error

7. APPENDIX B: ECR ERROR CODES

Business logic errors

Error code	Description
1	No clerk
2	Clerk key error
3	Invalid password
4	Z report not issued
11	Bad input sequence
12	Operation prohibited
13	Key-lock error
14	Department not found
15	PLU not found
16	PLU preset not found
17	Modifier not found
18	Customer not found
19	Tax not found
31	Subtotal required
32	Tender not found
33	Currency not found
34	Over tender
35	Under tender
36	Amount compulsory
37	RA prohibited
38	PO prohibited
39	Not enough money in drawer
55	High amount
56	Low amount
57	Amount too big
58	Negative balance
59	Clerk system is OFF
72	Transaction has too many lines
74	Transaction log is full
76	PC comm. report clear in progress
77	Data locked
80	Operation failed
81	Bad card
82	Card expired
99	Internal ECR error

Hardware errors

Error code	Description
20	Generic printer error
21	Receipt paper end
22	Journal paper end
23	Receipt printer head up
24	Journal printer head up
25	Receipt printer overheat
26	Journal printer overheat
27	Receipt printer is disconnected
28	Journal printer is disconnected
20	Printer voltage error
29	Printer cutter error

40	Fiscal memory read error
41	Fiscal memory not connected
42	Fiscal memory write error
43	Fiscal memory is full
50	Electronic journal write error
51	Electronic journal near full
52	Electronic journal full
60	Generic display error