

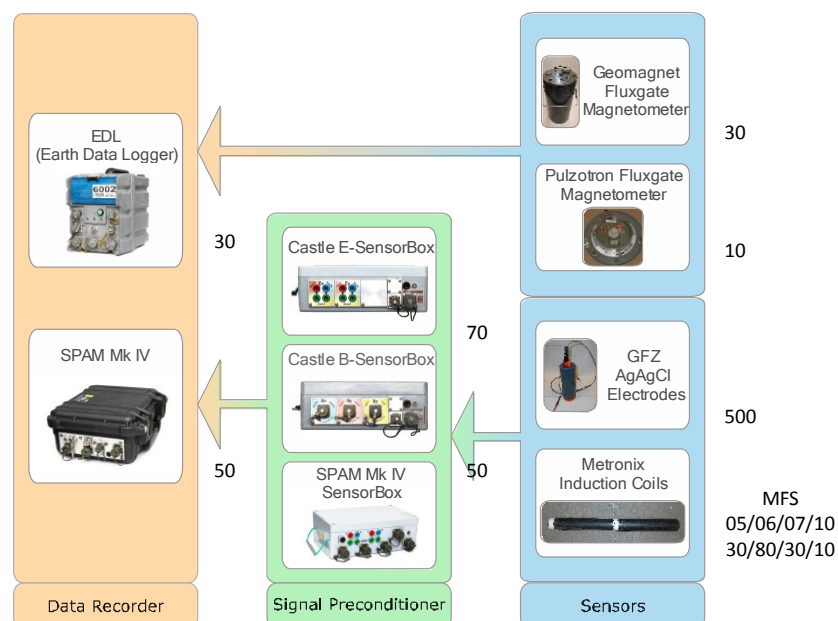
Instrument Pool, Permanent Reference Site, Archive and Data Publications

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Deutsches GeoForschungsZentrum GFZ

GIPP-MT (instruments / sensors)

- www.gfz-potsdam.de/gipp --> <http://www.gfz-potsdam.de/sektion/geophysikalische-tiefensondierung/servicesinfrastruktur/geophysikalischer-geraetepool-potsdam-gipp/>



GIPP-MT (new sensors)

- Metronix MFS10 sensor: Optimized for Bz measurements.

length 853 mm
diameter 75 mm
Range: ~1 kHz – 1 mHz



GIPP-MT (how to get instruments?)

- Submit a proposal to the Steering Board of the pool:

The Steering Board for the Geophysical Instrument Pool	The Internal Advisory Board for the Geophysical Instrument Pool
Prof. Dr. W. Rabbel (Chairman, Univ. Kiel) Prof. Dr. D. Gajewski (Univ. Hamburg) Prof. Dr. F. Krüger (Univ. Potsdam) Prof. Dr. J. Ritter (Univ. Karlsruhe) Prof. Dr. B. Tezkan (Univ. Köln) Prof. Dr. Ch. Thomas (Univ. Münster)	Dr. Ch. Haberland (GFZ Potsdam) PD Dr. O. Ritter (GFZ Potsdam) Prof. Dr. M. Weber (GFZ Potsdam) Prof. Dr. F. Tilmann (GFZ Potsdam)

A red arrow points to the first row of the table.

- The Steering Board meets twice a year (usually April and October).
- The deadline for applications is four weeks before the Steering Board meeting.
- The next steering board meeting will take place in **November 10, 2015**; the deadline for applications is **October 10, 2015**

GIPP-MT (who can get instruments?)

Prioritization of project applications

- The Steering Board discusses and evaluates the scientific content and feasibility of the project applications, sets up a priority list, and makes recommendations to the GFZ Executive Board. The GFZ Executive Board eventually makes decision based on the Steering Board recommendations.
- In addition to the scientific content, the following aspects are considered for the prioritization:
 1. Projects with German participation
 2. Projects of partners of the operators of European infrastructure networks
 3. other projects
- The instruments are provided free of charge in case of academic and non-profit projects. The provision to industry and commercial projects is subject of payment

GIPP-MT (but...)

Damage & Loss

- The user is liable for any damages and loss of the instruments. That is why an insurance particularly in case of operation abroad is highly recommended.

Data

- **Raw data as well as a report have to be handed over to the GIPP within a year after completion of the experiment.** Data is reserved for the user up to 4 years after the completion of the experiment. 4 years after the completion of the measurements, data gathered with GIPP-instruments have to be made freely available (through the “GIPP experiment- and data archive” under a Creative Common License.
- In case of citable data publication (having a DOI) scientists involved in the experiment have to be named.


Publication

- Publications related to experiments with GIPP instruments have to acknowledge the GIPP stating the GIPP- Grant-Number. The user sends electronic copies of these publications to the GIPP.
- The Helmholtz Association, ... supports Open Access Publications ...

Failure to obey these guidelines will have consequences for further supply.

GIIP-MT (Experiment and Data Archive)

- ▶ GIPP Experiment and Data Archive
- ▶ Scientific Technical Report
- ▶ Data Sets
- ▶ MT Reference Site
- ▶ Contact
- ▶ Application
- ▶ Instruments
- ▶ Software
- ▶ Documents
- ▶ Publications
- ▶ News
- ▶ FAQ



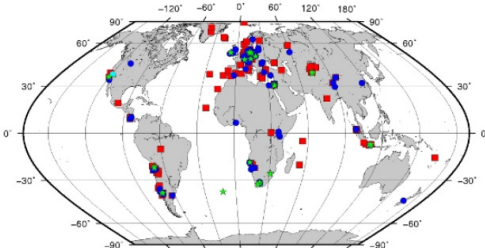
➔

- [Archive home](#)
- [Search dataset](#)
- [Request data set](#)
- [Data format](#)
- [Data delivery](#)
- [Admin mode](#)

GIIP Experiment and Data Archive

The "GIIP Experiment and Data Archive" is the platform for long-term archiving of geophysical experiment data and its dissemination. The archive contains metadata of all field experiments supported by the "Geophysical Instrument Pool Potsdam" (GIIP), and contains data of controlled-source seismic and magnetotelluric field measurements ([Search dataset](#)). These data are accessible via email requests ([Request data set](#)).

Data of passive seismological experiments are archived at the "GFZ Seismological Data Archive" (GEOPON) (<http://www.gfz-potsdam.de/geofon/>). Credit for the data belongs to the individual institutes and applicants who conducted the measurements, and to the funding agencies which supported the projects. For further questions - also in case of restricted data - please contact gipp_archive@gfz-potsdam.de.



■ Temporary seismic networks (passive)
 ★ Magneto-tellurics
 ● Seismics (active)
 ● other

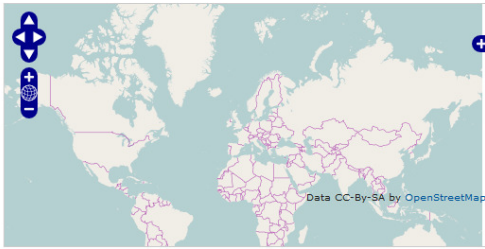
Location of all field experiments supported by the "Geophysical Instrument Pool Potsdam" (GIIP) between 1993 and 2012.

GIIP-MT (Experiment and Data Archive)

Search dataset

Keyword(s):

experiment name
 principle investigator
 institution
 description



Data CC-BY-SA by OpenStreetMap

Region:

Please, give the date in the following form (dd=day, MM=month, yyyy=year): yyyy-MM-dd

Time period from: to

Archived at:

Experiment/data: Exp. type: ➔

File/data format:

Programs:

GIPP-MT (Experiment and Data Archive)

datasets found:: 39

ID	ExpName	ExpType	Start	End	Archiv	Program	Format	Ac
201418	DEEP/MT	MT (Magnetotellurics)	2014-09-21	2014-10-03	GIPP	GIPP		NOT_ARC
201309	GreenT/MT	MT (Magnetotellurics)	2013-08-01	2013-10-15	GIPP	GIPP		NOT_ARC
201306	MT_WNG	MT (Magnetotellurics)	2013-10-01	2013-12-31	GIPP	GIPP		UNKNOW
201217	TIPTIMON-MT	MT (Magnetotellurics)	2012-06-01	2012-08-30	GIPP	GIPP	MSEED	RESTRICT
201216	EOR	MT (Magnetotellurics)	2012-11-01	2012-11-30	GIPP	GIPP	MSEED	RESTRICT
201215	BRINE	MT (Magnetotellurics)	2012-03-01	2012-03-31	GIPP	GIPP	MSEED	RESTRICT
201203	ISOLDE	MT (Magnetotellurics)	2012-01-01	2013-05-01	GIPP	GIPP		UNKNOW
201117	HPT	MT (Magnetotellurics)	2011-10-01	2011-12-31	GIPP	GIPP	MSEED	RESTRICT
201116	SIPOHOLON-MMT (Magnetotellurics)		2011-07-15	2011-08-15	GIPP	GIPP	MSEED	RESTRICT
201115	GASH-MT	MT (Magnetotellurics)	2011-11-15	2011-12-15	GIPP	GIPP	MSEED	RESTRICT
201114	ELCONA	MT (Magnetotellurics)	2011-10-01	2011-11-30	GIPP	GIPP		UNKNOW
201018	GeoEn	MT (Magnetotellurics)	2010-10-01	2011-11-30	GIPP	GIPP		NOT_ARC
201012	ELIBABA/MT	MT (Magnetotellurics)	2010-06-25	2010-09-05	GIPP	GIPP		NOT_ARC
200907	EGS-MT	MT (Magnetotellurics)	2009-05-01	2009-05-31	UNKNOWN	GIPP		NOT_ARC
200904	Barberton-MT	MT (Magnetotellurics)	2009-03-15	2009-05-31	UNKNOWN	GIPP		NOT_ARC
200903	TIPAGE-MT	MT (Magnetotellurics)	2009-06-01	2009-09-10	UNKNOWN	GIPP		NOT_ARC
200902	GEO-EN MT Test (ex-COAST-MT)	MT (Magnetotellurics)	2009-03-01	2009-05-31	UNKNOWN	GIPP		NOT_ARC
200809	Tadshikistan/MT	(Magnetotellurics)	2008-06-15	2008-08-15	UNKNOWN	GIPP		NOT_ARC

GIPP-MT (Experiment and Data Archive)

Dataset details

Exp. id: 201309 **Status:** UNKNOWN

Project: GreenT/MT
 Conductivity structure of a 1.9 Ga old fold belt in West Greenland to constrain the dip and depth extent of (thrust) faults, intrusions and possible remnants of subduction zones; comparison with corresponding MT-studies in Canada.

DOI:

Principle investigator: Andreas Junge
 junge@geophysik.uni-frankfurt.de
 Uni Frankfurt

Exp. type: MT (Magnetotellurics)
Time period from: 2013-08-01 to 2013-10-15
Location: [66.0;-53.0]
Recorder types: EDL 12
Sensor types:
Formate:
Archived at: GIPP
Programs: GIPP

Request

Cancel

DFG: Regeln guter wissenschaftlicher Praxis

Regeln guter wissenschaftlicher Praxis müssen - allgemein und nach Bedarf spezifiziert für die einzelnen Disziplinen - Grundsätze, insbesondere für die folgenden Themen, umfassen:

- allgemeine Prinzipien wissenschaftlicher Arbeit, zum Beispiel:
 - lege artis zu arbeiten,

Deutsche Forschungsgemeinschaft
Kennedyallee 40 · 53175 Bonn · Postanschrift: 53170 Bonn
Telefon: + 49 228 885-1 · Telefax: + 49 228 885-2777 · postmaster@dfg.de · www.dfg.de



DFG-Vordruck 2.01 – 04/14

Seite 34 von 35

- Resultate zu dokumentieren,
- alle Ergebnisse konsequent selbst anzuzweifeln,
- strikte Ehrlichkeit im Hinblick auf die Beiträge von Partnern, Konkurrenten und Vorgängern zu wahren,
- Zusammenarbeit und Leitungsverantwortung in Arbeitsgruppen,
- die Betreuung des wissenschaftlichen Nachwuchses,
- die Sicherung und Aufbewahrung von Primärdaten,
- wissenschaftliche Veröffentlichungen.



A first step...

MT Reference Site

- ▼ GIPP Experiment and Data Archive
- ▶ Scientific Technical Report
- ▶ Data Sets
- ▼ MT Reference Site
- ▶ Contact
- ▶ Application
- ▶ Instruments
- ▶ Software
- ▶ Documents
- ▶ Publications
- ▶ News
- ▶ FAQ

Home » Dep 2: Physics of the Earth » 2.2 Geophysical Deep Sounding » Services/Infrastructure » Geophysical Instrument Pool Potsdam (GIPP) » GIPP Experiment and Data Archive » [MT Reference Site](#)

Wittstock - Permanent MT Remote Reference Site




Figure: View of the hut where the data loggers and power supply are installed. The inset picture shows the SPAM Mk. IV data loggers.

The sources for the magnetotelluric (MT) method are naturally occurring electromagnetic field variations. Electromagnetic currents are excited over a wide frequency range in the

MT Reference Site

Archived time-series data

All data are recorded as time series using two SPAM Mk. IV systems. For ease of use, the data are re-organized as three virtual MT sites, covering a wide frequency range. Data streams can be continuous or in scheduled modes.

Site 991 comprises a 3-component Geomagnet fluxgate magnetometer (Bx, By, Bz) and electric field (Ex, Ey) recordings. Recording is continuous at a sampling rate of 5 Hz.

Site 996 comprises one (or more) continuously recorded data streams using MFS06 induction coil magnetometers (Bx, By, coil switch in LF mode, chopper on) and electric fields (Ex, Ey). Over time, a range of sampling rates were tested (50 Hz, 250 Hz, 500 Hz).

Site 997 records high frequency data which are typically sampled in scheduled mode. Over time, a range of sampling frequencies were tried (2.5 kHz, 5 kHz, 6.25 kHz, 12.5 kHz, 25 kHz). The magnetic fields are recorded with Metronix MFS07 sensors (Bx, By, coil switch in HF mode, chopper off).

For detailed information on available time-series for each site and year, please follow the links in the table below:

Site 991	Site 996	Site 997
		2011
2012	2012	2012
2013	2013	2013
2014	2014	2014
2015	2015	2015

MT Reference Site

Hardware Configurations and Recording Modes

Project: Wittstock Remote Reference
 Site number: 996

Run: 001

Recording Period							
18 Jan 2013 00:00:00 - 20 Jan 2013 23:59:59 (For 24 h every 24 h)							
Site	SPAM	Sensor Box	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
996	43	19	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	441
				002	By	Metronix_Coil-----TYPE-006_LF	395
	20	103		003	Ex	TelluricElectrode-TYPE-AgAgCl	0
				004	Ey	TelluricElectrode-TYPE-AgAgCl	0

Run: 002

Recording Period							
06 Feb 2013 11:45:30 - 07 Feb 2013 01:59:59 (For 2 h every 2 h)							
08 Feb 2013 00:00:00 - 12 Feb 2013 23:59:59 (For 24 h every 24 h)							
14 Feb 2013 11:00:00 - 15 Feb 2013 23:59:59 (For 24 h every 24 h)							
16 Feb 2013 00:00:06 - 16 Feb 2013 23:59:59 (For 24 h every once)							
17 Feb 2013 00:00:06 - 18 Feb 2013 23:59:59 (For 24 h every 24 h)							
19 Feb 2013 00:00:06 - 19 Feb 2013 23:59:59 (For 24 h every once)							
20 Feb 2013 00:00:06 - 22 Feb 2013 23:59:59 (For 24 h every 24 h)							
23 Feb 2013 00:00:06 - 26 Feb 2013 23:59:59 (For 24 h every 24 h)							
27 Feb 2013 00:00:06 - 01 Mar 2013 23:59:59 (For 24 h every 24 h)							
02 Mar 2013 00:00:06 - 02 Mar 2013 23:59:59 (For 24 h every once)							
03 Mar 2013 00:00:00 - 04 Mar 2013 23:59:59 (For 24 h every 24 h)							
05 Mar 2013 00:00:06 - 05 Mar 2013 23:59:59 (For 24 h every once)							
06 Mar 2013 00:00:00 - 09 Mar 2013 23:59:59 (For 24 h every 24 h)							
Site	SPAM	Sensor Box	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
	43	19		001	Bx	Metronix_Coil-----TYPE-006_LF	441
				002	By	Metronix_Coil-----TYPE-006_LF	395

Citation Information

Citation Information

The magnetotelluric data of the Permanent Magnetotelluric Reference Station Wittstock, Germany is freely available upon request and may be used under the Creative Commons Licence (CC-by-sa 4.0 Unported). Please send your data requests to Oliver Ritter ([oritter\(at\)gfz-potsdam.de](mailto:oritter(at)gfz-potsdam.de)).

Recommended citation of the datasets:

Ritter, O., Weckmann, U., Muñoz, G., Klose, R., Rettig, S., Schüler, M., Müller-Brettschneider, C., Willkommen, G., Rulff, P. (2015) Permanent Magnetotelluric Reference Station Wittstock, Germany. GFZ Data Services. DOI: <http://doi.org/10.5880/GFZ.2.2.2015.001>

Recommended citation of the data report:

Ritter, O., Muñoz, G., Weckmann, U., Klose, R., Rulff, P., Rettig, S., Müller-Brettschneider, C., Schüler, M., Willkommen, G., Eydam, D. (2015) A Permanent Magnetotelluric Remote-Reference Station in Wittstock, Germany. Scientific Technical Report 15/09 - Data, GIPP Experiment- and Data, GFZ German Research Centre for Geosciences. DOI: <http://doi.org/10.2312/GFZ.b103-15092>

The EMERALD Data Format for Magnetotelluric Data is described in detail in: Ritter, O., Klose, R., Weckmann, U., EMERALD Data Format for Magnetotelluric Data, Scientific Technical Report - Data; 15/08, Potsdam: Deutsches GeoForschungsZentrum GFZ, DOI: <http://doi.org/10.2312/GFZ.b103-15082>, 2015. <http://doi.org/10.2312/GFZ.b103-15092>



STR (scientific technical report)

Report

EMERALD Data Format for Magnetotelluric Data

Released

Ritter, O., Klose, R., Weckmann, U. (2015): EMERALD Data Format for Magnetotelluric Data, (Scientific Technical Report - Data ; 15/08), Potsdam : Deutsches GeoForschungsZentrum GFZ, 50 p.
DOI: <http://doi.org/10.2312/GFZ.b103-15082>

<http://gfzpublic.gfz-potsdam.de/pubman/item/escidoc:1284934>

Resources

1508.pdf
(Publisher version), 2MB

Authors

Ritter, Oliver
2.2 Geophysical Deep Sounding, 2.0 Physics of the Earth, Departments, GFZ Publication Database, Deutsches GeoForschungsZentrum;
Scientific Technical Report STR Data, Deutsches GeoForschungsZentrum;

Klose, Reinhard
2.2 Geophysical Deep Sounding, 2.0 Physics of the Earth, Departments, GFZ Publication Database, Deutsches GeoForschungsZentrum;
Scientific Technical Report STR Data, Deutsches GeoForschungsZentrum;

Weckmann, Ute
2.2 Geophysical Deep Sounding, 2.0 Physics of the Earth, Departments, GFZ Publication Database, Deutsches GeoForschungsZentrum;
Scientific Technical Report STR Data, Deutsches GeoForschungsZentrum;

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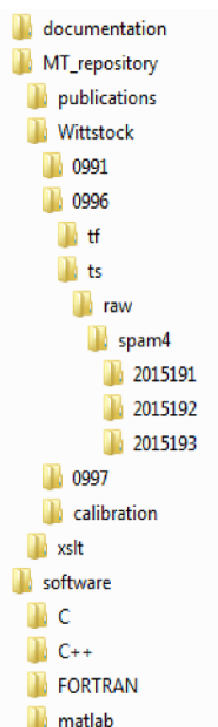
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What (data) do I get ?

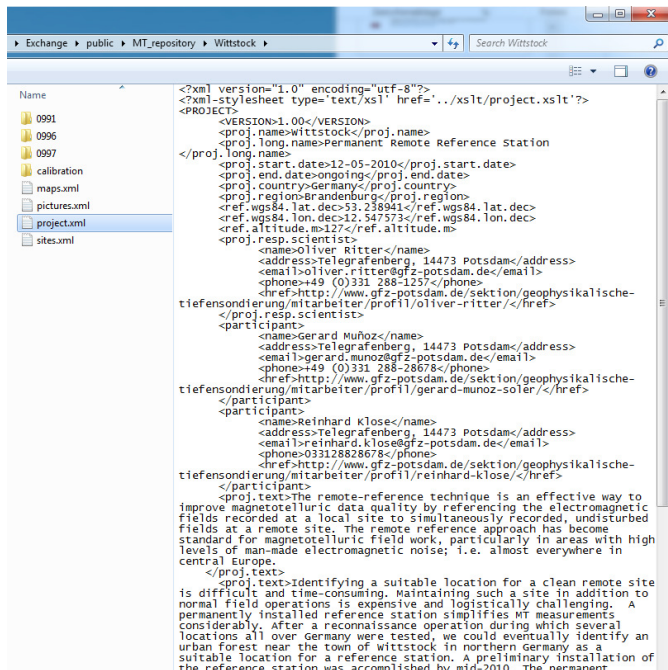
- Time series (binary)
- Meta-data (XML)
- Instrument responses
- Example programs (sources)

What (data) do I get and how?



- 📁 **documentation**
- 📁 **MT_repository**: extract from GIPP-MT data repository
 - 📁 **publications**: folder containing relevant references in bibx format
 - 📁 **Wittstock**: data of the permanent remote reference site near Wittstock
 - 📁 **991**: site folder containing LF data (fluxgate sensor)
 - 📁 **996**: site folder containing BB data (MFS06 coils)
 - 📁 **ts / raw / spam4 / 201519x** subfolders containing time series data from days 191 - 193 of 2015
 - 📁 **997**: site folder containing HF data (MFS07 coils)
 - 📁 **calibration**: calibration data for magnetic field sensors
 - 📁 **xslt**: folder containing xslt style files to transform xml files to html formatted viewing in web browser
- 📁 **software**: folder with sample code to access EMERALD type data files (.RAW/.XTR/.XTRX)
 - 📁 **C**: examples in C
 - 📁 **C++**: examples in C++
 - 📁 **FORTTRAN**: examples in FORTRAN
 - 📁 **matlab**: examples in matlab

Metadata? XML?



Your web browser knows what to do...

Details of project Wittstock (Permanent Remote Reference Station)

Follow this link to view available [MT sites](#).
Follow this link to view available [maps](#).
Follow this link to view [pictures](#).
Follow this link to view [publications, conference abstracts, academic theses, etc.](#)

Field experiment:

Country: Germany, region: Brandenburg
Field work lasted from 12-05-2010 to ongoing
Reference latitude: 53.238941
Reference longitude: 12.547573
Reference altitude [m]:127
[Show project location](#) in Google Maps.

Responsible scientist:

[Oliver Ritter](#)
Telegrafenberg, 14473 Potsdam
oliver.ritter@gfz-potsdam.de
+49 (0)331 288-1257

Project description:

The remote-reference technique is an effective way to improve magnetotelluric data quality by referencing the electromagnetic fields recorded at a local site to simultaneously recorded, undisturbed fields at a remote site. The remote reference approach has become standard for magnetotelluric field work, particularly in areas with high levels of man-made electromagnetic noise; i.e. almost everywhere in central Europe.
Identifying a suitable location for a clean remote site is difficult and time-consuming. Maintaining such a site in addition to normal field operations is expensive and logistically challenging. A permanently installed reference station simplifies MT measurements considerably. After a reconnaissance operation during which several locations all over Germany were tested, we could eventually identify an urban forest near the town of Wittstock in northern Germany as a suitable location for a reference station. A preliminary installation of the reference station was accomplished by mid-2010. The permanent installation in a wooden hut and operating with a range of sensors and sampling rates is available since November 2010.

Summary / Outlook

- Please acknowledge GIPP instruments on posters, presentations, theses, papers, ...
- If acquired with GIPP instruments, please send us your data for archiving
- Consider using and citing data publications
- Wittstock is a beginning, more data will be released eventually (<http://www.gfz-potsdam.de/en/section/geophysical-deep-sounding/infrastructure/geophysical-instrument-pool-potsdam-gipp/archive/mt-reference-site/>)
- ? Use the archive for other MT data ?
- ? Should we be more restrictive with the licenses ?
- ? Automated downloads / web interface ?
- ? Integration with EPOS / similar platforms ?