UBS

User manual
UBS KeyDirect

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1. UBS KeyDirect client interface

1.1 Preface

This document provides an overview of the functions and options in UBS KeyDirect.

It lists the various banking functions available, describes possible communication channels and outlines the security mechanisms required to establish a connection with UBS KeyDirect.

A detailed description of the available functions is also provided for a more in-depth look at the banking functions.

You can find a description of the technical requirements in the document "UBS KeyDirect Technical Handbook".

1.2 UBS KeyDirect

UBS KeyDirect is a standardized interface for "open" communication between UBS and its clients. As a front-end system, it is designed to handle the electronic communication with the various client systems, thereby releasing UBS from responsibility for security and communication tasks.

The interface, which is based on internationally recognized industry standards, makes it possible to flexibly connect to different client systems.

There are six different function groups and UN/EDIFACT & ISO20022 available.
Every user needs to be authorized for all of the functions with which he/she would like to work in the UBS KeyDirect database. All functions (except UN/EDIFACT & ISO20022) are identified by a four-letter alias name where the first two letters represent a function group.

UBS KeyDirect is in operation 24 hours a day, 7 days a week. At night and on days when the bank is closed, access may be negatively affected because data is being reorganized.

In the event of operating problems, the contact point is available to provide clarification during office hours on normal bank working days in Zurich.

1.3 Software partners

Various software companies have integrated the UBS KeyDirect interface into their software products. You can therefore purchase proven solutions with the interface to UBS KeyDirect for electronic data exchange with UBS.

A list of the software partners can be found online at

www.ubs.com/keydirect-partner

1.4 Function groups (incl. UN/EDIFACT & ISO20022)

The following six function groups and UN/EDIFACT & ISO20022 are available:

Function groups	Alias	Description
BD (Balances and Details)	BD16	Pending intraday account transactions in SWIFT format MT942
	BD21	Account balance incl. value date series and booked transactions in SWIFT format MT940
	BD25	Event-based provision of intraday debits and credits in SWIFT format MT942
	BD26	Notification of accrued debit advices in SWIFT format MT900
	BD27	Notification of accrued credit advices in SWIFT format MT910
	BD31	UBS BESR notifications
ES e-Statements	ES01	Retrieval of signed and indexed electronic documents
DD Direct debit	DD01	Delivery (inbound) of direct debit (LSV) file with electronic signature
	DD02	SIC AG's recapitulation and error list
	DD03	Notification of incoming direct debit payments
FT Funds transfer	FT51	Individual payment orders in SWIFT format (MT 100)
	FT52	Individual payment orders in SWIFT format (MT 101)
	FT61	DTA payments without electronic signature
	FT62	DTA payments with electronic signature
	FT63	DTA log file
FX Foreign exchange	FX22	UBS Quotes FX spot rates
SY System functions	SY01	Info about activated functions
	SY02	Info about all functions
	SY03	Info on available data
	SY71	BIC/BC reference table (CH only)
	SY99	Communication test function

UN/EDIFACT	Function	Description
Debit advices	DEBADV, DEBMUL	Intraday debits
Credit advices	CREADV, CREEXT, CREMUL	Intraday credits
Account balances and account transactions	FINSTA	Pending intraday account transactions
	FINSTA	Account balance incl. value date series and booked transactions (end of day)
Security	AUTACK	Electronic signature (authentication, acknowledgment)
	KEYMAN	Public key and certificate management
	CIPHER	Message encryption based on X.509 certificates
Payment orders	PAYMUL	Collective payment order Individual payment order (with PAYMUL D96A "online")
Status	BANSTA	Bank-specific status notification
	CONTRL	Technical status notification about • receipt (CONTRL light) or • receipt and syntax check (CONTRL normal)

ISO 20022	Function	Description
Payment orders	PN01	Submission of payment orders in the ISO 20022 format, without paper-based confirmation
Status	PN02	ISO 20022 feedback (log file)
	PN08	Delivery of SEPA direct debit files in ISO 20022 format
	CAMT	CAMT052 Event-based provision of intraday debits and credits CAMT053 Account balance incl. value date series and booked transactions

1.3 Communication types

The table below shows the possible types of communication:

Type	Protocol	Access
Internet	TCP/IP	Server address 1&2: keydirect.ubs.com Port: 7005
Direct dial (PPP)	TCP/IP	Server address 1: 193.134.254.4 Server address 2: 193.134.254.132 Port: 7005 Analog telephone: 0840 840 520 ISDN telephone: 0840 840 521 or 0840 840 522 PPP user/pass: ppp1 / elkppp

The SSL-secured TCP/IP protocol is used for the connection.

Please refer to the software package documentation or contact your software vendor for a detailed description of the necessary software settings.

1.4 Exchanging information

Files are used for the exchange of data. The data must be supplied in accordance with the SWIFT, UN/EDIFACT or other conventional interbank standard.

Depending on the reciprocal agreements and the communication channels in use, the data is encrypted either by the client or by UBS KeyDirect.

Every transfer with UBS KeyDirect must be initiated by the client's system. This means that the client's system retrieves the data (files) from UBS or sends it to UBS via UBS KeyDirect.

The data is deemed successfully transmitted when receipt has been confirmed by UBS with a confirmation file.

This file contains:

- A positive confirmation (ACK) or a negative confirmation (NAK) with an error code for every **order**. For DTA, confirmation is provided for the entire file.
- The data requested or an error message with an error code for every **query**.

1.5 Security mechanisms

1.5.1 Protocol/encryption

The protocol for communication relies on a secure TCP/IP connection with SSL. It is made available to software manufacturers by UBS.

The SSL protocol automatically encrypts the data using an IDEA128-bit algorithm. The entire dialog between UBS and its clients is also encrypted.

1.5.2 Data compression

Data is compressed automatically.

1.5.3 Certificates

Because UBS has not yet officially recognized a standard for client certificates, the CRT key is currently used to identify the UBS KeyDirect client. The keys are given to the UBS client by UBS.

The UBS KeyDirect server is identified to the client by a server certificate based on X.509. The public keys used have 1024 bits.

1.5.4 Checksum

Every payment order must have a checksum (MAC). It is calculated separately for every individual order. For DTA, it is calculated for the entire file.

The checksum is created with DES as a block cipher in accordance with ISO/IEC X9.9.

2. Account information (BD)

2.1 Scope

The "Account information" function group enables UBS clients to retrieve account information electronically in SWIFT format and UBS BESR notifications by means of file transfers.

The following information can be retrieved from UBS and other domestic and foreign banks:

Account statement
Is provided by around 8 a.m. the morning after end-of-day processing and relates to the previous day

Booked/pending transactions
Are provided by around 8 a.m. the morning after end-of-day processing and relate to the previous day

Intraday transactions
Are provided throughout the day from the payment transactions of UBS triggered by specific events and are deemed pending until shown in the account statement

2.2 Functions

The following functions are available to retrieve account information in SWIFT format:

Functions	Description
BD16	Notification of intraday position in SWIFT MT942
BD21	Notification of intraday position with display of account balance in SWIFT MT940
BD25	Notification of accrued credit and debit advices in SWIFT MT942
BD26	Notification of accrued debit advices in SWIFT MT900
BD27	Notification of accrued credit advices in SWIFT MT910
BD31	UBS BESR notifications

As additional services, UBS supplies a code value for the BD16 and BD21 functions.
This Enhanced Booking Text Code (EBTC) can be implemented in a text with four languages using a help table. This text provides detailed information about the booking type.

The code table (PDF format) can be found online at:

www.ubs.com/keydirect

2.3 BD16 function: Pending account transactions (MT942)

Pending account transactions are reported as follows with this function:

- All pending account transactions that have not yet been booked in end-of-day processing are supplied at defined intervals. All transactions with a value date after the current day's date are supplied with this function. Here, transactions are reported every day up to the day (value date = today) in this function. When the value date is reached (value date = today), these transactions are booked in end-of-day processing and appear again in the BD21 function as definitively booked the following day.

- Any interval within the 24-hour period may be selected for time of file creation. The shortest interval is half an hour.
  (files are provided by default at 7 a.m., 11 a.m. and 3 p.m.)

- There are two ways in which files are provided:

    - **"Incremental"** (default)
      Only the newly accrued bookings are retrieved each time the system is accessed. The bookings are only ever available once per file (differential margin).

    - **"All"**
      All available data is downloaded each time the system is accessed. This file is filled cumulatively, i.e. the data that has already been loaded is transmitted again (total quantity) each time the system is accessed.

- A "floor limit" (default zero) can be used to specify that only the information about the amounts that are the same or greater than the limit requested by the client is supplied.

- It is possible to specify that a file should always be created at the requested time even if no transactions have occurred or that a file should be created only when transactions have occurred (default).

2.4 BD21 function: Account balance and booked transactions (MT940)

This function reports the booked balance of the previous day, the booked transactions, the value-date balance of the previous day and the value date series in the future of the advance notification transactions. UBS KeyDirect provides you with the balances and transactions for each account in one or more separate notifications once a day.

The following principles are important:

- With the BD21 function, UBS KeyDirect can also supply a message if the balance has not changed since the previous day (for accounts with UBS).
- In addition to the balances, the account transactions booked in end-of-day processing are also supplied. This means that transactions that were reported up to this point in BD16 or BD25 and are now booked, appear here again but are no longer listed in the other two functions.
- The data is provided once a day in the morning at 8 a.m.
- Information from other banks can also be transmitted. The times at which this information is provided and its content must be clarified with the respective third-party bank on a case-by-case basis.
- Messages that were not retrieved are added to the file for a maximum of 45 days and continue to be available.

2.5 BD25 function: Accrued credit/debit advices (MT942)

Triggered by specific events, UBS KeyDirect is supplied with information by the Payments Application VG. This information is updated on UBS KeyDirect on an ongoing basis and made available to you for transmission.

The following principles are important:

- The advices can only be transmitted once for every UBS KeyDirect user. This means that there is no function to query notes at a later point in time.
- If you select the "Advices" function several times during the day, the current transactions since the last transmission are supplied.
- The credit and debit advices are reorganized daily. When a transaction is reported as booked (BD21 function), it is deleted from the notes and is no longer available.
- If the credit and debit advices are not retrieved and not reported as booked, they are kept available for the next transmission on UBS KeyDirect until the booking date.

Accrued credit/debit advices can be retrieved separately with the BD26 and BD27 functions.

2.6 BD31 function: UBS BESR notifications

UBS enables its clients to retrieve incoming BESR notifications electronically via UBS KeyDirect and incorporate them into their accounting system with "UBS-BESR via UBS KeyDirect"

The formats supported by UBS KeyDirect and the requirements for proper use are described in the document entitled " UBS-BESR handbook".

The file with the UBS BESR payment details can be retrieved with the BD31 function.

The following must be taken into account:

- **Periodicity**
  The acknowledgment of the incoming amounts occurs once a day.

- **Booking**
  The incoming payments are credited daily to the credit account.

- **Data provision**
  The UBS-BESR payment notification data is available for retrieval the day after it is received.

- **Post-production**
  Data media that have already been retrieved can be ordered again and retrieved from UBS within 45 days after provision. After this period, subsequent delivery is possible for a maximum of 6 months subject to a fee and regardless of whether the file was already retrieved once or not.

3. Electronic documents (ES)

The ES01 function "Order e-documents" allows for documents to be retrieved in electronic form (PDF). The e-documents have the same content as the physical bank documents, are digitally signed and have index data (known as metadata).

This satisfies the prerequisites for legally compliant archiving. They completely replace today's physical bank documents.

3.1 Character attributes

Electronic documents are official documents. When the switch is made to e-documents, paper-based documents can therefore be discontinued.

e-documents that have been retrieved once before are deemed as being delivered and can only be provided again in exceptional cases within
45 days or a max. of 1 time via KeyDirect.

3.2 Ordering requirement

Once the e-documents are available to order on the KeyDirect server, they are deemed delivered. It is the client's responsibility to ensure fast and regular access. As so much data is produced, e-documents are stored on the UBS KeyDirect server for a maximum of 45 days. They are subsequently deleted.

3.3 ES01 function: Ordering e-documents

This function can be used to retrieve e-documents that are available to order. The order process is always initiated by the client, who is either the end client or an external archive provider.

All e-documents are ordered uniformly by means of the ES01 function. No distinction is made between the various document groups/types.

If data transmission fails as a result of transmission problems or because the connection is terminated, the electronic documents remain on the UBS KeyDirect server. The order process must be initiated again.

3.4 Archiving requirement

In order to ensure that electronically transmitted business correspondence has the same validity as physical correspondence, it must be archived in compliance with the requirements for storing electronically transmitted data.

The Swiss Code of Obligations (OR), the Swiss Business Records Ordinance (GeBüV) and the Swiss regulations on the handling of electronically transmitted data and information (ElDI-V) are the relevant laws for corporate clients.

4. Incoming payments LSV+/BDD (DD)

4.1 Scope

The direct debit system via UBS KeyDirect makes it possible to deliver payments with record type TA875 (LSV+/BDD) directly to UBS (hereinafter UBS) and to retrieve incoming notification files electronically.

4.2 Functions

The following functions are available for direct debits:

Functions	Description
DD01	Delivery of LSV+/BDD file with electronic signature
DD02	SIX Interbank Clearing's recapitulation and error list
DD03	Notification of incoming LSV+/BDD payments

4.3 DD01 function: Delivery (inbound) of direct debit (LSV) file with electronic signature

The delivered files are checked according to the criteria; hash total, LSV-ID, account number and value date. The verified files are forwarded individually to SIC AG. A confirmation file is created for every LSV file received.

If a file does not contain any formal errors, ACK is returned in field 7A. If the file cannot be accepted, NAK is generated in field 7A. The exact details regarding the cause of the error are supplied in fields 21 (sequence number) and 79 (error code). If a file contains an error, the entire file is rejected.

4.4 DD02 function: SIC AG's recapitulation and error list

The feedback sent by SIC AG to UBS (recapitulation list and an import and error list in the case of an error) are retrieved in text format with the DD02 function.

4.5 DD03 function: Notification of incoming direct debit payments

The DD03 function is used to retrieve the file with the references of the type 3 credit records, similar to the BD31 function. The file only contains credits from direct debit payments.

UBS KeyDirect consolidates all notifications so that there is always only one file available. If a client has several accounts, the incoming payments for all accounts are provided in a file.

The following must be taken into account:

- **Periodicity**
  The acknowledgment of the incoming amounts occurs once a day.
- **Booking**
  The incoming payments are credited daily to the credit account.
- **Data provision**
  The file with the notifications is available for retrieval the following day. The data is coded in ASCII format in a collective file. The incoming payments to all accounts are stored in a file. The total record is recalculated each time.

5. Payment orders (FT)

5.1 Scope

The "Payment orders FT" function group makes it possible to electronically transmit SWIFT payments and collective orders in DTA format. Processing is carried out in accordance with the execution date and the cut-off times of the respective currency.

Functions FT51 and FT52 are available for urgent individual payments in CHF or foreign currency. Functions FT61 and FT62 for collective orders.

The DTA format (FT61 & FT62 functions) recognizes the following payment types:

- ESR payments (TA826)
- Domestic CHF payments (TA827)
- Foreign CHF / foreign currency payments abroad and domestic foreign currency payments (TA830)
- Bank check in CHF / foreign currency (TA832)
- Domestic and foreign CHF / foreign currency payments with IBAN/IPI (TA836)

5.2 Functions

The following functions are available to issue payment orders:

Functions	Description
FT51	Individual payment orders in SWIFT format MT100
FT52	Individual payment orders in SWIFT format MT101
FT61	Payment orders in DTA format, with paper-based confirmation
FT62	Payment orders in DTA format, with paper-based confirmation
FT63	DTA feedback (log file)

5.3 Expense options (SWIFT payments)

The expenses can be influenced in the "Expense option" field (Code 71A) as follows:

- **Code "OUR"** = All costs charged to order issuer
  Service fee and third-party costs charged to order issuer
- **Code "BEN"** = All costs charged to beneficiary
  Service fee and third-party costs charged to beneficiary
- **Code "SHA"** = Shared costs
  The service fee is charged to the order issuer and the beneficiary

5.4 Field 23 (SWIFT payment MT101)

The following codes are accepted and validated in the "Instructions" field (Code 23E):

Code	Meaning	Description
CHQB	Check beneficiary	Payment is made by check
INTC	Intercompany	Payment between two companies that belong to the same group
NETS	Net Settlement System	Payment to be executed via NETS
OTHR/variable text	Other	Bilaterally agreed codes/information can be relayed in the variable text (structured free text)
PHON/variable text	Telephone	The beneficiary is to be contacted by the beneficiary's bank by phone
RTGS	Real Time Gross Settlement	Payment to be executed via RTGS
URGP	Urgent payment	Time-sensitive payment to be executed as quickly as possible
EQUI	Equivalent	Instruction to transmit an amount to a recipient in a currency that corresponds to the amount of a payment initiated in another currency.

5.5 Field 72 (SWIFT payments MT100)

For technical reasons, the free text in field 72 is limited to 6 lines with 30 characters on each. Excess characters at the end of the line are cut off and **not** relayed to the third-party bank.

The following codes are accepted and validated:

Code	Meaning	Description
CHQB	Check beneficiary	Payment is made by check
INTC	Intercompany	Payment between two companies that belong to the same group
NETS	Net Settlement System	Payment to be executed via NETS
OTHR/variable text	Other	Bilaterally agreed codes/information can be relayed in the variable text (structured free text)
PHON/variable text	Telephone	The beneficiary is to be contacted by the beneficiary's bank by phone
RTGS	Real Time Gross Settlement	Payment to be executed via RTGS
URGP	Urgent payment	Time-sensitive payment to be executed as quickly as possible
EQUI	Equivalent	Instruction to transmit an amount to a recipient in a currency that corresponds to the amount of a payment initiated in another currency.

5.6 Function FT51: Single payments in SWIFT MT100

MT100 can be used to transmit single payments charged to UBS accounts and accounts at third-party banks.

A confirmation message MT01K, incl. ACK or NAK and the corresponding error code, is sent for every individual order.

5.7 Function FT52: Single payment orders in SWIFT MT101

MT101 can be used to submit single payments charged to UBS accounts and accounts at third-party banks.

A confirmation message MT01K, incl. ACK or NAK and the corresponding error code, is sent for every individual order.

5.8 Functions FT61 & FT62: DTA payments

5.8.1 Scope

UBS offers the transmission of DTA files for the fast, secure and paperless handling of bulk payments. UBS KeyDirect is designed in such a way that different types of payments can be delivered in Swiss francs and in foreign currencies with a single file.

The exact description of the DTA interface can be found in the "DTA Standards and Formats" handbook from SIX Payment Services (www.sic.ch).

UBS provides the following two functions to execute DTA payment orders:

Payment orders in DTA format, with paper-based confirmation (FT61)

When you use the FT61 function, you also send a written DTA compensation order to UBS in addition to the DTA file. UBS checks the order and releases the submitted DTA file for processing.

Payment orders in DTA format, without paper-based confirmation (FT62)

An electronic signature is supplied in the trailer of the file and checked by UBS with the FT62 function. Once this signature has been successfully checked, the file is released for processing.

For each order file that was transmitted with the FT61 and FT62 functions, a confirmation message MT01K, incl. ACK or NAK and the corresponding error code, is sent.

If not all of the orders transmitted in the order file are confirmed in the MT01K confirmation message with ACK, the unconfirmed orders must be checked and transmitted again if necessary.

Within one day, several DTA files with the same processing date and the same DTA order issuer ID can be processed for each DTA sender ID.

DTA orders can – depending on the delivery date and the requested processing day / value date – be canceled through the UBS KeyDirect hotline (Tel. 0848 807 848).

5.8.2 Booking and notification

Domestic CHF orders

Domestic CHF orders are merged to form a collective booking for each processing day and a notification provided by a total debit note.

Foreign CHF orders and foreign currencies

Foreign CHF orders and the foreign currencies are merged to form a collective booking for each currency and processing day. The notification is issued as a total debit note (one note for all orders). Individual notes are possible, but the code "/SP/" (single payment) also has to be supplied in field 72.

Expense codes

Payments in the TA830 format with the expense codes BEN or OUR in field 72 are processed as a single booking with an individual debit.

Payments in the TA836 format with the expense codes 0 (OUR) or 1 (BEN) in field 71A are processed as a single booking with an individual debit.

Expense code 2 (SHA = shared expenses) is to be used for collective postings.

5.8.3 Timeline

Client		UBS KeyDirect
Transmission of the DTA file	⇒	Immediate check of the DTA file
		⇓
Receipt of confirmation file with ACK/NAK notification in MT01K	⇐	Creation of the MT01K confirmation file within the same connection session
		⇓
		If the DTA file is delivered by the cut-off time (8 a.m.), it is booked on the same day, otherwise on the next working day of the bank
		⇓
Receipt of DTA log file	⇐	Creation of the DTA log file (FT63), which is available at around 6:30 a.m., 9 a.m., 12 p.m., 3:30 p.m. and 9:30 p.m. after the DTA file has been transmitted

Payments can be valued up to 60 calendar days in the future. Payments valued in the past are executed with the next possible date. The value or processing date may be up to 7 days in the past on the submission date. If this timeframe (-7 days or +60 days) is exceeded, the entire file is rejected.

5.9 Function FT63: DTA log file

This log file provides information on which payments UBS has accepted. Payments that have not been accepted are shown with the reason they were rejected. As the credit rating is only checked when the order is executed, payments that have to be rejected because of the credit rating are shown in the log file as executed.

6. Exchange rates (FX)

The "FX22 Exchange Rates" function periodically supplies foreign exchange spot rates from UBS Quotes.

The data is updated every half hour during regular trading hours.

The specified rates are purely for informational purposes, UBS assumes no liability for their correctness.

The rates are listed in a table and can be retrieved by file transfer.

Currencies	Buy	Sell	Time	Date
EUR/CHF	1.2014	1.2012	09:17:29 AM	November 18, 2014
EUR/USD	1.2487	1.2486	09:17:29 AM	November 18, 2014
AUD/CHF	0.8394	0.839	9:17:05 AM	November 18, 2014
AUD/USD	0.8725	0.8723	9:17:50 AM	November 18, 2014
JPY/CHF	0.8242	0.8239	9:17:38 AM	November 18, 2014

7. System functions (SY)

The "System functions (SY)" are support functions which can be used manually or automatically in an interactive dialog.

7.1 Function SY01: Info about activated functions

This function provides an overview of which system functions are being actively used.

7.2 Function SY02: Info about all functions

Regardless of the functions activated as stipulated in the agreement, the SY02 function provides an overview of the general functions that UBS KeyDirect supports.

7.3 Function SY03: Info on available data

The SY03 function makes it possible to determine which system functions and data are made available when ordered once.

7.4 Function SY71: BIC/BC reference table

When issuing payment orders, the BIC address (Bank Identifier Code) or the BC number (bank clearing number) of the beneficiary bank must also be supplied.

The reference table provides active BIC addresses and BC numbers. In addition, this table can be used to convert BC numbers to BIC addresses.

The table is structured as follows:

Field	Field size
BIC address	11 characters
BC code	10 characters (max.)
Bank name	105 characters (max.)
Bank address	25 characters (max.)

7.5 Function SY99: Communication test

This function makes it possible to carry out a simple communication and connection check. Any file can be used for this test. A delivered file is returned directly without changes.

8. UN/EDIFACT

8.1 Debit advices

Collective debit advices can be used in UN/EDIFACT based on the Message Implementation Guidelines (MIG) and the guidelines of the Corporate Reference Group (CRG).

Function	Advice
DEBMUL D96.A	Collective debit advice

The Message Implementation Guidelines (MIG) can be found on the home page of SIX Payment Services at www.sic.ch.

For detailed information on the guidelines of the Corporate Reference Group (CRG), please contact the UBS KeyDirect hotline.

8.2 Credit advices

Individual credit advices can be used in UN/EDIFACT based on the Message Implementation Guidelines (MIG) and the guidelines of the Corporate Reference Group (CRG).

Function	Advice
CREEXT D91.2	Individual credit advice

The Message Implementation Guidelines (MIG) can be found on the home page of SIX Payment Services at www.sic.ch.

For detailed information on the guidelines of the Corporate Reference Group (CRG), please contact the UBS KeyDirect hotline.

8.3 Account balances and account transactions

8.3.1 FINSTA intraday function

The FINSTA intraday information is based on the SWIFT message MT942 Interim Transaction Report.

This function is used to deliver all pending intraday account transactions as follows:

- Any interval within the 24-hour period may be selected for time of file creation. The shortest interval is half an hour.
  (files are provided by default at 7 a.m., 11 a.m. and 3 p.m.)

- There are two ways in which these files are provided:

  - **"Incremental"** (Default)
    Only the newly accrued bookings are retrieved each time the system is accessed. The bookings are only ever available once per file (differential margin).

  - **"All"**
    All available data is downloaded each time the system is accessed. This file is filled cumulatively, i.e. the data that has already been loaded is transmitted again (total quantity) each time the system is accessed.

- A "floor limit" (default zero) can be used to specify that only the information about the amounts that are the same or greater than the limit requested by the client is supplied.

- It is possible to specify that a file should always be created at the requested time even if no transactions have been executed or that a file should be created only when transactions have been executed (default).

8.3.2 FINSTA end-of-day function

The FINSTA end-of-day information is based on the SWIFT message MT940 Customer Statement Message.

This function reports the booked balance of the previous day, the bookings, the value-date balance of the previous day and the value date series in the future of the advance notification transactions by 8 a.m.

The balances, bookings and transactions can be provided for each account in one or more messages once a day.

Transactions reported with the CREMUL, DEBMUL, CREADV or DEBADV functions are shown in FINSTA as end-of-day bookings.

Messages that are not retrieved are added to the file for a maximum of 45 days and continue to be available.

8.4 Security messages

UBS supports electronic encryption and signatures with the following functions:

Functions	Description
AUTACK	Electronic signature based on UBS's own certificates (PKI)
KEYMAN	Public key and certificate management
CIPHER	Encryption of payment orders based on X.509 certificates

8.5 Payment orders

The following functions are available to transmit payment orders:

Function	Description
PAYMUL D.96A	Collective order
PAYMUL D.96A online	Individual payment order (express payment)

Payment orders are executed in accordance with the Message Implementation Guidelines (MIG) and the guidelines of the Corporate Reference Group (CRG).

The Message Implementation Guidelines (MIG) can be found on the home page of SIX Payment Services at www.sic.ch.

For detailed information on the guidelines of the Corporate Reference Group (CRG), please contact the UBS KeyDirect hotline.

8.6 Status reports

The following functions are available to confirm (OK / NOK) transmitted payment orders:

Function	Description
CONTRL light	Confirmation message receipt
CONTRL normal	Confirmation message receipt and syntax
BANSTA	Status report syntax

The detailed specifications for the status reports can be found on the home page of SIX Payment Services at www.sic.ch.

9. ISO 20022

9.1 Scope

UBS makes it possible to electronically transmit collective orders in ISO 20022 format with "ISO 20022 via UBS KeyDirect".

Correct payment orders are processed immediately; orders with errors are rejected.

Unprocessed payment orders are shown in an error log.

The entire order or individual payments can be canceled as long as the payments have not yet been initiated.

ISO 20022 reporting via UBS KeyDirect enables UBS clients to retrieve their account information electronically from UBS by means of account information messages in ISO 20022 XML format. The prerequisite for this is that the person receiving account information is able to process messages in ISO 20022 XML format.

9.2 ISO 20022 – Transmission of collective orders

9.2.1 Payment types

The following payment types are available:

- ESR payments
- Domestic CHF payments (TA827)
- Foreign CHF / foreign currency payments and domestic foreign currency payments (TA830)
- Domestic and foreign payments with IBAN in CHF / foreign currency
- SEPA payments in EUR
- SEPA direct debits

9.2.2 Payment functions

The following functions are available to issue payment orders:

Function	Description
PN01	Deliveries of payment orders in ISO 20022 format, without paper-based confirmation
PN02	ISO 20022 feedback (log file)
PN08	Deliveries of SEPA direct debit files in ISO 20022 format

9.3 ISO 20022 - Reporting

9.3.1 Information types

The ISO 20022 reporting service via UBS KeyDirect enables UBS clients to retrieve account information from UBS via UBS KeyDirect. This service can be used to retrieve information from UBS offices and other domestic and foreign banks:

The time the respective data of UBS offices or third-party banks is available must be agreed with the respective financial entity on a case-by-case basis.

9.3.2 Information types

The following UBS KeyDirect functions are available to retrieve account information in ISO 20022 format:

CAMT052 (for intraday account statement information)

The CAMT052 message corresponds to the previous MT941/942 message. MT941 used to contain (and still does) the balance report and the intraday transactions. This includes the debits and credits of the respective accounts. The CAMT052 message also contains details of the individual transactions in the accounts.

The CAMT052 intraday transaction report can be retrieved within 24 hours, either always or only when a transaction occurs, at set times defined by the client (shortest periodicity is every 15 minutes).

CAMT053 (account statement information for the previous day)

The CAMT053 message corresponds to the previous MT940 and MT 950 messages. It provides information on booked transactions for the accounts in question. It contains the booked transactions, details on the respective bookings and the balance notifications relating to the accounts.

The CAMT053 end-of-day account statement is provided by around 8 a.m. on the morning after the end-of-day processing and relates to the account information of the previous day.

10. Supply Chain Solutions (SCS)

10.1 Scope

The Supply Chain Solution (SCS) via UBS KeyDirect enables UBS clients to electronically transmit payment orders (SCF Payment Order) and/or information related to receivables (Purchase Flex).

10.2 Formats

UBS clients must have the technical capability to send their messages in the Comma Separated Values (CSV) format in line with SCS requirements.

10.3 Order types

The following types of orders can be used:

Order type	EBICS	X.Change	Comments
Supply chain finance	XS3	SCFNRAIN	SCF payment order
Purchase Flex	XFA	FACAF	Address file
	XFB	FACFF	Facture file
	XFC	FACCF	Combination file (address & facture file)

11. Special provisions

11.1 KeyDirect X-change

For identification vis-à-vis UBS, the UBS client receives a key CD and an appropriate password, which cannot be modified by the client, for the X-Change authentication process.

The KeyDirect ID is a fixed serial number assigned to every individual client which is noted on the declaration regarding the connection to UBS KeyDirect and each corresponding account sheet.

The key CD is used by the customer internally to establish a software-based rule for the authorized use of UBS KeyDirect. The key CD must be stored in a safe place and the CRT key and password it contains kept confidential and protected against unauthorized use.

The private key, together with the public key, is used to generate what are known as digital signatures. The client must save his/her private key on trustworthy hardware (e.g. chip card) in such a way that the key never leaves the medium. In addition, access to the saved private key must be protected with a separate password. The assignment of the appropriate public key to the client is confirmed by a certificate issued by a certification body recognized by UBS. The entire process is called a digital authentication mechanism which can be used instead of entering a password vis-à-vis UBS.

11.2 KeyDirect EBICS

In order to ensure secure communication with UBS, the UBS client uses his/her key pairs (private and public keys) and the public UBS bank key for the EBICS process.

Before the UBS client can use EBICS, he/she has to make sure that the public bank key used is correct. The valid public bank key (hash value) can be queried any time at www.ubs.com/keydirect or by calling the hotline.

In addition, the UBS client must send both public parts of his/her own key pairs as a hash value in a signed initialization letter (letter to activate the keys) to UBS. UBS transmits the hash values to the UBS systems.

This activates the connection via EBICS for the respective KeyDirect ID. These key pairs of the UBS client are used to generate and verify digital signatures and to encrypt and decrypt client data. The UBS client must save his/her private keys on a trustworthy hardware medium (e.g. chip card) in order to ensure that the key never leaves the medium. In addition, access to the saved private keys must be protected with a separate password.

If the UBS client uses key pairs that are not generated or stored on hardware approved by UBS, the client shall bear sole responsibility for any possible resulting direct or indirect damage. In exceptional cases when hardware not approved by UBS is used, UBS shall only allows connections from a fixed IP address specified by the client. The KeyDirect ID is a fixed serial number assigned to each individual client which is noted on the declaration regarding the connection to UBS KeyDirect and every corresponding account sheet. The client must ensure that the saved keys are stored in a safe place, kept confidential and protected against unauthorized use.

UBS does not distinguish between transport signature (signature of person authorized to transfer payment orders to UBS) and approval signature (signature of person authorized to approve payment orders transmitted by UBS). Payment files delivered by a UBS EBICS user are therefore immediately deemed as approved. In this case, there is no need to wait for an approval signature. (Exception: DTA with paper-based confirmation.)

11.3 Identification

Every person who either identifies himself either (i) with a KeyDirect ID and the correct password or (ii) with a KeyDirect ID and a digital authentication mechanism (self-identification) is deemed authorized vis-à-vis UBS; regardless of whether this person is actually authorized by the UBS client.

If a proper identification check has been performed, UBS is deemed responsible for executing the orders received via UBS KeyDirect and complying with the instructions and messages; such orders, instructions and messages are deemed to have been drawn up by the UBS client.

UBS has thus properly fulfilled its obligations if it carries out the incoming orders, instructions and messages as part of the business relationship. If payment orders are issued to UBS via UBS KeyDirect, UBS is authorized to reject individual payment orders at its own discretion if there are insufficient funds or the order exceeds an agreed credit limit.

11.4 IP address

Clients can store a fixed IP address on the UBS KeyDirect server. The connection can then only be established to this fixed IP address.

11.5 Risks

The identification agreement means that the UBS client bears the risks arising from changes made to his/her IT system by unauthorized individuals (incl. virus and/or Trojans), misuse of a password, CRT key, challenge-response test or the private key, or during data transmission.

The UBS client is aware of the risks of routing UBS KeyDirect traffic over open systems accessible to everyone (such as public and private data transmission networks, internet servers, access providers).

Security software is used for UBS KeyDirect usage via the Internet, which encrypts the data content to be transmitted with the exception of the sender and recipient. Encryption, however, cannot prevent the targeted manipulation of the client's IT system by unauthorized individuals via the internet. This is the client's responsibility.

If a connection is established to UBS with UBS KeyDirect via the Internet, the client is obligated to monitor the accuracy of the selected UBS address and the encryption of the data transmission being used with a security symbol in order to prevent errors and misuse.

If an irregularity is found, the connection must be terminated and the findings reported to UBS immediately. If the UBS client also uses software that is not critical for operation for UBS KeyDirect which violates or conflicts with his/her responsibility of due diligence, the client shall be responsible for any damage arising from a violation of this kind.

Furthermore, the client shall be obliged to take all precautions required to protect any data stored on his/her IT System.

11.6 Legal disclaimers/restrictions

The UBS client is aware that UBS is compelled to publish information electronically and attach legal disclaimers and restrictions to individual services due to market internationalization and globalization.

They are legally binding for the client with due notification. If the client does not wish to accept them, he/she must dispense with the information/services in question immediately. The complete wording of disclaimers and restrictions can be obtained or accessed at any time from UBS.

11.7 Blocking

The UBS client may have access to the UBS KeyDirect services provided by UBS blocked. If the keys used by the UBS client or the passwords are at risk, the UBS client is obligated to immediately revoke the respective certificate from the issuing certification body. He/she then has to report the incident to UBS immediately.

11.8 Rules

With respect to the use of UBS KeyDirect, there is no authorization rule that needs to be checked on the client side by UBS, because UBS does not need to identify the individual user, but rather the means of identification assigned to the UBS client (KeyDirect ID with password, certified or non-certified private key or banking key and encryption key).

Accordingly, it is the sole responsibility of the UBS client to establish an internal, software-based authorization rule for the users of UBS KeyDirect using the key CD provided to him.

12. UBS KeyDirect hotline

The UBS KeyDirect hotline 0848 807 848 is available to answer any operating questions and clarify all banking problems.