

Chapter - 01 - Introduction, Data exchange

Introduction

Who is this programme meant for?

MetaLINK is a programme meant for developer who have their own POS – KASA solution, and who wish to integrate this in fiscal solution on the SEE market with minimal effort, while keeping their existing technology, workflow.

MetaLINK programme is like middleware - between:

A. Your existing »POS - KASA« solutions related to retail
(for examples: corner shops, supermarkets, clothing, footwear,
sportswear, car spare parts, hospitality, drugstores and similar,
and

B. Fiscal printers:

| country | mark | fiscal printer | manufacturer | place |
|---------------|------|----------------|--------------|----------------------------|
| Serbia | (AG) | FP-550 | Galeb Group | Šabac |
| Serbia | (AI) | GP-100 | Galeb Group | Šabac ECR as FP, oct. 2014 |
| Serbia | (AJ) | GP-550 | Galeb Group | Šabac |
| Serbia | (AK) | GP-350 | Galeb Group | Šabac ECR as FP, oct. 2014 |
| Serbia | (LK) | TM-260F | Shollex | Beograd |
| Serbia | (SG) | FP-600 | Int Raster | Beograd |
| Serbia | (ZX) | FP-200 | Geneko | Beograd |
| Montenegro | (VG) | FP-550 | VG Servis | Podgorica |
| Montenegro | (VG) | FP-1000 (ELJ) | VG Servis | Podgorica |
| Bulgaria | (DT) | DT-550-40 | Datecs | Sofia |
| Bulgaria | (DT) | DT-550 KL | Datecs | Sofia |
| FYR Macedonia | (AC) | PF-500 | Accent | Skopje |
| FYR Macedonia | (AC) | PF-550 (ELJ) | Accent | Skopje *) NEW, oct. 2014 |
| Rep. Srpska | (KA) | FP-550 Plus | Galeb Group | Bijeljina |

At the Point-of-Sale (POS) beside Your Programme, you also need to install MetaLINK.

Those two programmes work simultaneously and synchronously
(MetaLINK in background).

For endusers MetaLINK is “invisible” and did not change their everyday work.

MetaLINK does diagnostics and AUTOMATICALLY resolves the following problems:

- ❖ lack of paper on bon and journal tape,
- ❖ non synchronized database in FP-XXX and program,
- ❖ lack of communication,
- ❖ dummy PLU in FP

and brings again FP-XXX in full functional stage.

MetaLINK guaranties to you that every ABC_nnn.DAT that you send will be printed i.e. fiscalized, if articles you send are correctly defined.

We make easier the jobs of cashiers, store managers, tax authority personal by additional programme MetaLINK-Menu, where all necessary reports for Tax Authority, Store Managers, and Administrators are included.

WE GUARANTY

that EVERY sent (ABC_nnn.dat)

will be “fiscalized” in the following condition:

- lack of power on PC,
- lack of communication with FP-XXX
- lack of paper on receipt or journal tape

All proposals, suggestions, questions please send to :

e-mail: metalink@metadata.rs

Your Programme sends

ONLY ONE FILE (ABC_nnn.DAT),

- A. What you want to sale – **A**rticles,
- B. Quantity an Prices – **B**on, and
- C. Way of payments – **C**ash

Concept of programme

Programme concept is based on sending ONLY ONE FILE, with all data needed to print FISCAL-RECEIPT.

In which countries you can use it?

| Country | Model | Product name | Remarks |
|------------------|-------------|--------------|---------------------|
| SRB – Serbia | FP-550 | MetaLINK_AG | |
| SRB – Serbia | GP-100 | MetaLINK_AI | ECR as FP |
| SRB – Serbia | GP-550 | MetaLINK_AJ | |
| SRB – Serbia | GP-350 | MetaLINK_AK | ECR as FP |
| SRB – Serbia | FP-600 | MetaLINK_SG | |
| SRB – Serbia | TM260-F | MetaLINK_LK | |
| SRB – Serbia | FP-200 | MetaLINK_ZI | |
| MNE – Montenegro | FP-550 | MetaLINK_VG | |
| MNE – Montenegro | FP-1000 | MetaLINK_VG | ELJ + gprs |
| MKD – Macedonia | PF-500 | MetaLINK_AC | |
| MKD – Macedonia | PF-550 | MetaLINK_AC | ELJ + gprs |
| RS – Rep. Srpska | FP-550 Plus | FisLINK | mandatory by Law |
| BLG – Bulgaria | FP-550-40 | MetaLINK_DT | |
| BLG – Bulgaria | FP-550 KL | MetaLINK_DT | |
| ROU - Romania | | MetaLINK_ROU | planned |
| UKR - Ukraine | | MetaLINK_UKR | planned |

We are ready to help you to modify your solution to specific country requirements.

Minimal requirements

FP-XXX set on 19.200 to 57.600 bauds
(speed vary from model to model) , connected to ComPort= 1 to 16.

O.S. - Operating System:

Windows XP, XP Pos ready, Windows 7 / 8 (32-bit or 64-bit)
+ Regional Setting :
Decimal symbol is - **(POINT)**,
Digit Grouping symbol is - **(COMMA)**

Processor: Pentium II on 300 MHz or higher

Memory: 512 MB or higher (1 GB recommended)

Hard Disk: 1,0 GB free space

COM Port: one free (SW works on 19.200 bauds or higher).

VGA resolution: min 1024 x 768, minimum 256 colours

Cooler: the best quality

UPS – uninterrupted power supply: (recommended)

Data exchange

MetaLINK support the following data exchange formats:

SAMPLES of all input and output files

Samples_MetaLINK_SEE_r93.zip. Included in **MetaLINK_DevPack.zip**

you can get from URL: <http://www.metadata.rs/metalink>

CSV - Comma Separated Value

is a standard format for data exchange,
used mostly for data export / import in EXCEL and other programme for tables
manipulation.

All known RDBS (Relational DataBase Systems) Oracle, SQL Server, Sybase, Informix,
Posgres, Interbase, My SQL can export / import data using this format.

Characteristics of this format is that EVERY TWO COLUMNS OF DATA are separated
by comma (,) and, if DATA has spaces, data is placed between quotation marks (" ").

DBF - dBase III format

is a standard format for data exchange,

used mostly by programming languages like dBASE, FoxBase, Visual Fox, Clipper,
Alaska ...

TXT - fixed width data format

is a standard format for data exchange,

used mostly by programming languages like COBOL, FORTRAN...

XML - eXtended Markup Language

is a standard format for data exchange of the latest generation

used mostly by programming languages like C++, Java, C#, .NET...

DAT - Format

is »non-existing format«. We use this extension, throughout documentation as
»generic name« for one of four mentioned formats.

Instead of CSV, DBF, TXT, XML we will use DAT.

Samples

We prepare sample - example to make you easier to do necessary conversion
of data (number of fields, length, type of data) you should send to / receive from
MetaLINK.

You can send data using ONE file format, and

you can receive data using DIFFERENT file format

Exchange Character Sets

You can send your data using following character sets:

NONE, send As Is to Fiscal printer (ti. it is your responsibility)

Latin-1, Win1252, ISO8859_1 Wester Europe latin letters

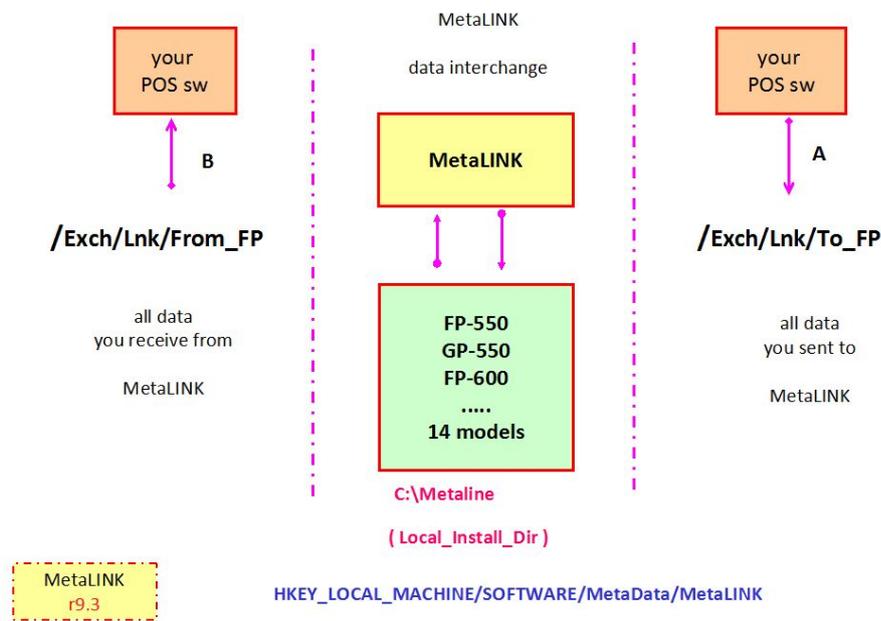
Latin-2, Win1251, ISO8859_2 CEE latin letters

Cyrillic, Win1250, ISO8859_5, Cyrillic letters (Bulgarian, Serbian, Macedonian,...)

UTF-8, Unicode, (2 or 3-bytes codes with or w/o BOM, are not yet supported)

Data exchange folders

Your programme and MetaLINK communicate using folders:



==> **C:/METALINE/EXCH/LNK/TO_FP**

(everything Your programme sent to MetaLINK,

i.e. All you send, so called »Input folder«)

<== **C:/METALINE/EXCH/LNK/FROM_FP**

(everything MetaLINK return to Your programme,

i.e. All you receives, so called »Output folder«)

Sequence of sending / receiving

MetaLINK processes files in increasing sequence of numbers NNNN. Otherwise, if from any reason MetaLINK in folder C:/METALINE/EXCH/LNK/TO_FP finds more files with the same name and different sequence number, he will process them, in increasing sequence NNNN (low to high).

First ABC_101.DAT, than ABC_102.DAT, than ABC_103.DAT

First CMD_001.DAT, than CMD_002.DAT

First TXT_001.DAT, than TXT_002.DAT

You should ensure that same sequence will not repeat at least during the same fiscal day.

Remarks:

Developer is not obliged (if he finds it difficult) to send always increasing number. He can send always the same file XXX_0000.DAT under condition that he makes sure that he previously received an answer (positive **.OK** or negative **.ERR**) and does not send another file of the same type until MetaLINK has processed file and (delete from the Input folder).

Developer **IS OBLIGED TO DELETE** from C:/METALINE/EXCH/LNK/FROM_FP »Output folder« files which are returned by MetaLINK as a proof of successful / unsuccessful transaction execution.

We recommend to do this **AT LEAST** ones a day either on beginning or at end of the day.

Developer **SHOULD NOT CREATE** files in »Input folder« C:/METALINE/EXCH/LNK/TO_FP, because it will make a conflict with MetaLINK.

Developer **SHOULD CREATE** files in some other folder (for example C:/TEMP) and than »copy« them to folder C:/METALINE/EXCH/LNK/TO_FP.

When MetaLINK »recognizes« some file in the »Input folder«, it will try to open it exclusively.
If it succeeds it will take it into processing, and after processing it will delete it.
If it fails to open it (because your programme »holds it«), he will not process it.

Files that are »Read Only« **WILL NEVER** be processed.

Changes needed in your programme

To make a whole solution (Your POS programme + MetaLINK + FP-XXX) to work as one, you need to do the following:

When you generate Sale&Pay data in your programme, you need to create a file ABC_nnn.DAT in some of your folders, according to a defined format, and copy it to:

»Input folder« C:/METALINE/EXCH/ LNK/TO_FP.

Your programme should wait some time (seconds) to receive return information (positive or negative in »Output folder« C:/METALINE/EXCH/ LNK/FROM_FP.

We guaranty that MetaLINK will always send an answer: .OK or .ERR

Remarks:

You do not need to send new articles, because MetaLINK will “recognize” them automatically in ABC_nnn.DAT and add (load them) in FP-XXX if necessary.

You do not need to send new prices, because MetaLINK will “recognize” them automatically in ABC_nnn.DAT and add (load) them in FP-XXX if necessary.

