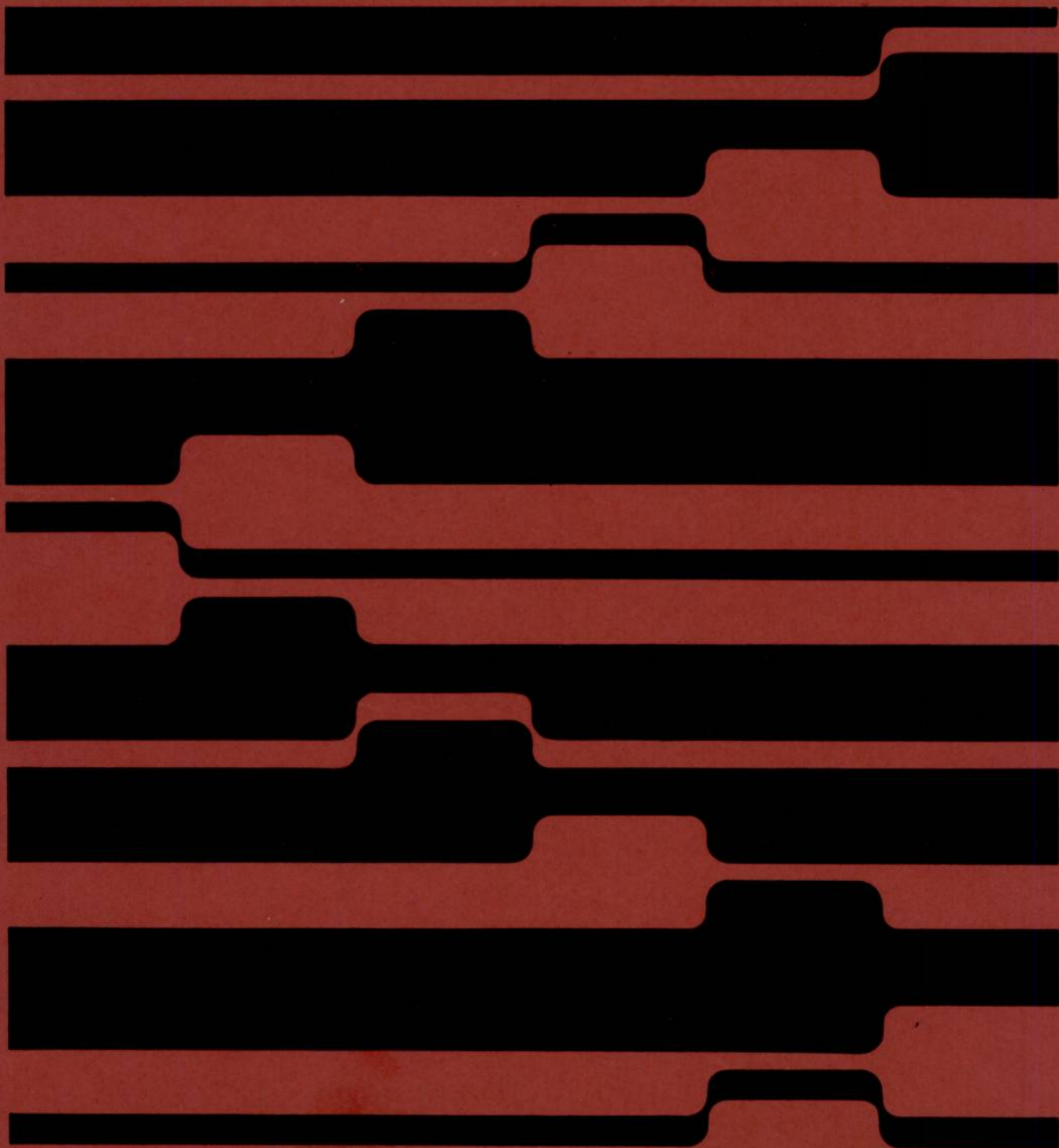




Bank Giro
Interchange

1900 Series





**Bank Giro
Interchange**

1900 Series

ICL endeavours to ensure that the information in this document is correct and fairly stated, but does not accept liability for any error or omission.

The development of ICL products and services is continuous and published information may not be up-to-date. Any particular issue of a product may contain part only of the facilities described in this document or may contain facilities not described here. It is important to check the current position with ICL.

Specifications and statements as to performance in this document are ICL estimates intended for general guidance. They may require adjustment in particular circumstances and are therefore not formal offers or undertakings.

Statements in this document are not part of a contract or program product licence save insofar as they are incorporated into a contract or licence by express reference. Issue of this document does not entitle the recipient to access to or use of the products described, and such access or use may be subject to separate contracts or licences.

Technical Publication 4434

© International Computers Limited 1976

First Edition June 1976

ICL will be pleased to receive readers' views on the contents and organisation, etc. of this publication. Please write to

The Registry (Readership Survey)
UK Software and Literature Distribution Centre
International Computers Limited
60 Portman Road
Reading
Berks RG3 1NR

Distributed by
UK Software and Literature Distribution Centre
International Computers Limited
Registered Office: ICL House, Putney, London SW15 1SW
Printed by ICL Printing Services
Works Road, Letchworth, Herts SG6 1JY

Preface

The Bank Giro Interchange Program #X5TQ has been developed to enable users to submit certain types of money transfers, held on magnetic tape, directly to the computer system operated by the Bankers' Automated Clearing Services (BACS).

A user wishing to avail himself of these services should first approach his banker(s) who will apply on his behalf to BACS.

Program #X5TQ produces a magnetic tape to the specification laid down by BACS and an accompanying letter of authorization and control report. The specification of the magnetic tape and associated documents may be found in the *BACS User Manual*, obtainable through the user's banker(s). Users should read this manual in conjunction with the *BACS User Manual*.

NAME

#X5TQ

TITLE

Bank Giro Interchange Program (submission of certain types of money transfers directly to the BACS computer system).

HARDWARE REQUIREMENTS

10240 words of main store
2 magnetic tape decks
1 line printer (120 character positions)
1 card reader

DESCRIPTION**General**

The input magnetic tape file consists of records holding details of Bank Giro credits and/or direct debits. Users have the option of submitting data for crediting or debiting up to ten nominated accounts. Users should ensure that the data on the input files is restricted to the BACS character set given in *Input, page 2*, although certain illegal characters are allowed in the same field (see *Standard record format, page 2*). Parameters are required to describe the input files and to specify the user details required by the BACS. All parameters are printed on the line printer.

The program constructs the BACS data records to the required format taking the user details from the parameter data and transaction details from the input records. Records may be selected for processing by means of a transaction code within each record and the value of this code determines how the record is treated.

The valid transaction codes are as follows:

<i>Code</i>	<i>Description</i>
01	Initial direct debit
17	Direct debit
18	Re-presentation of a direct debit
19	Final payment
94	Building society interest payment credit
97	Exchange control credit
98	Exchange control credit
99	Bank Giro credit

For further details of these codes, users should contact their own bankers.

Any records which are not required will be ignored. User sentinels are allowed on the input files but will be ignored. In addition to the data records the program creates all header labels, contra records and trailer labels.

During the run two main types of error are reported, namely parameter errors and processing errors. Parameter errors are dealt with in *Line printer error messages, page 12*. The processing errors that may occur are:

- 1 An illegal character is detected within the various fields on an input record
- 2 The amount is found to be too large, that is greater than £999,999,999.99, or is held as a negative number in the input record

- 3 The input record requires an unrecognized nominated account
- 4 On creation of a contra record or a trailer record, an item total or a monetary total is found to be too large

For errors 1 and 2 the program creates as much as possible of the BACS record and then prints the record on the line printer together with a message explaining the reason for its rejection. The record is not written to the BACS file nor is the amount from it included in any contra or trailer totals. For error 3 the record is not processed and the original input record is printed together with the reason for rejection. For error 4 the contra record or trailer label that contains the error field is printed on the line printer together with a message indicating which field has caused the error condition, but in this case the record is still written to the output file.

Once processing of all data records has been completed the program automatically produces a letter of authorization, to accompany the tapes when they are dispatched to the BACS, and a control report, which shows the number and total amount of Bank Giro credits or direct debits that have been processed for each nominated account used.

Input

The input data consists of parameters, on cards or paper tape, and up to eight separate magnetic tape files. The parameters give details of the user, as required by the BACS, details for producing the letter of authorization, details of the nominated accounts and information, regarding the files to be used during the run (both input and output). There are nine different types of parameter, some of which are optional, and each parameter is identified by a three-character type code, for example the INP parameter gives details of the input files. For a full description of the parameters, see *Control*, page 4.

Each magnetic tape input file must have the following properties:

- 1 It is in 1900 Series magnetic tape housekeeping format
- 2 It has a standard 1900 Series header label and end of file sentinel
- 3 Records are held in blocks of up to 1024 words
- 4 The maximum record length is 100 words

In addition to the above, each file can have an unlimited number of continuation reels but users should bear in mind that they are restricted to submitting a maximum of eight tapes per day to the BACS.

Each record selected from the input file for processing contains information pertaining to one transaction only. The input records can be in one of two forms, that is either standard format or user specifiable format. For both types of record format, character fields should be restricted to the BACS character set which is:

- A to Z
- Zero to 9
- Blank space
- Ampersand (&)
- Hyphen (-)
- Full stop (.)
- Solidus (/)

The only exception is within the name field where commas and apostrophes, both normally BACS illegal characters, are acceptable. Commas are converted to space characters and apostrophes are automatically removed and succeeding characters left justified. For example O'CONNELL becomes OCONNELL.

STANDARD RECORD FORMAT

The standard record format caters for only one nominated account and records to be processed have a rigid format. All fields given in the record format must be present. Unused fields in words 1 to 17 and words 18 and 19 are reserved for possible future enhancements. Word 20 onwards may be employed by the user for his own purposes. It is recommended that unused fields are spacefilled.

Standard records have the following format:

<i>Start position</i>	<i>Description and contents</i>
Word 0	Contains the total length of the record in words. The minimum value is 18
Word 1	Contains, within character positions 2 and 3, the transaction code held as two numeric characters

<i>Start position</i>	<i>Description and contents</i>
	This code is only required if the program is to process input records on a selective basis, as defined in the SE1 parameter
Words 2 to 3.2	Contains the bank sorting code as six numeric characters starting at character position 0 of Word 2. For Bank Giro credits, this is the sorting code of the receiving branch. For direct debits this is the sorting code of the branch to be debited
Word 3.3	Contains the type of account code in character position 3. This will be a numeric character in the range 0 to 9
Words 4 and 5	Contain the account number as eight numeric characters starting at character position 0 of Word 4. For Bank Giro credits this is the account number of the beneficiary at the specified bank branch. For direct debits this is the account number of the account to be debited
Words 6 to 10	Contain the reference number as 18 alphanumeric characters starting at character position 0 of Word 6, the number being left justified and spacefilled
Words 11 to 15	Contain the name as 18 alphanumeric characters starting at character position 0 of Word 11. For Bank Giro credits this is the name of the beneficiary. For direct debits this is the name of the account to be debited
Words 16 and 17	Contain the amount of the transaction in pence as a positive, double-length binary integer
Words 18 and 19	If present, reserved for possible future enhancements
Word 20 onwards	If present, user defined

If more than one nominated account is required, a US2 parameter (see *US2*, page 8) must be given to describe the position of the nominated account code within the record.

USER DEFINED FORMAT

Users who wish to diverge from the standard format must submit a US2 parameter to describe the start positions of each of the fields required. The fields themselves must be in the same format as the standard record fields, that is the bank sorting code and account number must be held respectively as six and eight numeric characters, the amount must be held in pence as a positive, double-length binary integer and the name and reference number must each be contained within 18 characters. However, though the length of these last two fields may be less than 18 characters they must not exceed this maximum value.

Output

The main output is a file held on up to eight magnetic tapes to the standards required by the BACS. The format and code of the file is laid out in the *BACS User Manual*. The hardware format of the tapes may be one of the following:

<i>Character code</i>	<i>Parity</i>	<i>Track</i>	<i>Density</i>
ISO	Odd	7NRZ	556 r.p.i.
ISO	Odd	9NRZ	800 r.p.i.
ISO	Odd	9PE	1600 r.p.i.

The file contains header labels, trailer labels, Bank Giro credits and/or direct debits, and contra records.

All output tapes are given to the program by the operator. At this point it must be ensured that the tape has the correct mode and packing density (see *Operating instructions*, page 11). Each tape presented for use as an output tape should have a 1900 Series magnetic tape housekeeping header label, as the program checks this tape serial number for security purposes. The tape will be rejected if not the tape expected. At the end of each output tape

the program is dumped to a scratch tape which is relabelled ICL-DUMPBACS. This allows the user to restart the program at the beginning of the last output tape if a mishap should occur.

There are three forms of printed output: the letter of authorization, a control report and an error report.

The letter of authorization contains information about the user and magnetic tapes and is sent to the BACS together with the tapes.

The control report gives the number and total amount of Bank Giro credits and/or direct debits which have been processed for each nominated account used. This is followed by a grand total of the numbers and amounts accumulated for all nominated accounts used.

The error report deals with parameter errors and processing errors. For a full description, see *Line printer error messages*, page 12.

CONTROL

Parameters can be input on either cards or paper tape, each card or line corresponding to one parameter. On cards, punching starts at column 1.

Fields within each parameter are separated by commas and each parameter is terminated by a comma. All commas must be punched, even when the field is absent, unless otherwise stated. All fields must be punched unless otherwise stated. Variable length character fields are left justified and spacefilled by the program up to their full length. For example, if on the INP parameter the filename is punched as FILEVONE the program translates the filename as FILEVONEVVVV.

The parameters are terminated either by a card containing four asterisks followed by a blank card or by a line of paper tape containing four asterisks followed by two newline characters. If a US2 parameter is used, the SE1 parameter must precede it. Otherwise the parameters may be input in any order.

Input parameters

Table 1, below, lists the parameters in the suggested order of input and gives a brief description of each.

<i>Parameter directive</i>	<i>Purpose of parameter</i>	<i>Status</i>	<i>Maximum</i>
INP	To supply information regarding the input files	Mandatory	8
SE1	To supply the output medium indicator, exchange party number, and transaction selection basis	Mandatory	1
SE2	To supply name and address details for returning the tapes from BACS	Mandatory	1
SE3	To supply collection and failure contact details	Mandatory	1
RN1	To supply dates, generation/version and file numbers for output tapes	Mandatory	1
RN2	To specify the tape serial numbers of the tapes to be used for output. It is strongly advised to use this parameter	Optional	1
US1	To supply the user's name and work code	Mandatory	1
US2	To specify the positions of fields within an input record, if user specifiable option is used	Optional	1
NAC	To supply details of nominated accounts	Mandatory	10

Table 1 #XSTQ parameters

INP

The INP parameter is mandatory and is used to specify the input files required. Up to eight parameters of this type are allowed, giving the user the option of reading up to eight separate files. Parameters are not required for continuation reels.

The format is:

INP, *fn*, *rsn*, *fgn*,

where

fn is the filename which can be up to twelve characters in length.

rsn is the reel sequence number which, if given, must be in the range 0 to 511. If not given, 0 is assumed.

fgn is the file generation number which, if given, must be in the range 0 to 8,388,607. If not given, 0 is assumed. If the *fgn* is 0 any file with the correct filename and reel sequence number can be picked up by the program.

Example

INP, FILEVONE,, 51,

The components are as follows:

FILEVONE This is the input filename.

rsn The reel sequence number is absent and is taken to be zero.

51 This is the file generation number.

Note: Continuation reels, if required, are automatically picked up by the program.

SE1

The SE1 parameter is mandatory and is used to specify the medium indicator for the output tapes, that is whether the output is to be on 7-track NRZ, 9-track NRZ or 9-track phase encoded. This parameter also specifies the user's exchange party number and the transaction selection basis.

The format is:

SE1, *medind*, *epn*, *tbasis*

where

medind is the four-character output medium indicator which must take one of the following forms:

7NRZ for 7-track NRZ
9NRZ for 9-track NRZ
9VPE for 9-track phase encoded

epn is the exchange party number, that is the number by which the user is known to the BACS. This number must be given as six numeric characters.

tbasis is the basis for selection of the input records for processing and also determines whether direct debits or Bank Giro credits are written to the output file. This field can have one of the following eight values:

- 0 Select records from the input files with transaction code value of 17 and process them as direct debits.
- 1 Select records from the input files with a transaction code value of 99 and process them as Bank Giro credits.
- 2 Select records from the input files with a transaction code value of 17 or 99 and process them as direct debits or Bank Giro credits respectively.
- 3 Select records from the input files with a transaction code of 01, 17, 18 or 19 and process them as direct debits.
- 4 Select records from the input files with a transaction code of 94, 97, 98 or 99 and process them as credits.
- 5 Select records from the input files with a transaction code of 01, 17, 18, 19, 94, 97, 98 or 99 and process them as direct debits or credits accordingly.
- 17 Process all input records as direct debits.
- 99 Process all input records as Bank Giro credits.

Example

SE1, 7NRZ, 123456, 17,

The components are as follows:

7NRZ The output tape is to be 7-track NRZ.
123456 This is the exchange party number allocated to the user.
17 All records on the input files are to be treated as direct debits.

SE2

The SE2 parameter is mandatory and specifies the name and address of the location to which the tapes are to be returned after processing at the BACS. Up to six lines of name and address can be given by this parameter, each line being introduced by the type code SE2. Users must ensure that commas are not included within the name and address lines.

The format is:

SE2, *nameaddress*,

where *nameaddress* is a line of name or address. This is a variable-length field but must not be greater than 40 characters.

Example

SE2, ICL DATASKIL,
SE2, 42 MARKET PLACE,
SE2, READING,
SE2, RG1 2DB,

In this example four SE2 parameters are required to hold the name and address.

SE3

The SE3 parameter is mandatory and is used to supply information regarding the method of return of the tapes after they have been processed at the BACS, and also details of the person to contact if the tapes should fail at the BACS.

The format is:

SE3, *method, nfc, tel, ext*,

where

method is the method of return. Up to twelve characters are allowed for this field.

nfc is the name of the failure contact. Up to 40 characters are allowed for this field.

tel is the telephone number of the failure contact. Up to twelve characters are allowed for this field.

ext is the extension number of the failure contact. Up to four characters are allowed for this field.

Example

SE3, COLLECTION, A. N. OTHER, 0734-581258, 4,

The components are as follows:

COLLECTION This stipulates that the tapes are to be collected after processing at the BACS.
A. N. OTHER This is the name of the person to contact in the event of tape failure.
0734-581258 This is the telephone number of A. N. OTHER.
4 This is the telephone extension number.

RN1

The RN1 parameter is mandatory and is used to specify the date on which the tapes are to be processed at the BACS, the date after which the tapes may be overwritten, the generation and generation version number of the output tapes, and the file number.

The format is:

RN1, *pdate*, *edate*, *gen*, *vers*, *fileno*,

where

pdate is the processing date which must be expressed in the form dd/mm/yy.

edate is the expiry date which must be expressed in the form dd/mm/yy. This must not be earlier than the processing date.

gen is the generation number of the output tape. This is an optional field, but if it is omitted, the comma (the field terminator) must still be given. If given this field must be expressed as four numeric characters.

vers is the generation version number of the output tape. This is an optional field but if it is omitted the comma (the field terminator) must still be given. If this field is present it must be expressed as two numeric characters.

fileno is the file number; this must be in decimal format in the range 1 to 999. If two or more files are submitted to BACS for the same processing date, the file numbers must be different.

Example

RN1, 01/07/76, 27/07/76, , , 1,

The components are as follows:

01/07/76 The processing date is 1 July 1976.

27/07/76 The expiry date is 27 July 1976.

gen, vers The generation and generation version numbers are not required.

1 This is the file number to be written to the tape within the UHLI label (see BACS tape specification).

RN2

The RN2 parameter is optional but can be included to lessen the operation load as it specifies the tape serial numbers of the tapes to be used to hold the BACS data. The operator will therefore not have to type in the tape serial number each time a tape is needed. Up to eight tape serial numbers can be given but each number must be represented as six numeric characters followed by a comma.

The format is:

RN2, *tsn1*, *tsn2*, *tsn3*, , , , , *tsn 8*,

Only the tape serial numbers of the tapes required need be given; it is not necessary to quote eight numbers if the output is not expected to go to eight reels. Commas must only be punched after specified tape serial numbers.

Example

RN2, 123456, 123123,

The components are as follows:

123456 This is the tape serial number of the first tape to be used for output.

123123 This is the tape serial number of the second tape to be used for output.

US1

The US1 parameter is mandatory and is used to specify the name of the user and the work code.

The format is:

US1, *user*, *wcode*,

where

user is the user name expressed as a maximum of 18 characters, which must be within the stipulated BACS character set (see BACS tape specification).

wcode is the work code which is a nine-character alphanumeric field taking the value agreed between BACS and the user.

Example

US1, STEAM INC., 1VDAILY

The components are as follows:

STEAM INC. This is the name of the user submitting the tapes to BACS.

1VDAILY This is the work code agreed between the user and BACS.

US2

The US2 parameter is optional and is only required if:

- 1 The input file records do not have their fields in the same position as for the standard record
- 2 The standard case record format is used but the record includes a nominated account code for processing data for more than one nominated account

This parameter specifies the positions of the fields within the record by means of address pointers. For certain fields the length of the field must be given also.

The format is:

US2, *nacode*, *sortcode*, *acctno*, *acctype*, *trancode*, *amnt*, *refno*, *name*,

where

nacode is the address pointer to the nominated account code. This pointer need only be given if the data is to be processed for more than one nominated account. If a pointer is not given, all records are treated as belonging to the first nominated account quoted in the NAC parameters.

The pointer should be expressed as the word address (relative to the start of the record) followed by the character C followed by the starting character position.

sortcode is the word character start address pointer to the bank sorting code. This pointer must always be given and should be expressed as the word address (relative to the start of the record) followed by the character C followed by the starting character position.

acctype is the word character start address pointer to the type of account code. This pointer must always be given and should be expressed as the word address (relative to the start of the record) followed by the character C followed by the starting character position.

acctno is the word character start address pointer to the account number. This pointer must always be given and should be expressed as the word address (relative to the start of the record) followed by the character C followed by the starting character position.

trancode is the word character start address pointer to the transaction code if one is present in the input record. This pointer must always be given if the transaction selection basis on the SE1 parameter is set to 0 or 1. If an overall transaction code is to be applied to all data records, that is, the transaction selection basis is set to 17 or 99, this pointer is omitted. This pointer should be expressed as the word address (relative to the start of the record) followed by the character C followed by the starting character position.

amnt is the word character start address pointer to the amount field. This pointer must always be given and should be expressed as the word address (relative to the start of the record) followed by the character C followed by zero.

refno is the pointer to the reference number and is mandatory. This pointer is expressed as the number of characters within the field followed by the character N followed by the word character start address pointer (that is, the word address relative to the start of the record followed by the character C followed by the starting character position). The number of characters given as the field length must not exceed 18.

name is the pointer to the name and is mandatory. The pointer is expressed as the number of characters within the field followed by the character N followed by the word character start address (that is the word address relative to the start of the record followed by the character C followed by the starting character position). The number of characters given as the field length must not exceed 18.

For all pointers the word address given must not exceed 100 and the character address given must not exceed 3.

Example

US2, 3C0, 11C0, 12C3, 9C0, 3C2, 1C0, 6N7C2, 14N4C0,

where

3C0 is the pointer to the nominated code which starts at word 3 character 0, relative to the start of the input record.

11C0 is the pointer to the bank sorting code which starts at word 11 character 0, relative to the start of the input record.

12C3 is the pointer to the type of account code which starts at word 12 character 3, relative to the start of the input record.

9C0 is the pointer to the account number which starts at word 9 character 0, relative to the start of the input record.

3C2 is the pointer to the transaction code which starts at word 3 character 2, relative to the start of the input record.

1C0 is the pointer to the amount which starts at word 1, relative to the start of the input record.

6N7C2 is the pointer to the reference number. This states that this field starts at word 7 character 2, relative to the start of the input record and is six characters long.

14N4C0 is the pointer to the name. This states that this field starts at word 4 character 0, relative to the start of the input record and is 14 characters long.

The following repeats the above example but shows the pointers for the nominated account code and transaction code being omitted.

US2, , 11C0, 12C3, 9C0, , 1C0, 6N7C2, 14N4C0,

NAC

The NAC parameter is mandatory and is used to supply details of the nominated accounts. Up to ten of these parameters can be given, each parameter giving details of one nominated account.

The format of this parameter is:

NAC, *nacode*, *bscode*, *acctno*, *name*, *narrative*, *type*,

where

nacode is the identifying nominated account code consisting of two alphanumeric characters.

bscode is the bank sorting code consisting of six numeric characters.

acctno is the account number consisting of eight numeric characters.

name is the account name which can be specified in up to 18 characters. The characters within this field must belong to the BACS character set.

narrative is the narrative which is to appear in the contra record for this account. The narrative must be specified in up to 18 characters which must belong to the BACS character set.

type is the type of account code expressed as a numeric character in the range 0 to 9.

Example

NAC, A1, 112233, 87654321, STEAMVONE, B/CREDITS, 0,

The components are as follows:

A1	This is the nominated account code.
112233	This is the bank sorting code.
87654321	This is the account number of the account to be adjusted.
STEAMVONE	This is the account name.
B/CREDITS	This is the record narrative.
0	This is the type of account code.

END OF PARAMETERS

The parameters are terminated either by a card containing four asterisks followed by a blank card or by a line of paper tape containing four asterisks followed by two newline characters.

EXAMPLE OF USE OF PARAMETERS

The following example illustrates a series of parameters required for running #XSTQ with standard format input records.

```
INP, FILEVONE, , ,  
INP, DATAFILETWO, , 3,  
SE1, 7NRZ, 123456, 99,  
SE2, STEAMVHOUSE  
SE2, 33VWATLINGTONVSTREET,  
SE2, BRENTFORD,  
SE2, LONDONVE.12,  
SE3, GPO, G. CARTER, 01-478-1234, 22,  
RN1, 23/06/76, 28/06/76, 0002, 21, 321,  
RN2, 012345,  
US1, STEAMVINC., 1VDAILY,  
NAC, , 903633, 03001256, STEAMVONE, B/CREDITS, 0,  
****
```

The INP parameters describe the two input files FILEVONE and DATAFILETWO.

The SE1 parameter states that the output tape is 7-track NRZ, the user's exchange party number is 123456 and that all records on the input files are to be processed as Bank Giro credits. The SE2 parameters give the name and address to print on the letter of authorization.

The SE3 parameter states that the output tape should be returned from the BACS by the GPO and in any emergency G. Carter should be contacted at telephone number 01-478-1234 extension 22.

The RN1 parameter gives the processing data 23/06/76, the expiry date 28/06/76, the generation number 2, version number 21, and the file number 321. Users should note that if more than one file is submitted to the BACS with the same processing date, then the files must have different file numbers.

The RN2 parameter ensures that tape *12345 is used for output.

The US1 parameter gives the user's name to put in each data record and the work code is 1VDAILY.

As only one nominated account is used in the standard case only one NAC parameter is given. This parameter gives details of the user to be inserted in each data record. In this case the bank sorting code is 903663, the account number is 03001256, etc.

OPERATING

Executive priority

The program as supplied has an Executive priority of 70.

Use of peripherals

TR0 or CR0	Parameters	The reader is assigned when the program is entered and released when the parameters have been read
LPO	Parameters and error report Letter of authorization Control report	The printer is assigned when the program is entered and released at the end of the run
MT1	Input tape	No write permit ring required. The input tapes are picked up when required and released when the end of file is detected
MT2	Dump tape	Write permit ring required. This should be a scratch tape and is opened for the first dump and released at the end of run

Running under Executive alone

OPERATING INSTRUCTIONS

The output tapes must have a particular packing density and interblock gap and the operator must GIVE the tapes to the program in the correct mode. It is strongly recommended that the RN2 parameter is included to obviate operator intervention in the running of the program. The precise operating instructions vary depending upon whether this parameter is present. If the RN2 parameter is present, the output tapes are requested in the order specified in the RN2 parameter. If this parameter is absent, the operator decides which tapes to use when the program requests an output tape. In either case, the operator must GIVE the tape to the program in the appropriate mode. The program checks the tape serial number before it accepts the tape.

*Narrative**Console message*

1 Load #XSTQ

FI #XSTQ
0#XSTQ; HALTED:- LD

2 Load parameters in the reader

3 To start processing, input:

GO #XSTQ 21

If the RN2 parameter is present, continue from operating instruction 4; if the RN2 parameter is absent, continue from operating instruction

4 The program requires the operator to allocate the tape and to allocate it in the correct mode for 7NRZ, that is with the correct packing density and interblock gap.

0#XSTQ; HALTED:- GIVE TAPE
nnnnnn AS FILE 3 where nnnnnn
is the tape serial number of the
next tape required for output

If the packing density and interblock gap are already set correctly or if 9-track tapes are used, the mode may be omitted. The operator types in one of the following:

- (a) For 7NRZ long gap mode, 556 r.p.i.
- (b) For 9NRZ
- (c) For 9PE

GIVE #XSTQ x 3 MODE *24

GIVE #XSTQ x 3

GIVE #XSTQ x 3

where x is the absolute unit number
of the tape deck

Then input

GO #XSTQ

5 The program checks the tape serial number and if it is correct writes to that tape until the next is required; the program then returns to operating instruction 4. Otherwise continue from operating instruction 10

6 (a) If the tape serial number is incorrect, reinput the tape serial number of tape to be used for output as six octal characters in X6

0#XSTQ; HALTED:- NEEDS TSN
AL #XSTQ 6 *nnnnnn
GO #XSTQ

(b) If more tapes are required than are specified in the RN2 parameter, continue from operating instruction 7

7 Type in the tape serial number of the next tape to be used for output, as six octal characters in X6

0#XSTQ HALTED:- NEEDS TSN
AL #XSTQ 6 *nnnnnn
GO #XSTQ

8 The program requires the operator to allocate the tape and to allocate it in the correct mode for 7NRZ, that is with the correct packing density and interblock gap. If the packing density and interblock gap are already set correctly, or if 9-track tapes are used, the mode may be omitted. The operator types in one of the following:

0#XSTQ; HALTED:-GIVE TAPE
nnnnnn AS FILE 3

Narrative

- (a) For 7NRZ long gap mode, 556 r.p.i.
- (b) For 9NRZ
- (c) For 9PE

Then, input:

- 9 The program checks the tape serial number and if it is correct writes to that tape until the next is required. The program then returns to operating instruction 7. Otherwise continue with operating instruction 10.

If the tape serial number is incorrect the program returns to operating instruction 7

- 10 (a) If all the output fits on to the current tape, the program reaches end of run and all peripherals are released
- (b) If the end of an output reel is reached, the program dumps onto a scratch tape and requests another tape (see operating instruction 4 or 7)

Console message

GIVE #X5TQ x 3 MODE *24
 GIVE #X5TQ x 3
 GIVE #X5TQ x 3
 where x is the absolute unit number of the tape deck
 GO #X5TQ

0#X5TQ; HALTED:- END OF RUN

Exception conditions

<i>Message</i>	<i>Reason</i>	<i>Action</i>
1 0#X5TQ; DISPLAY:- NON STANDARD TAPE 0#X5TQ; HALTED:- NEEDS TSN	The tape presented for output has a non-standard header label	Load a tape with a standard header label and continue with operating instruction 4 or 7
2 0#X5TQ; HALTED:- MORE THAN 8 TAPES USED--RUN ABANDONED		If larger tapes can be used for output, restart at a previous dump using #XJRT or abandon run
3 0#X5TQ; HALTED:- MT INPUT ERROR x	An error has occurred within magnetic tape housekeeping. For an explanation of the code x see the manual <i>Magnetic Tape</i> (Edition 2, TP4397)	Abandon run
4 0#X5TQ; HALTED:- PA	Parity failure on output tape	Abandon run
5 0#X5TQ; HALTED:- PE	Parameter error detected. See the explanatory message on the printer	Abandon the run, correct parameters and resubmit

DUMP AND RESTART

If a hardware error occurs on writing a second or subsequent reel, the program may be restarted using #XJRT and the parameters displayed on the console typewriter.

LINE PRINTER ERROR MESSAGES

This section gives the exception messages that may appear on the line printer. These messages are divided into two categories: those that occur as a result of parameter validation and those that occur whilst processing the BACS data.

Parameter errors

The following messages explain why a particular parameter has been rejected. All parameters are printed. If a parameter is invalid, the explanatory message is printed immediately above the parameter.

<i>Message</i>	<i>Reason</i>
1 EXPIRY DATE < PROCESS DATE	The expiry date stated on the RN1 parameter is earlier than the processing date

Message

- 2 FILE NUMBER TOO LARGE
- 3 ILLEGAL CHAR IN USER NAME/
WORKCODE
- 4 ILLEGAL CHAR WITHIN ACCT NAME
OR NARRATIVE
- 5 INVALID DATE
- 6 INVALID EXCH. PARTY NO.
- 7 INVALID FILE POINTERS
- 8 INVALID MEDIUM IND.
- 9 INVALID PARAMETER FORMAT
- 10 INVALID PARAMETER TYPE
- 11 INVALID TRAN. CODE IND.
- 12 NON-NUMERIC CHAR WITHIN ACCT
NUMBER OR CODE
- 13 NON-NUMERIC CHAR WITHIN SORTING
CODE
- 14 NON-NUMERIC GEN/VERSION NUMBER
- 15 NON-NUMERIC TSN
- 16 PARAMETERS MISSING
- 17 PROCESS DATE < TODAYS DATE
- 18 TOO MANY PARAMETERS OF SAME
TYPE

Reason

- The file number stated on the RN1 parameter is not within the range 0 to 999
- The user name or work code stated in the US1 parameter contains a character which is not acceptable to the BACS
- The account name or the narrative to appear in the contra record, as stated in the NAC parameter, contains one or more characters unacceptable to the BACS
- The processing date or expiry date stated in the RN1 parameter is not in the expected format
- The exchange party number stated in the SE1 parameter contains one or more non-numeric characters
- One of the pointers stated in the US2 parameters is invalid because of one of the following conditions:
- 1 The number of characters within the name or reference number pointers has been given as greater than 18
 - 2 The start word address is stated as greater than 100
 - 3 The character position has been given as being greater than 3
- The medium indicator stated in the SE1 parameter is not recognized
- A field within a parameter has an invalid format. For example a field terminator is missing or the field exceeds the maximum length expected
- The parameter type code, for example INP, has not been recognized
- The transaction selection basis is not one of the valid codes
- The account number or the account code, stated in the NAC parameter, contains one or more non-numeric characters
- The bank sorting code stated on the NAC parameter contains one or more non-numeric characters
- Either the generation number or the generation version number given on the RN1 parameter contains one or more non-numeric characters
- A non-numeric character has been detected within a tape serial number given on the RN2 parameter. This can also occur if the tape serial number has not been given as six characters
- One or more of the mandatory parameters has been omitted
- The processing date given on the RN1 parameter is earlier than the date of the run
- The maximum number of parameters for a particular type code has been exceeded

Message

- 19 TOO MANY TSN'S
- 20 TRAN. CODE POINTER MISSING

Reason

More than eight tape serial numbers have been given on the RN2 parameter

The transaction code pointer, on the US2 parameter, is missing when one was expected, that is because the transaction selection basis on the SE1 parameter is set to zero or one

Processing errors

Processing errors are reported during the run or an error report. They should be studied carefully to see whether the output tapes are still valid.

Message

- 1 ILLEGAL CHARACTER
- 2 INVALID CONTRA C1
INVALID TRAILER T1 T2 T3
- 3 NOMINATED ACCOUNT MISSING FOR
CODE xx

Reason

This message is followed by the BACS constructed data record. The following can cause this error to occur:

- (a) There is an illegal character, that is a character unacceptable to the BACS, within the name, reference number, account number or bank sorting code as taken from the input file data record
- (b) The amount as held on the input file record is found to be held as a negative double-length integer. The program converts the amount to a positive figure but inserts a left hand arrow ← in the most significant position within the area reserved for the amount in the BACS record
- (c) The amount is found to be too large to be held in the field allowed within the BACS record. It is indicated by the program inserting an upward pointing arrow ↑ in the most significant position of the amount area within the BACS record

These messages can occur when the program is constructing the user trailer label or the contra records. The message is followed by a print of the constructed trailer label or contra record where appropriate. The errors that can occur are as follows:

<i>Code</i>	<i>Reason</i>
T1 or C1	One of the monetary amounts is too large to be contained within the fields allowed
T2	The data block count on the user trailer label is too large
T3	The number of items is too large

This occurs when the data records are to be processed for more than one nominated account. The code, held on the input record, does not agree with any of the codes given to identify the nominated accounts specified in the NAC parameters. This message is followed by a print of the original input record which caused this error to arise



PUBLICATION (NOTICE NO.)

4434 Bank Giro Interchange (1)

6.7.77

File one copy of this
notice with each of the
publications indicated.

Optional Disc Input to Bank Giro Interchange

A new option has been added to the Bank Giro Interchange program so that X5TQ will accept the input file on magnetic tape or disc. The output will continue to be on magnetic tape.

There will be no change to the input file, record or parameter formats. However, if disc input is used the reel sequence number on the INPut parameter will be ignored.

To input disc files switch 0 must be set ON, at the beginning of the run (i.e. before step 3 in the operating instructions).

If an error occurs in direct access housekeeping the program will halt with the message:

HALTED EDS FILE ERROR x

The run should then be abandoned. For an explanation of the code x see the Direct Access manual.



PUBLICATION (NOTICE NO.)

4/1/78

4434

BANK GIRO INTERCHANGE (2)

File one copy of this
notice with each of the
publications indicated.

Optional disc input file

The Bank Giro Interchange Program which will shortly be re-issued, has been enhanced to include the optional input of disc files.

<i>Program name</i>	<i>Mark</i>	<i>Size</i>
#X5TQ	5	12480

The new program will optionally accept input data on disc instead of magnetic tape. The output will continue to be on magnetic tape.

There will be no change to the input file record, or to parameter formats. However, if disc input is used, the reel sequence number on the INPUT parameter will be ignored.

For the program to accept input from a disc file, switch 0 must be set ON at the beginning of the run, that is, before step 3 in the operating instructions on page 11 of the manual.

If an error occurs in direct access houskeeping, the program will halt with the message:

EDS FILE ERROR x

For an explanation of error code x, see the manual *Direct Access* (Edition 2, TP4385).

When this message appears, the run should be abandoned.

© International Computers Limited 1978





PUBLICATION (NOTICE NO.)

4434 BANK GIRO INTERCHANGE (3)

11th May 1978.

File one copy of this
notice with each of the
publications indicated

Program Name	Mark	Size
#X5TQ	5	12480

1. Numeric Reference

Field 7 of the BACS data input record may contain a Numeric Reference for Bank Giro Credit transactions. The above versions of the Bank Giro Interchange Program (BGIP) allows this field to be specified.

The field must consist of four numeric characters. For Bank Giro Credits these will be transferred to the output record, but for Direct Debit transactions the field will be zeroized.

A numeric reference may appear in the standard BGIP input record, or in a user defined input record described by a US2 parameter.

1.1 Standard input record

The standard record format is described on pages 2 and 3 of the manual.

If the numeric reference field is required, word 18 of the record should contain four numeric characters. This word was specified as "spare".

If the numeric reference is not required, the record should be only 18 words long, or word 18 should be zero.

1.2 User defined record

The position of the numeric reference field in a user defined record may be specified in a new field appended to the US2 parameter. The parameter is described on pages 8 and 9 of the manual.

The 'numref' address pointer must appear following the 'name' pointer. If a numeric reference is not required, the pointer may be omitted, but its following comma must be present.

The following field description should be inserted in the manual:-

" 'numref' is the word character start address pointer to the numeric reference, if one is present in the input record. If the pointer is not given, or if the record is a direct debit, the numeric reference will be output as four zeros.

The pointer should be expressed as the word address (relative to the start of the record) followed by the character C followed by the starting character position."

1.3 Error messages

1.3.1

NUMERIC REFERENCE INVALID

This message will be output on the line printer if the numeric reference in word 18 of the standard input record, or in the record address specified by the US2 parameter, does not consist of four numeric characters.

1.3.2

INVALID PARAMETER FORMAT

This message is printed whenever an error is found in an input parameter. It will now additionally appear if the address pointer to a numeric reference field in a US2 parameter is invalid or omitted.

2. US2 Parameter

There is an error in the format of the US2 parameter on page 8 of the manual. The correct format, including the new numeric reference field (numref) is shown below.

US2,nacode,sortcode,acctype,acctno,transcode,amnt,refno,name,numref,



PUBLICATION (NOTICE NO.)

25/6/75

4376x	DATA MANAGEMENT SOFTWARE (VALIDATION AND EDITING) (2) ✓
4377	DATA MANAGEMENT SOFTWARE (UPDATING) (1)
4378	DATA MANAGEMENT SOFTWARE (REPORTING) (1)
4379	DATA MANAGEMENT SOFTWARE (FILE ARRANGEMENT) (1)
4380	DATA MANAGEMENT SOFTWARE (FRAMEWORK PROGRAMS) (3)

File one copy of this notice with each of the publications indicated

NEW ISSUE

The following new versions of programs will shortly be available.

<i>Program</i>	<i>Mark number</i>	<i>Program name</i>
X68P	31B	PROVE
X68K	4B	KEEP
X68S	4B	SOLO
X68L	4B	GAMA
X68M	4B	GAMB
X68U	4B	UPDATE
X68C	4B	COLLATE
X68W	4B	SWAP
X68R	4B	REPORT

The SDMS subroutine group mark 4B is also included in this issue.

CORRECTIONS

Errors reported in the following software notices are corrected in this issue:-

1900/File Management & Reporting.

<i>Notice number</i>	<i>Item number</i>	<i>Notice number</i>	<i>Item number</i>
84	306	115	428
101	370	115	429
105	388	115	430
105	389	115	431
106	391	115	432
106	392	115	433
106	395	115	434
109	403	115	435
109	404	115	436
109	405	115	437
115	422	115	438
115	423	115	439
115	424	116	441
115	425	117	444
115	426	117	443
115	427	118	445

<i>Notice number</i>	<i>Item number</i>	<i>Notice number</i>	<i>Item number</i>
118	446	118	449
118	447	118	450
118	448		

The following software notice remain valid for this issue:-

1900/File Management and Reporting

<i>Notice number</i>	<i>Item number</i>	<i>Notice number</i>	<i>Item number</i>
78	286	96	340
81	299	101	367
82	303	101	371
84	306	104	381
85	308	105	386
87	310	105	387
89	319	106	393
91	325	106	394
94	335		

© International Computers Limited, Reading, 1975



PUBLICATION (NOTICE NO.)

10/12/75

4376

DATA MANAGEMENT SOFTWARE (VALIDATION AND EDITING) (3)

**File one copy of this
notice with each of the
publications indicated**

CORRECTION TO THE MANUAL

The four character program name of PROVE - X680 - is incorrectly printed on pages 4, 95, 97 and 98 of the manual as X680.

© International Computers Limited 1975

