EDI-Manual

General Part

Version 07/01

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Content

1. Introduction

This EDI manual of the company

DAKOSY
Data Communication System Inc.
Mattentwiete 2

20457 Hamburg

describes all presently available transactions and messages, which are on offer within the transport industry.

This manual describes all available EDI[1] interfaces. They are the binding DP-basis for all DAKOSY users, the central EDI system. The complete EDI manual consists of:

- the **general part**,

- the **modules for the description of the individual messages / transactions**, e.g. DY01AN - quay orders (see chapter 2.4.1 short description of the individual transactions) and

- the **key manual**.

The EDI manual with its modules is continued regularly and available on demand free of charge (one copy only). The manual is distributed on demand and the user is automatically added to the distribution list of future changed modules.

Any continuation of the EDI manual will always involve complete modules. Consequently, these must be exchanged completely. An exchange of individual pages of the respective handbook modules is not planned.

[1] EDI - Electronic Data Exchange: a special type of electronic communication which allows exchange of technical and commercial data between different EDP systems in a structured and standardised format which can be completely processed by a receiving EDP system.

2. Organizational Basis

2.1. The Community of Users of the Communication System

2.1.1. For the Communication of Shipping Data (see §9 of the DAKOSY company contract):

The users' group of DAKOSY's data communication system can be composed of:

I. companies, which want to sell **shipping data** (shipping order and B/L data) and which are situated in the economic area of Hamburg (The Free and Hanseatic City of Hamburg) or within the local telephone call-range (as on 4.10.1982) and which are

1. companies, which have signed a user contract with DIHS - DAKOSY Forwarder's Association

2. exporters and industrial companies which carry out forwarding for their own purposes. Companies outside Hamburg cannot be allowed direct access to DAKOSY, even in case of existing financial links or dependent relationship (e.g. head office and branch).

3. liner agents, with freight in transit. Freight in transit means the freight transport (transit of goods), in which the goods arrive on a ship at the port of Hamburg and are transported further by ship. The input of shipping data is permissable for goods which arrive by land from the Scandinavian countries or the countries bordering the Baltic Sea.

II. companies outside the economic area of Hamburg, wanting to sell **shipping data** and which offer these exclusively to a forwarder in Hamburg and place them at his disposal.

III. companies situated in the economic area of Hamburg which receive **shipping data** and which want to place additional data at the disposal of the other users:

1. Quay operators
2. Tally firms
3. Liner agents and ship brokers, which have signed a user contract with DIHLA - DAKOSY Association of Liner Agents
4. Authorities

2.1.2. For the Communication of Other Data:

All companies which intend to send or receive data in order to ensure a trouble-free functioning of their business.

2.2. The EDI Costing System

2.2.1. Costs of Communication for the Sending and Receiving of Shipping Data (inclusive price system DAKOSY shareholders):

All transactions which are listed in the table 2.4.1 **"Short Description of the Individual Transactions"** and which are marked with * , fall into this category.

DAKOSY charges the three shareholders DIHS, DIHLA and DHU with the communication costs incurred at DAKOSY (33 $^{1}/_{3}$ % each).

The shareholders in return spread these costs among participating companies from their branch of industry. Queries about costing should therefore be directed to the respective shareholder.

2.2.2. Costs of Communication for the Sending and Receiving of Other Data (additional EDI services):

All transactions which are listed in the table 2.4.1 **"Short Description of the Individual Transactions"** and which are **n o t** marked with * , fall into this category.

DAKOSY charges the sending and/or receiving user with these costs which are calculated according to the current DAKOSY-EDI-rate.

2.3. DAKOSY Business Hours

The data communication system of DAKOSY is available to its users **24 hours a day, seven days a week**.

(Occasional times of unavailability due to reorganization and modification - change of release, upgrading of hardware etc. - will be made known to the users in advance.)

2.4. Relations of Communication

2.4.1. Short Description of the Individual Transactions

Message/ Transaction		Description of the Transaction / Message
AB01	*	Sending of ship departure data and retrieving of sailing list file
AC01		Transmission of container transport orders to feeder
BT01		BHT interface / Sending of data for "Bremer Hafentelematik (BHT)" to dbh and reception of all reports/confirmations from dbh
CT01	*	Transmission of container movement records
DY01AN	*	Transmission of quay orders in the area of Hamburg **format:** fieldnumbers
DY01BL	*	Transmission of bill's of lading in the area of Hamburg **format:** fieldnumbers
DY01ED	*	Transmission of bill's of lading in the area of Hamburg **format:** EDIFACT
DY01SM	*	Transmission of final notes to tallies respective a ship's departure
DY01TA	*	Transmission of tally notes to the liner agent (quay orders to which the tally has added measures and remarks concerning storage)
DY01UN	*	Transmission of unit data (container data) from tally to liner agent
FA01	*	Transmission of quay statement data (invoice quay) - short version
FA02	*	Transmission of quay statement data (invoice quay) - long version
FH01		Transmission of air freight deliveries to the airport of Hamburg (system ELWIS) - still in the development stage -

Message/ Transaction		Description of the Transaction / Message
GS01	*	Transmission of declarations of dangerous goods from quay operators to Harbour Police (system GEGIS) **format:** fieldnumbers
GS02	*	Transmission of declarations of dangerous goods from liner agents/carrier to Harbour Police (system GEGIS) **format:** fieldnumbers
GS02PR	*	Transmission of declarations of dangerous goods from liner agents/carrier to Harbour Police (system GEGIS) **format:** EDIFACT
ME01		Transmission of transport data of the company Merck & Co., Darmstadt - in planning -
MN01		Transmission of LCL-container manifestos - not yet carried out -
MS01	*	Transmission of unformatted data / free messages / messages
RB01		Transmission of transport data of the company Robert Bosch, Karlsruhe
SP01	*	Transmission of spool files / any kind of print-outs
ST01		Transmission of statistical data - dormant -
TD01		Transmission of railway transport data
TD02		Transmission of transport data "combined transport"
TR01		Transmission of container transport orders to trucker
TR02		Transmission of container transport orders from trucker to quay operators
ZO01ZB		Transmission of custom declaration data to the system ALFA-DOUANE of the OFD, Frankfurt (Main)
ZO01GB		Transmission of presentation ledger data to the system ALFA-DOUANE of the OFD, Frankfurt (Main)
ZO01KU		Transmission of currency rates from the system ALFA-DOUANE of the OFD, Frankfurt (Main)
ZO01WE		Transmission of air freight deliveries to the airport of Hamburg (System ELWIS) - still in development stage -

* area of validity for the EDI costing system for shipping data (see 2.2.1)

2.4.2. Who can send What to Whom and Who can receive What from Whom?

Message	Sender				Receiver			
	Forwarder	Liner Agent	Quay Operator	Others	Forwarder	Liner Agent	Quay Operator	Others
AB01		X			X	X	X	tally
AC01	X	X		carrier				feeder
BT01	X			dbh	X			dbh
CT01		X	X			X	X	
DY01AN	X				X	X	X	
DY01BL	X					X		
DY01ED	X					X		
DY01SM				tally		X		
DY01TA				tally		X		
DY01UN				tally		X		
FA01			X		X	X		
FA02			X		X	X		
FH01								
GS01			X					GEGIS
GS02		X						GEGIS
GS02PR		X						GEGIS
ME01				Merck	X			
MN01								
MS01	X	X	X	all	X	X	X	all
RB01				R. Bosch Karlsruhe	X			
SP01	X	X	X	all	X	X	X	all
ST01								
TD01	X	X	X	DB, TFG	X	X	X	DB, TFG
TD02	X	X	X	DB, TFG	X	X	X	DB, TFG

Message	**Sender**				**Receiver**			
	Forwarder	Liner Agent	Quay Operator	Others	Forwarder	Liner Agent	Quay Operator	Others
TR01	X	X						trucker
TR02				trucker			X	
ZO01ZB	X	X	X	customs declarant				ALFA/ Douane
ZO01GB	X	X	X	customs-declarant				ALFA/ Douane
ZO01KU				ALFA/ Douane	X	X	X	customs declarant
ZO01WE								

2.5. Contractual Agreements

All communication participants who communicate shipping data as described under 2.1.1, must sign a user's contract with one of the DAKOSY shareholders DIHS or DIHLA (depending on the participant's field), or in the case of a tally firm, with DAKOSY itself.

All other communication participants must sign the contract

'EDI-Communication With Third Party'

with DAKOSY.

2.6. The General Emergency Organization

All users of the communication system DAKOSY, the central EDI system, must comply with the emergency organization rules as described in the individual parts of the EDI manual. However, if no special emergency organization is described, every user must have set up internal procedures to maintain business at a basic level even in the event of failure or malfunctioning of the system. This implies that in case of emergency the user must be able to continue work manually or with the use of his own DP.

2.7. DAKOSY Contact

Address: DAKOSY
Datenkommunikationssystem AG
Mattentwiete 2
20457 Hamburg

Mailing Address: DAKOSY
Datenkommunikationssystem AG
Postfach 11 20 46
20420 Hamburg

Telephone: ++49 (0)40 / 37003-0

Telefax: ++49 (0)40 / 37003 - 370

Telex: 2163773 dak

X.400: E=DE; A=DBP; P=DAKOSY; O=DAKOSY Hamburg

Please contact our **SUPPORT**, phone number

040 / 37 86 09-90

or via email

support@dakosy.de

3. Basis of Communication

This chapter deals with the general rules and procedures which have to be observed for the EDI-supported communication with DAKOSY.

Additional or differing rules are described in the respective modules for the individual messages/transactions (e.g. quay order or bill of lading).

3.1. Requirements for a Connection to DAKOSY

3.1.1. EDP Technical Requirements for Users

An EDP system capable of data transmission is necessary for a connection to DAKOSY. It does not matter, however, whether the transmission is processed by one's own system or via a computer center.

Through the appropriate programs on DAKOSY communication computers, DAKOSY will make it possible to communicate using various protocols (procedures), (e.g. BSC, SDLC).

In addition, a dial or direct data connection is needed, which must be applied for in agreement with DAKOSY at the German Telekom. It is also possible to connect with the system via ISDN or the Telekom's Datex network.

Type of Connection \ Protocol	**direct data connection**	**Telekom dial connection**	**Datex-P**	**Datex-L**	**ISDN**
BSC 2780/3780	X	X		X	X
BSC 3270	X	X		X	X
SDLC 3270	X	X	X	X	X
LU 6.2	X	X	X	X	X
ASYNC	X	X			
TCP/IP			X		X
X.400			X		
FT-SINIX	X		X		X
FTAM			X		
ISDN-File transfer HST					X

X = possibility of connection

3.1.2. Who is responsible for which tasks?

DAKOSY - in addition to the communication and processing computers, DAKOSY provides the software necessary for their use.

The user is responsible for fulfilling technical and organizational requirements on his end, whereby DAKOSY assists as much as possible. The user is in charge of programming the interface between his/her own application programs and the data transmission software.

DAKOSY's processing concept was designed so that it is possible to connect to the system with a minimum of development at any time.

German Telekom establishes the technical connection to DAKOSY via a modem on behalf of the user.

Applications for data transmission are available from DAKOSY.

3.1.3. Checklist for the Connection to DAKOSY

Detailed below are listed the points, which the new user has to take into consideration when connecting to DAKOSY:

1. Make a contract with either DAKOSY or a DAKOSY shareholder (depending on the field).

2. Give up own system configuration to DAKOSY (see form at the end of this manual)

   - hardware with peripheral equipment
   - operating system
   - communication capabilities (existing protocol support)
   - contact person at the hardware manufacturer

3. Report your estimated monthly data volume

4. Have coordination discussion with DAKOSY

5. In cooperation with DAKOSY user support, order line and modem from Telekom

6. Plan your internal EDP procedures

7. Specify the program requirements for

   - the SEND program
   - the RECEIVE program

8. Specify the planned program routines for the internal processing of DAKOSY data (before sending and after receiving)

9. Adapt your set of keys and formats to DAKOSY's

10. Carry out the necessary programming

11. Test the programs with DAKOSY

12. Begin operation with DAKOSY

3.2. Basic Elements of Communication

3.2.1. The Communication Procedure

Depending on the used file-transfer-protocol, either the user or DAKOSY can initiate the communication. DAKOSY is always ready to send or receive data during its business hours (*see EDI manual DAKOSY General Part*).

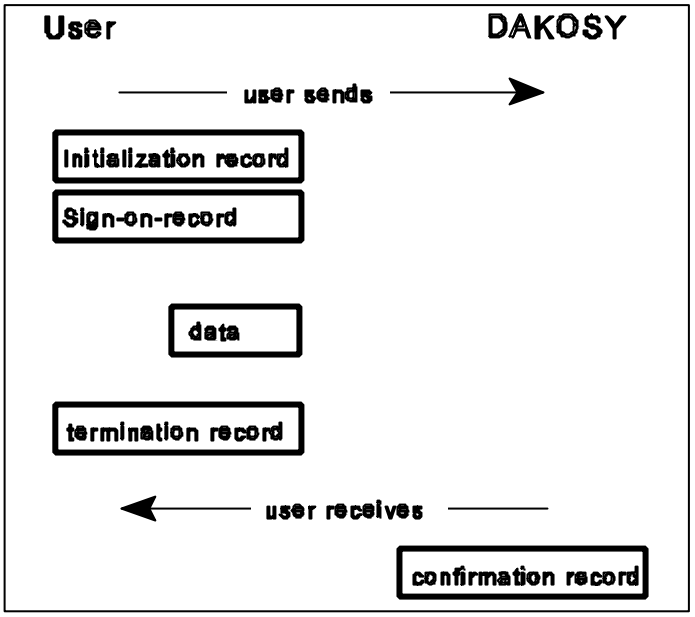
A communication unit between DAKOSY and the user is called a "data sequence" or a "session". In order to mark these individual data sequences, the user enters a session number in the "sign-on record" (see page 24), e.g. date and time "DDMMYYHHMM". The session number may not be used again.

Only those data sequences which have been positively confirmed by DAKOSY or the user (depending on the direction of communication) will be processed and saved. A positive confirmation of the session has been given when the confirmation code in the confirmation record (see page 26) shows the value "blank/space (hex. 40)".

3.2.2. The Sending of Data to DAKOSY

The opposite diagram shows the structure of a session for sending data to DAKOSY. This is the same for all applications.

A session or data sequence includes all data records, from the initialization record (beginning of the session) to the confirmation record (end of the session). This is true for both sending and receiving data. A detailed description of the data records can be found on the following pages.



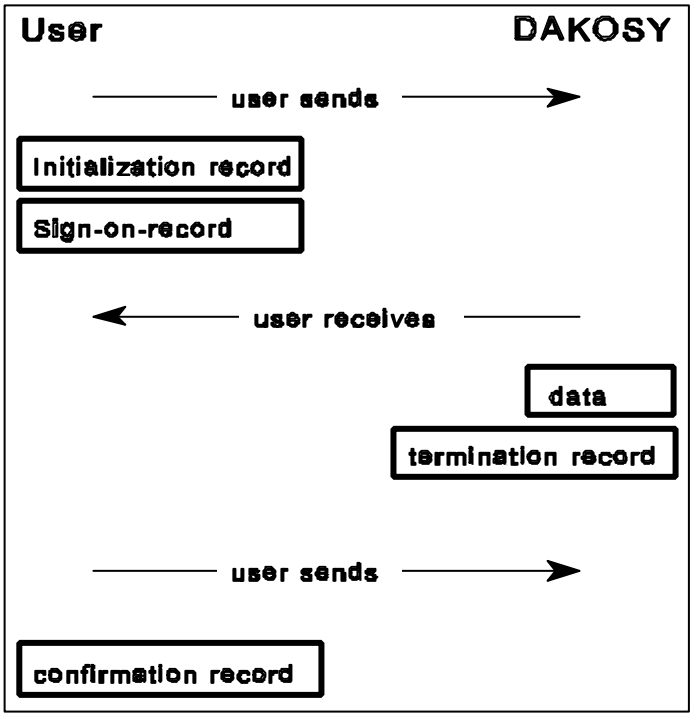
Sending of Data to DAKOSY

3.2.3. The Receiving of Data from DAKOSY

The user receives

- Data as a result of the user's own previous sending activity
- Data sent to the user by other users

Similarly to the sending procedure, the user begins to receive data by sending the initialization record and the sign-on record (direction of communication "2" = receiving) to DAKOSY. In response, DAKOSY will send the required data. The faultless reception of data is confirmed by the user with the confirmation record.



Receiving of Data from DAKOSY

3.2.4. The Description of Data Records

All data records have **80 bytes**. Bytes which are not needed are filled with blank/space (hex. 40) - in other words, they remain empty.

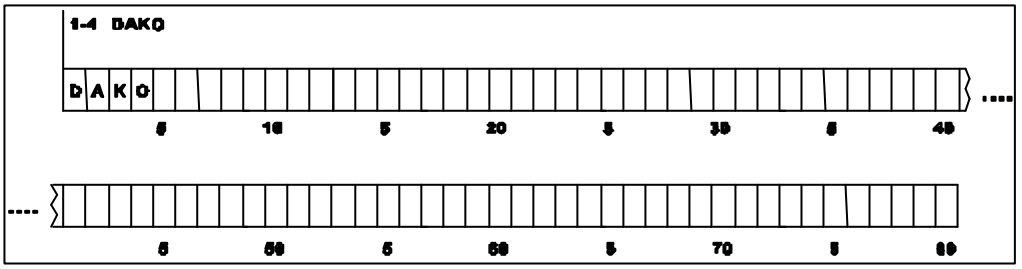
A word on how to read the diagrams

The 80 bytes of a data record are displayed as two rows of 40 squares each. They are consecutively numbered for easy reference. In the examples used here, the contents of each byte are explained above the data record. The line between the field contents and the data record marks the beginning of the entry concerned. In addition, the field numbers are given. Fields 3-7 means that fields 3,4,5,6 and 7 are to be filled.

3.2.4.1. The Initialization Record

The initialization record always begins a session (transmission sequence) and is the same for all users and all types of transactions. The initialization record registers the communication with DAKOSY. The user must send the 80 digit record with the constant DAKO in positions 1 to 4.

- byte 1 - 4 DAKO
- byte 5 - 80 blank/space (hex. 40)

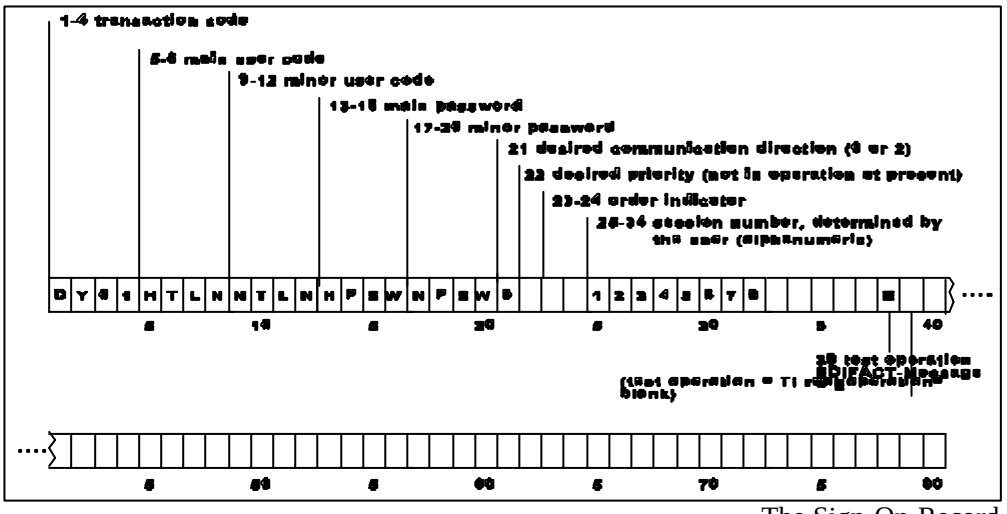


The initialization record

3.2.4.2. The Sign-On Record

The Sign-on record is always the second 80 digit data record in a session. Amongst others, it contains details of the required type of transaction, the direction of communication (sending or receiving) and the identification of the user.

- byte 1 - 4 transaction code
- byte 5 - 20 user identification
  byte 5 - 8: main user code
  byte 9 - 12: minor user code
  byte 13 - 16: main password
  byte 17 - 20: minor pass word
- byte 21 desired communication direction (0 or 2)
- byte 22 desired priority (not in operation at present)
- byte 23-24 order indicator (see key directory)
- byte 25-34 session number, determined by user (alphanumeric)
- byte 35-37 blank
- byte 38 test indicator
  test operation = T
  real operation = space/blank hex. 40
- byte 39 indicator EDIFACT message = E
- byte 40-80 blank
  (Exception in transactions MS01 and BT01:
  byte 45 - 48: 1. receiver (mandatory)
  byte 49 - 52: 2. receiver
  byte 53 - 56: 3. receiver
  byte 57 – 60: 4. receiver)



The Sign-On-Record

The following rules apply for **communication direction "0"**, (Sending):

- If only "main user code" and "main password" are given and no particular minor user is indicated, all minor users who are listed under the main user may send their data during the session.
- If both "main user code"/ "main password" and "minor user code"/ "minor password" are given, **only** the particular minor user named may send data during this session.

Similarly, for **Communication direction "2"** (Receiving) the following applies:

- If only "main user code" and "main user password" fields are filled, data designated for all minor users listed under this main user will be sent (Group Receiving).

- If, in addition to "main user code" and "main user password", "minor user code" and "minor user password" are supplied, only the data designated for the minor user named will be sent (Individual Receiving).

If EDIFACT messages have to be transmitted, the EDIFACT indicator (byte39) must be given. It is **not** possible to send messages with different standards, e.g. field number groups standard and EDIFACT standard, in the same session.

3.2.4.3. Data Records

The data records which are send after the Sign-on record, contain the actual information.

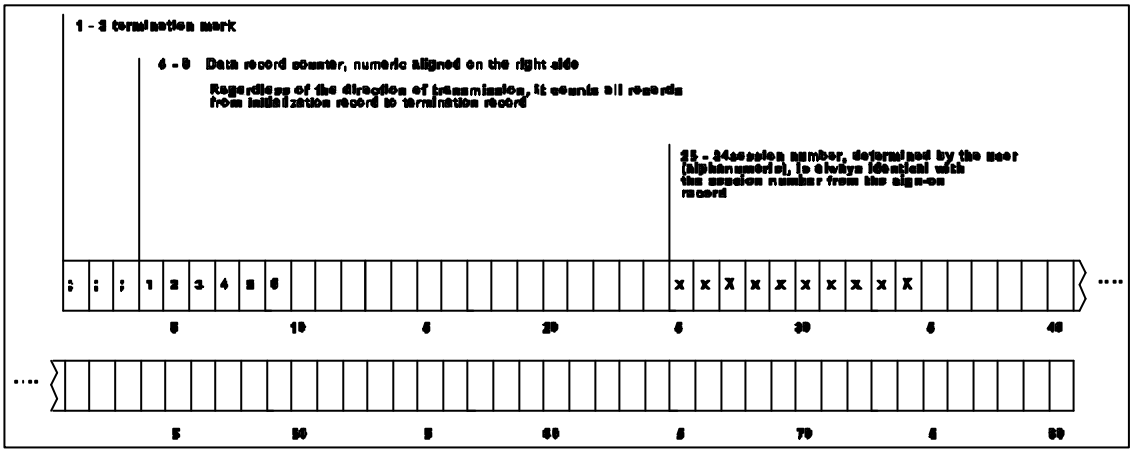
These data records vary according to the respective transactions and are therefore **described in the relevant modules**.

3.2.4.4. The Termination Record

The termination record ends the transmission sequence. It leads to a logical disconnection. It contains:

- byte 1 – 3 Termination mark (constant ;;;)
- byte 4 – 9 Data record counter, numeric, aligned on the right side. It counts all physically transmitted 80-byte records from initialization record to termination record, regardless of the direction of transmission.
- byte 10 – 24 Blank
- byte 25 – 34 Session number, determined by the user. The session number is always identical with the session number from the sign-on record, whether you are sending or receiving.

During the entire session, the terminal constant ;;; may appear in positions 1 to 3 only in the termination record.



The termination record

3.2.4.5. The Confirmation Record

The confirmation procedure plays an important role for the security of data sent by EDI transmissions via DAKOSY:

The user must confirm all data received from DAKOSY (provided they are transmitted correctly and completely). DAKOSY will confirm all data received from the user. The user is advised to process the confirmation records received from DAKOSY in further applications to facilitate control on the successful EDI processing of data.

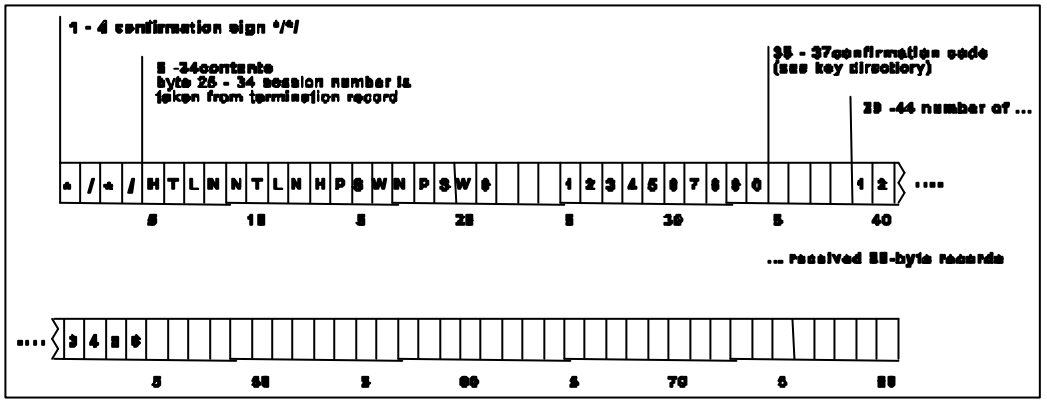
Each data sequence is acknowledged by the receiving party with the confirmation record. If a user sends records, DAKOSY confirms having received them; a user requesting records from DAKOSY must confirm their reception.

The confirmation record without a confirmation code (home position: "blank/space" (hex 40)) is the confirmation for the user sending records that **the session has been correctly imported or the records have been saved in the user's own system**. The confirmation code is sent when an error is found in the transaction (e.g. error code 001 = initialization record faulty or missing).

The confirmation record contains:

- byte 1 - 4 Confirmation record sign */*/
- byte 5 - 34 Contents of sign-on record
  Byte 25 - 34 session number taken from termination record
- byte 35 - 37 Confirmation code (see key directory)
- byte 38 Test sign
  Test operation = T
  Real operation = blank/space (hex. 40)
- byte 39 - 44 Number of physically received 80-byte records

When making a request to receive data from DAKOSY (receiving), the user will immediately receive a confirmation record with the appropriate confirmation code instead of the data requested if DAKOSY detects any errors in the initialization or sign-on record (e.g., wrong password or wrong transmission direction).



The confirmation record

Information for Customer Connection to DAKOSY

Customer's Name: _____

Customer's Address: _____

Hardware Installation Site:

Firm: _____

Street/Postcode/City: _____

Employee in charge of (name/phone number) for

Hardware: _____

Operating System : _____

Data Transmission: _____

Application: _____

Information on Computer Hardware

Manufacturer: _____

Central Processing Unit: _____

Front End Processor: _____

Information on Computer Software

Operating System: _____

TP Monitors: _____

Access Method: _____

Operating System
Front End Processor: _____

Database Software: _____

Information on Data Transmission

Type of Connection **(leased line, dial, Datex, etc)**: _____

Telephone number if dial connection: _____

Connection Speed: _____

Connection Protocol **(BSC/SDLC/MSV etc.)**: _____