

September 2014

# Bankgiro Inbetalningar

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## Technical Manual

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# 1 Introduction

## 1.1 This document

This is the technical manual for Bankgiro Inbetalningar, or Bankgiro Receivables in English. This document includes record and file descriptions for Bankgiro Receivables, and is aimed at readers who will:

- Write software to process reports on processed payments from Bankgirot
- Adapt the company's procedures to be able to use Bankgiro Receivables
- Study record and file descriptions

## 1.2 What is Bankgirot?

Bankgirot is a European clearing house tasked with delivering market-leading solutions in the payments area that increase customers' competitiveness.

As the only clearing house for mass payments in Sweden, Bankgirot has a central role in the Swedish payments infrastructure and processes the great majority of these types of payments.

The bankgiro system is:

- An open system for both payers and your company
- The link between payers and payees

All payment institutions operating in Sweden can sign an agreement to participate in the bankgiro system. Bankgirot processes payments and information about incoming and outgoing payments for all parties.

Regardless of your bank connection:

- As a payee you can receive payments from all payers
- As a payer you can reach all payees

Within the framework of the bankgiro system, Bankgirot has established collaborations with several of the largest business, accounting and communication software companies. Together we create efficient business solutions for all payment needs, saving your business both time and money.

## 1.3 What is a bankgiro number?

A bankgiro number is an address that points to a bank account. A bankgiro number can be associated with the bank and account number of your choice.

When you want to receive a payment, you simply quote your bankgiro number – you never need to provide your bank account details. The actual account is always hidden from the payer. If you change banks, you can keep your bankgiro number and your bankgiro payments will continue to arrive just as before.

#### 1.4 What is Bankgirot Inbetalningar?

Bankgirot Inbetalningar (Bankgirot Receivables) is Bankgirot's incoming payment service, which reports all incoming payments to your company's Bankgirot number in a file with a collective file format, BgMax. The file is based on the conventional 80-character layout. An application that reads files in BgMax should be designed to ignore unrecognised record types.

It is also possible to take an additional image file, which is a separate file containing electronic images of payments made with deposit slips (except OCR slips). The slips are reported in TIFF format. This option enables you to integrate the image file with the company's accounting system for reconciliation.

**Note:** The payment slip images are also available in Payment statements via the Internet (Insättningsuppgift via Internet). For more information, see the user manual for Payment statements via the Internet at [www.bankgirot.se](http://www.bankgirot.se). Payments made by Autogiro (Direct Debit) are also available in BgMax. For more information, see the technical manual for Autogiro on [www.bankgirot.se](http://www.bankgirot.se)

## 2 Terms and definitions

This table lists Bankgirot's definitions of the terms associated with the Bankgirot Inbetalningar (Bankgirot Receivables) service.

Term	Definitions
User manual	A manual that describes a service, how it is used and how a company adapts its procedures to use the service.
Bank day	All days except Saturdays, Sundays, Epiphany, Good Friday, Easter Monday, First of May, Ascension Day, Sweden's National Day, Midsummer Eve, Christmas Eve, Christmas Day, Boxing Day, New Year's Eve and New Year's Day (all according to the Swedish calendar), as well as any other days currently stipulated by the Swedish Act (1989:253) on Public Holidays.
Bankgirot Link	Bankgirot's communication product. Bankgirot Link includes: <ul style="list-style-type: none"><li>• Secure communication solution with authorisation, based on PKI and certificates</li><li>• File transfer over the Internet</li><li>• Transfer of payment instructions to Bankgirot</li><li>• Transfer of reports from Bankgirot</li><li>• Electronic mandate control (for some banks)</li></ul>

Term	Definitions
Bankgiro number	An address that points to a bank account. A bankgiro number can be associated with the bank and account number of your choice.
Payment order	An electronic payment order that assigns Bankgirot the task of executing the payment instructions sent in a payment file. The form must be sent to Bankgirot at the same time as the payment file. <b>Note:</b> The banks have different procedures for payment orders.
Payment initiation	The file the company sends to Bankgirot containing the payments to be made.
Payment instructions	The payments Bankgirot accepts and processes.
BgCom <b>Note:</b> Bankgirot's BgCom communication service will be discontinued in November 2014 (the service will function normally until that time). For more information, visit <a href="http://www.bankgirot.se">www.bankgirot.se</a> .	An Internet-based communication service based on proven standards: <ul style="list-style-type: none"> <li>• Strong sender and recipient identification with electronic ID</li> <li>• Anti-tampering protection with digital signature</li> <li>• Encrypted sessions</li> <li>• Mandate control</li> </ul>
Debit initiation	A file based on the payment instructions sent to the payer's bank for withdrawals (debits) from the payer's bank account.
Anti-tampering protection	For security reasons, all files containing payment instructions that are sent to Bankgirot must be provided with electronic anti-tampering protection, that is, they must be authenticated.
Communication method	The method a company uses to send files to and retrieve files from Bankgirot.
Credit initiation	A file based on the payment instructions sent to the payee's bank for deposits (credits) to the payee's bank account.
Customer number	A customer number at Bankgirot used as the address for file deliveries. The customer number can be linked to one or more bankgiro numbers. A customer number is always linked to a service.
Technical Manual	A manual with record and file descriptions. Mainly aimed at software companies and companies that develop proprietary software.

Term	Definitions
Customer test	Conducted to verify that the information in the files complies with the specified layout. <b>Customer testing is not mandatory.</b>

### 3 Record and file description for the BgMax file

BgMax is a file layout that collects the reports of all incoming payments into one file. BgMax is based on the conventional 80-character layout. The BgMax layout may be extended in the future. Examples of such extensions are complementary records for payment from the Direct Debit service and for handling account numbers for international payments. An application that reads files in the BgMax layout should be designed to ignore unrecognised record types.

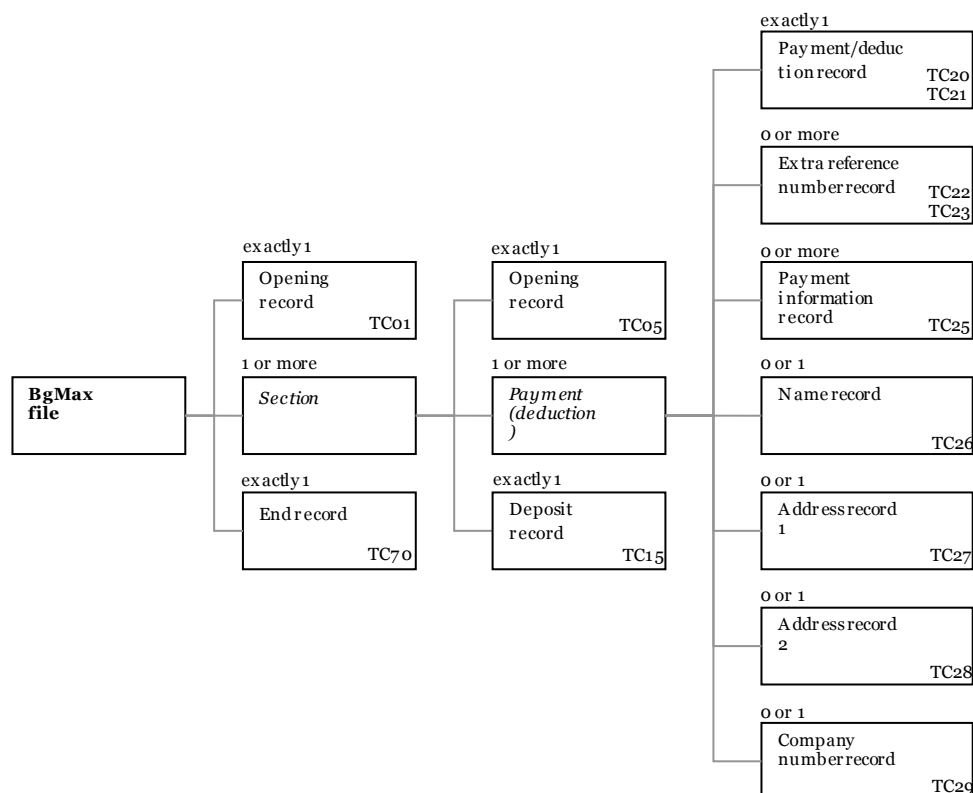
In addition to the BgMax file, your company can also receive images of the payments that are made via deposit slips. That is to say, when the payer has used some form of postal service or paid in a bank branch.

The image file can be used as a complement to the BgMax file. With the aid of the image file, a payment in the BgMax file can be linked to the associated slip image.

This record and file description together with more information may be found from section 6 onward.

#### 3.1 The BgMax file structure

The file contains information, divided into records and sections, from Bankgirot to your company. The figure below describes the general file structure for BgMax files. The schematic should be read from the left and down.



A BgMax file begins with a starting record and ends with an end record. Between these two records are a number of sections. A BgMax file contains at least one section.

Each section begins with an opening record and ends with a deposit record. A section is comprised of a number of payments and any deductions. A section must contain at least one payment. The section's closing deposit record contains information about the deposit that was made to a bank account based on the payments and deductions in the section.

A payment is comprised of a payment record and any associated reference number records, information records and any information about the payer that is available: name record and address record 1 followed by address record 2 and a company number record. Note that the



payer's name, address and company number are not always available; in such cases no corresponding records are found in the report. In those cases where the name, address and/or company number are available the corresponding records are added to the report.

A deduction has the same structure as a payment. A deduction refers for example to a credit invoice. In each section, the total payment amount from a payer must exceed or be equal to the deduction amount from the same payer. A section cannot therefore have a negative amount (less than 0).

An extra reference number record can contain a negative amount if there is an agreement on extended form registration.

### 3.2 The file's records

The records used in the file are defined below. The records have a conventional 80-character layout. In order to define the alignment and content of the fields we use the symbols presented in the following table (Table 1).

**Table 1: Alignment**

Symbol	Meaning
N	Numeric content
A	Alphanumeric content
ho	Right-aligned and zero-filled
vb	Left-aligned and blank-filled
b	Blank-filled

#### 3.2.1 Starting record (transaction code = "01")

The file begins with a starting record that contains information about the format and format version used in the file. It also includes a timestamp indicating when the file was created.

**Table 2: Starting record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "01" (starting record).
Layout name	20	3-22	A:vb	Name of the layout "BGMAX".
Version	2	23-24	N:ho	Layout version

Creation date/timestamp	20	25-44	N:-	CCYYMMDDHHmmSSNNNNNN Where: "CC" is century, "YY" is year, "MM" is month, "DD" is date, "HH" is hours, "mm" is minutes, "SS" is seconds and "NNNNNN" is microseconds.
Test indicator	1	45	A:-	"T" indicates test file, "P" indicates production file.
	35	46-80	:-	Blank/reserved

### 3.2.2 Opening record (transaction code = "05")

The opening record begins a section. A section contains a sequence of payments and any deductions per credit round and currency and concludes with a deposit record. All payments in one section are to the same Bankgiro number or plusgiro number with associated Bankgiro number (with conversion). There are normally several sections for one Bankgiro number.

**Table 3: Opening record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "05" (opening record).
Payee Bankgiro number	10	3-12	N:h o	Payee's Bankgiro number
Payee plusgiro number	10	13-22	N:h o/A: b	Payee's plusgiro number (only with conversion) or blank
Currency	3	23-25	A:b	Code for the currency of the deposit, "SEK" or "EUR".
	55	26-80	:-	Blank/reserved

### 3.2.3 Payment record (transaction code = "20")

The Payment record contains information about a payment that is made to a Bankgiro number (or via a plusgiro number with conversion). The payment record is the main element of a payment; see point 1.1.

**Table 4: Payment record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "20" (payment record).
Sender-Bankgiro number	10	3-12	N:h0	The payer's Bankgiro number if available.
Reference	25	13-37		Your company reference; see Table 5.
Payment amount	18	38-55	N:h0	The amount of the payment. The last two digits indicate öre or cent.
Reference code	1	56	N:-	The reference code indicates status of the reference that the payer gave, as well as the relevant format in the reference field; see Table 5.
Payment channel code	1	57	N:-	Code to indicate the relevant payment channel; see Table 6
BGC serial number	12	58-69	N:-	The payment serial number at Bankgirot. BGC serial number unique for two years??? Also used as image number, as key to image
Image marking	1	70	N:-	Indicates whether there is an image associated with the payment. See Table 7.
	10	71-80	-:-	Blank/reserved

**Table 5: Reference code**

The table below gives a description of the significance of the reference code (position 56). See also Extra reference number records. The reference code indicates the quality of the reference in the record it is included in. **Note:** In some cases a reference can be perceived by Bankgirot as correct but still be incorrect according to your company.

Value	Format	Meaning
0	-:-	The reference field is blank. May be because the payer did not give the payment a reference. May also occur if there is an agreement for extended form registration; see 1.7 Extra reference number records, point 3.

1	-:-	The reference field is blank. This is because the payment is a paper-based payment to a Bankgiro number that does not have an agreement for extended form registration.
2	N:hb	The reference field contains a correct OCR number according to the agreement on OCR reference control, including any agreement on extended form registration with OCR reference control.
3	A:-	The reference field includes one or more references.  If there is only one reference, this means that it is incorrect, or alternatively that the payment is to a Bankgiro number that does not have an agreement for reference control.  If there are several references, one or more of these may be correct according to agreement on OCR reference control. These are then reported as Extra reference number records.
4	A:vb	The reference field includes a correct reference according to agreement on extended form registration. References with agreement on extended form registration without control of reference are also counted as correct. Payments with correct reference to a Bankgiro number that has an agreement on extended form registration with OCR control are reported with a value of 2.
5	A:-	The reference field includes an incorrect reference according to agreement on extended form registration.
6-9		Reserved for future use.

**Table 6: Payment code**

The following table defines the meaning of the value in the field for the payment channel code (position 57).

Value	Meaning
1	The payment is an electronic payment from a bank.
2	The payment is an electronic payment from the Leverantörsbetalningar (LB – Supplier Payments) service.
3	The payment is a Blankettbetalning (Paper-based payment)
4	The payment is an electronic payment from the Autogiro (AG) direct debit service. Reserved for future use.



5-9	Reserved for future use.
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**Table 7: Image marking**

The following table defines the meaning of the value in the field for image marking (position 70).

Value	Meaning
0	No image exists. Means that the payment has been made electronically or by OCR slip.
1	Image exists. Means that the payment has been made with payment/deposit slip.
2-9	Reserved for future use.

### 3.2.4 Deduction record (transaction code = "21")

The deduction record describes a deduction from the payment record. Such a deduction refers for example to a credit invoice.

**Note:** For deduction records, the information in the Sender Bankgiro number and payment channel fields is the same as the information in the same field in the payment record that the deduction item refers to.

**Table 8: Deduction record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "21" (deduction record).
Sender-Bankgiro number	10	3-12	N:h0	Payer's Bankgiro number
Reference	25	13-37		Your company reference; see Table 5.
Payment amount	18	38-55	N:h0	The amount of the payment. The last two digits indicate öre or cent.
Reference code	1	56		The reference code indicates status of the reference that the payer gave, as well as the relevant format in the reference field; see Table 5.
Payment channel code	1	57	N:-	Code to indicate the relevant payment channel; see Table 6

BGC serial number	1 2	58-69	N:-	The payment serial number at Bankgirot. Also used as image number, as key to image
Image marking	1	70	N:-	Indicates whether there is an image associated with this payment. See Table 7.
Deduction code	1	71	N:-	Type of deduction; see Table 9.
	9	72-80	-:-	Blank/reserved

**Table 9: Deduction code**

The following table defines the meaning of the value in the field for deduction (position 71).

Value	Meaning
0	Whole deduction, no remainder
1	Part deduction, remainder exists
2	Final deduction where there was part deduction, no remainder
3-9	Reserved for future use.

### 3.2.5 Extra reference number record (transaction code = "22", "23")

For extra reference number records, the information in the Sender Bankgiro number and BGC serial number fields is the same as the information in the same field in the payment or deduction record that the extra reference number refers to.

Point	Description
1	If the payment record contains more than one correct OCR reference number, these are reported as extra reference number records with reference code 2. The payment record reference field is reported unchanged, with reference code 3. If an agreement for extended form registration exists, see point 3. See also Table 5.
2	Bankgirot may find further OCR reference numbers in any payment information records. Bankgirot identifies correct OCR reference numbers and reports these in extra reference number records with reference code 2. See Table 5. Payment information records are reported unchanged. A search in payment information records for extra OCR reference numbers is only made if there is an agreement on OCR reference control with length control.

3	If an agreement for extended form registration exists and more than one payment reference is given on the payment slip, these are reported as extra reference number records with reference code 2, 4 or 5. The payment record reference field is then blank and reported with reference code 0. See Table 5.
4	With extended form registration, Bankgirot can identify a deduction. The deduction is reported in an extra reference number record with transaction code 23 (i.e. negative amount) in the extra reference number record.

**Table 10: Extra reference number record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "22" Transaction code = "23" if a negative amount is reported in the extra reference number record. Can only occur when an agreement for extended form registration exists.
Sender-Bankgiro number	10	3-12	N:h0	Payer's Bankgiro number
Reference	25	13-37		Your company reference; see Table 5.
Payment amount	18	38-55	N:h0	Can include part amounts with extended form registration. Otherwise the payment amount is always zero. The total amount of payment is always reported in the payment record.
Reference code	1	56		The reference code indicates status of the reference that the payer gave, as well as the relevant format in the reference field; see Table 5.
Payment channel code	1	57	N:-	Code to indicate the relevant payment channel; see Table 6
BGC serial number	12	58-69	N:Ho	The payment serial number at Bankgirot. The BGC number is always unique to the day. Also used as image number, as key to image.



Image marking	1	70	N:-	Indicates whether there is an image associated with this payment. See Table 7.
	10	71-80	-:-	Blank/reserved

### 3.2.6 Payment information record (transaction code = "25")

The payment information record is attached to the payment in cases where the payer sent payment information records, for example in the Leverantörsbetalningar (LB – Supplier Payments) service. Up to 99 payment information records can be added to one payment. The payment information records are in sequence – the same sequence in which the payer delivered them.

**Table 11: Payment information record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "25" (payment information record).
Information text	50	3-52	A:-	Information from the payer to your company
	28	53-80	-:-	Blank/reserved

### 3.2.7 Name record (transaction code = "26")

In cases where the payer's name is available, this is attached to the payment as a name record.

**Table 12: Name record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "26" (payment information record).
Payer's name	35	3-37	A:vb	Payer's name
Extra name field	35	38-72	A:vb	Extra name field
	8	73-80	-:-	Blank/reserved

### 3.2.8 Address record 1 (transaction code = "27")

In cases where the payer's address is available, this is attached to the payment as an address record. Address record 1 is followed by address record 2 (section 5.11).

**Table 13: Address record 1**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "27" (address record part 1).
Payer's address	35	3-37	A:vb	Address
Payer's post code	9	38-46	A:vb	Post code
	34	47-80	-:-	Blank/reserved

### 3.2.9 Address record 2 (transaction code = "28")

In cases where the payer's address is available, this is attached to the payment as an address record. Address record 2 is preceded by address record 1 (section 5.11).

**Table 14: Address record 2**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "28" (address record part 2).
Payer's town	35	3-37	A:vb	Town
Payer's country	35	38-72	A:vb	Country (only for overseas address, otherwise blank).
Payer's country code	2	73-74	A:vb	Country code (only for overseas address).
	6	75-80	-:-	Blank/reserved

### 3.2.10 Company number record (transaction code = "29")

In cases where the payer has a company number and this is available, this is attached to the payment as a company number record.

**Table 15: Company number record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "29" (company number record).
Company number	12	3-14	N:h0	Payer's company number. Specified using 10 digits.
	66	15-80	-:-	Blank/reserved

### 3.2.11 Deposit record (transaction code = 15)

The deposit record ends a section and contains information about the deposit resulting from the payments in the section. Each file usually contains more than one deposit record since several deposits are made each day.

Separate deposit records are always created for payments to a plusgiro number in euro and if the customer has an agreement for customer-unique marking.

The opening record contains information about which Bankgiro number, or plusgiro number with associated Bankgiro number, the section's payments are directed to (see section 0 above).

The deposit serial number (positions 46-50) is communicated by the bank in conjunction with the deposit in the bank account. The same deposit serial number can be reported on the account statement from the bank. The payee's bank account number (positions 3-37) is reported using 16 characters, of which the first four digits (pos 22-25) are the bank's clearing number and the remaining digits (pos 26-37) are the account number (right-aligned and zero-filled).

**Table 16: Deposit record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "15" (deposit record).
Payee bank account number	35	3-37	N:h0	Payee's bank account number.
Payment date	8	38-45	N:-	Payment date, CCYYMMDD.

Deposit serial number	5	46-50	N:h0	Serial number of each customer's deposit. Unique for each Bankgiro number and year
Deposit amount	18	51-68	N:h0	The amount of the deposit. The last two digits indicate öre or cent.
Currency	3	69-71	A:-	Code for the currency of the deposit, "SEK" or "EUR".
Number of payments	8	72-79	N:h0	Number of payment/deduction records included in this deposit.
Type of deposit	1	80	-:-	Customer-unique marking according to agreement with bank. Possible values "K", "D" or "S", otherwise blank.

### 3.2.12 End record (transaction code = "70")

The end record ends the file. It contains the number of payment records, the number of deduction records, the number of extra reference records and the number of deposit records in the file.

**Table 17: End record**

Term	Number of characters	Pos	Format	Description
Transaction code	2	1-2	N:-	Transaction code = "70" (end record).
Number of payment records	8	3-10	N:h0	Number of payment records in this file
Number of deduction records	8	11-18	N:h0	Number of deduction records in this file
Number of extra reference records	8	19-26	N:h0	Number of extra reference records in this file
Number of deposit records	8	27-34	N:h0	Number of deposit records in this file
	46	35-80	-:-	Blank/reserved

## 4 Record and file description for image files

The image file can be used as a complement to the BgMax file in Bankgiro Inbetalningar (Bankgiro Receivables). With the aid of the image file, a payment in the BgMax file can be linked to the associated slip image.

The purpose of this section is to specify and describe the file format for image files from Bankgirot, so that it is possible for parties on the market to implement or acquire software that enables them to use and process image files from Bankgirot.

### 4.1 References

For more information about the specification for TIFF and CCITT, see the table below.

No.	Specification
[1]	TIFF Revision 6.0 (Final – June 3, 1992)", Adobe Developers Association, Adobe Systems Inc., Mountain View, CA, US, 1992, <a href="http://partners.adobe.com/asn/tech/tiff/index.jsp">http://partners.adobe.com/asn/tech/tiff/index.jsp</a>
[2]	"Facsimile coding schemes and coding control functions for Group 4 facsimile apparatus", section 2, CCITT Recommendation T.6, International Telephone and Telegraph Consultative Committee (CCITT), Geneva, 1988

### 4.2 Image files

Image files contain scanned images. On the basis of the so-called BGC serial number (image number) in the BgMax file, a paper-based payment can be linked to the associated image in the image file.

The image file is a MultiPage TIFF (for detailed information about TIFF, see the References section and [1]). The recipient of the image file must be able to read and process TIFF files either by directly manipulating the images in the Multi Page TIFF file or by first dividing the Multi Page TIFF file into individual TIFF files (or some other format) and then processing the images in the desired manner.

### 4.3 Bankgirot's image file

The image file contains a sequence of Image File Directories, IFDs (see below, section [Fel! Hittar inte referensskälla.4-1-2](#)); each IFD describes an image. An IFD contains a sequence of IFD records (see below, section [Fel! Hittar inte referensskälla.4-1-3](#)), which contain the information necessary to describe an image.

The IFD tag DocumentName is used to identify your company's Bankgiro number. An image file may contain several of your company's Bankgiro numbers.

The IFD tag PageName is used to identify each individual image with the aid of a unique BGC serial number. The BGC serial number is unique for two years.

The BGC serial number value identifies the electronic transaction (or transactions) that the image gave rise to and is found in the BGC serial number field in the payment and deduction records in the report file according to BgMax format (for detailed information about TIFF files, see References and [1]). The value in the IFD record PageName can be used as a file name (possibly

with the addition of appropriate file ending) if the image file is divided into one TIFF file per image.

The images are coded according to CCITT group IV (for more information, see References and [2]), meaning that the IFD record Compression (tag: 0x103, field type: SHORT) is set as value 4 (0x04) or value 1 (0x01) if the image is uncompressed.

#### 4.4 File format for Bankgirot's image files

This section describes the general file format (for detailed information about TIFF, see the References section and [1]).

A TIFF file consists of an image file header, a list of information blocks (IFDs, image file directories) and data. Each information block describes an image that is saved as data.

A MultiPage TIFF file is a normal TIFF with a list of information blocks instead of just one information block (IFD)

##### 4.4.1 Header

The header begins a TIFF file.

**Table 18: TIFF 6.0 file header**

Byte	Description
0-1	Byte order in the file "MM" (0x4d4d)
2-3	Magic number (0x2a). Byte order depends on the value in byte 0-1
4-7	Offset to first IFD. The address of an IFD must be evenly divisible into word sizes

##### 4.4.2 Image File Directory (IFD)

An Image File Directory contains a sequence of IFD records. The records in an IFD must be sorted into ascending order according to their type (tag).

**Table 19: Structure of an Image File Directory**

Byte	Description
0 -- 1	Number of IFD records in this IFD
2 --13	First IFD record
14 -25	Second IFD record
...	

$(12 * N + 2) - (12 * N + 13)$	IFD record number N
$12 * (N + 1) - (12 * N + 1) + 3$	Offset to next IFD. Contains value zero (0x0) if this is the file's last IFD.

Each IFD describes a part-file or the part-image. Thus the image file describes every single image of an IFD per image.

#### 4.4.3 IFD record

The value described by an IFD record is always a vector (length one is possible).

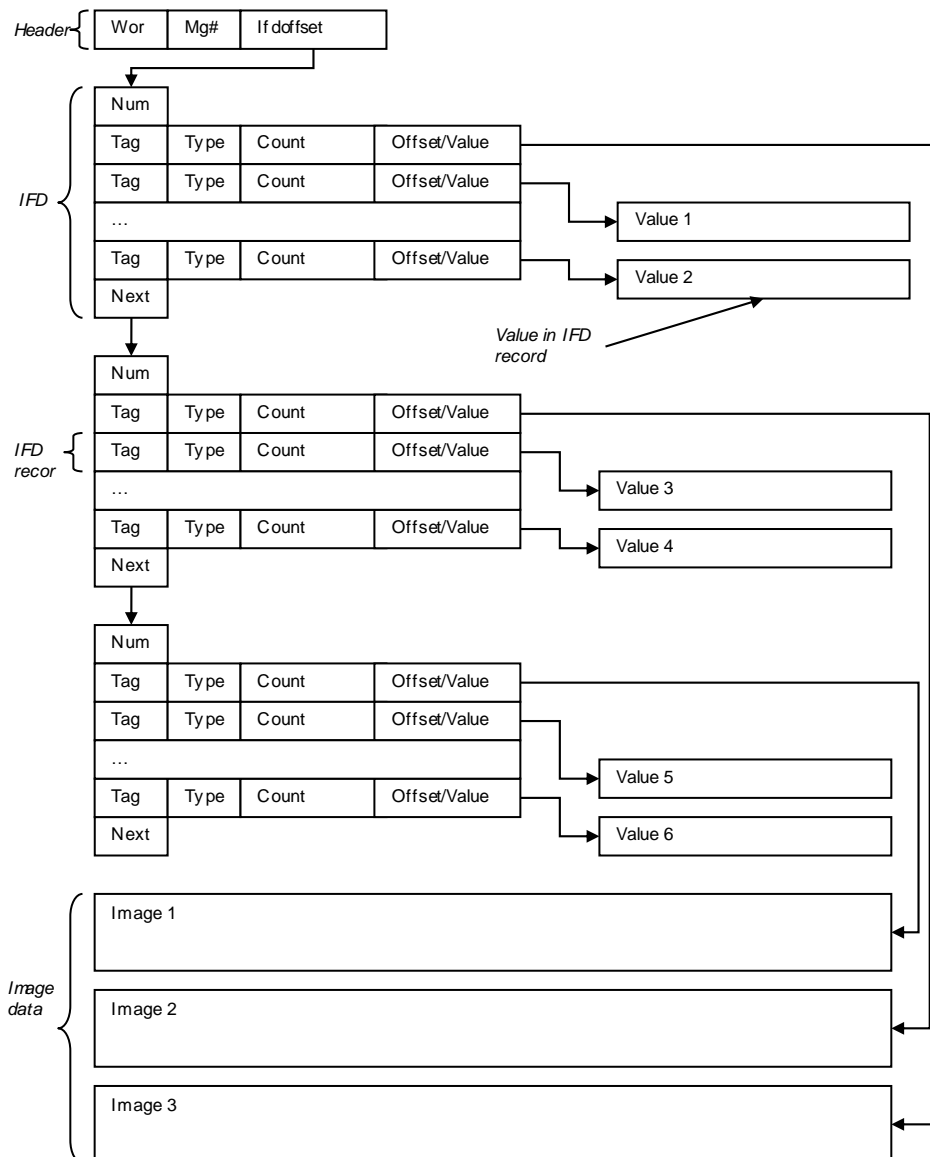
**Table 20: Structure of an IFD record**

Byte	Description
0 - 1	IFD record type (tag)
2 - 3	Indicates type of value in the IFD record (data type)
4 - 7	Number of values of indicated type in the IFD record
8 - 11	If the value fits into four bytes, it can be found directly in byte 8 - 11. If the value takes more than four bytes, an offset is used in byte 8 - 11 that points to the value.

**Note:** Offset is counted in bytes from the start of the file.

#### 4.4.4 Schematic of MultiPage TIFF

The figure below describes the general structure of an image file that is a MultiPage TIFF file. Note that IFDs and the value of IFD records, such as document name or the image data itself, can occur anywhere in the file, i.e. a TIFF reader cannot presume any special order, but the offset fields represent pointers that must be followed. Complete information may be found in the specification for the TIFF format (for detailed information about TIFF, see the References section and [1]).





#### 4.5 Description of included TIFF tags

The TIFF tags below describe each IFD per image in image files from Bankgirot.

##### Image file header

Type: Motorola Byte order "MM" (4D4D.H)

##### IFD: offset <offset to this IFS> - 23 tags

254/00FE	New Subfile Type	Long	1 =	2 One page of many
256/0100	Image Width	Long	1 =	<width>
257/0101	Image Length	Long	1 =	<length>
258/0102	Bits Per Sample	Short	1 = 1	
259/0103	Compression	Short	1 =	4 CCITT Group-4 (or 1 No compression)
262/0106	Photometric	Short	1 =	0 White is Zero
266/010A	Fill Order	Short	1 =	1 Fill bytes Left to Right
269/010D	Document Name	ASCII	36 =	<Bankgirot number>
273/0111	Strip Offsets	Long	1 =	<offset>
274/0112	Orientation	Short	1 =	1 R=Top C=Left
277/0115	Samples Per Pixel	Short	1 =	1
278/0116	Rows Per Strip	Long	1 =	<row count>
279/0117	Strip Byte Counts	Long	1 =	<byte count>
282/011A	X Resolution	Rat1	1 =	200/1
283/011B	Y Resolution	Rat1	1 =	200/1
284/011C	Planar Config	Short	1 =	1 Single image plane
285/011D	PageName	ASCII	13 =	<BGC serial number>
292/0124	Group 3 Options(T4)	Long	1 =	4 Fill to byte boundary

293/0125	Group 4 Options(T6)	Long	1 = 0	
296/0128	Resolution Unit	Short	1 =	2 Inches
297/0129	Page Number	Short	2 =	<current page> <numberOfPages>
305/0131	Software	ASCII	16 =	CreateMultiTIFF
306/0132	Date Time	ASCII	20 =	2004-07-20 16:08:19
33432/8298	Copy right	ASCII	18 =	Bankgirocentralen

Next IFD at offset: <offset to next IFD or 0>  
END OF FILE

## 5 Who should you contact if you have any questions?

### 5.1 Different contacts

Your company signs an agreement with your bank to gain access to the Bankgiro Inbetalningar (Bankgiro Receivables) service and the payments are managed using a business or accounting system with functionality determined by the software company. Here you can get help deciding who to contact with any questions you may have.

### 5.2 Questions on business and communication systems

Contact the software company if you have questions about business and communication systems.

#### Example questions:

- Does my accounting, business or communication system support Bankgiro Inbetalningar (Bankgiro Receivables)?
- How does automatic reconciliation work in my system?

**Reference:** If you would like information about the different software companies and whether they support a particular product, you can search for such information at [www.bankgirot.se](http://www.bankgirot.se).

### 5.3 Questions about prices and agreements

Contact your bank if you have questions about prices and agreements.

#### Example questions:

- How do I register for and start using Bankgiro Inbetalningar (Bankgiro Receivables)?

- How do I add functions, change communication method or change the other specifics of the agreement?
- How much does Bankgirot Inbetalningar (Bankgirot Receivables) cost?

#### 5.4 Questions about files

The table shows who to contact if you have questions about sending files to or receiving files from Bankgirot.

If you have a communication solution connected to...	...then contact...
Bankgirot	Bankgirot (see <a href="http://www.bankgirot.se">www.bankgirot.se</a> )
Service bureau	The service bureau
Your Internet bank	Your bank

## 6 Contact channels and addresses

Contact channels and addresses	
Bankgirot's Customer Service	Telephone, fax and e-mail to Customer Service can be found at <a href="http://www.bankgirot.se">www.bankgirot.se</a> under Contact.
Postal address	Bankgirot 1 05 19 Stockholm
Website	Why not visit our website, <a href="http://www.bankgirot.se">www.bankgirot.se</a> , where you can find the latest information on our services, frequently asked questions and manuals.