Account Information File (NAI/BAI2)

**NAB Connect and NAB Direct Link
File format Specifications**

February 2024

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1. Introduction

The purpose of this service is to provide a structured account information file listing the previous day transactions to be consumed by your financial software package.

- For NAB Connect, reports will be visible within the "Account Information File" section of your NAB Connect facility.

- For NAB Direct Link, files will be delivered to your Secure File Transfer Protocol (SFTP) service and allows you to integrate with your financial software package.

- The account information file is based on the National Account Information (NAI) data standards

- This report is a full list of previous day transactions for a set of nominated accounts produced by NAB daily (Tuesday to Saturday inclusive)

- This file by default is comma delimited to enable importing into a financial software package

- Account information is available for both Australian domestic as well as New Zealand (NZ) accounts which is provided as a separate file

- NAB's Foreign Currency Accounts (NFCA) can also be registered

- Accounts not eligible include loan, term deposit and credit card accounts

- BAI2 is the default offering of this account information file, however, NAB can provide this in a NAI format if requested

- Account reporting will not display Opening Balance see **Account Summary Codes**. Instead, Closing Balance is used

2. Onboarding & service specific information

2.1   Setting up the service

This service can be established simply by contacting your NAB Business banking representative and discussing your requirements.

You'll be provided information on NAB's digital channels (NAB Connect and NAB Direct Link) to determine which channel best suit your needs.

2.2   NAI and BAI2 Differences

- BAI2 is a recognised format where the account information is ordered by the account's BSB
- BAI2 reporting files may utilise a more consolidated set of **Account Summary Codes**
- BAI2 standards are not enforced by a governing standards body, and variations are expected in the implementation across various financial institutions
- Account Summary and Transaction Detail codes defined in the file specifications pertain specifically to the NAB implementation of the generated account information file. Further information is provided in the footnotes concerning known deviations or omissions

2.3   File types and variations

There are 2 ways the account information file can be provided:

1. Encrypted (using PGP when utilising NAB Direct Link)
2. No encryption (when utilising NAB Connect)

Encryption type	Filename
No encryption	NAI: YYYYMMDD.NAI BAI2: YYYYMMDD.BAI
PGP	NAI: YYYYMMDD.NAI.pgp BAI: YYYYMMDD.BAI.pgp

YYYYMMDD represents the day of file generation

- BAI2 and NAI files are generally flat text files

3. File Specifications

This depicts the overall structure of the account information file and applies to both NAI and BAI2 delivered via NAB Connect and NAB Direct Link.

File Header   `01 File Header`

First group

First account
- `02 Group Header`
- `03 Account Identifier`
- `16 Transaction Detail`
- `49 Account Trailer`

Second account
- `03 Account Identifier`
- `49 Account Trailer`

- `98 Group Trailer`

Second group

Third account
- `02 Group Header`
- `03 Account Identifier`
- `88 Continuation`
- `16 Transaction Detail`
- `88 Continuation`
- `88 Continuation`
- `03 Account Identifier`

- `98 Group Trailer`

File Trailer   `99 File Trailer`

3.1 File Format standard examples

NAI File	BAI2 File
01,,BNZA,210521,0400,1,78,78/	01,NATAAU3M,BNZA,210521,0400,2,,2/
02,BNZA,NATAAU3M,1,210521,0000/	02,BNZA,999-999,1,210521,0000,,/
03,111111111,AUD,015,10000011,100,000,102,000,400/	03,111111111,AUD,015,10000011,,,100,000,,,102,000,,,400/
88,000,402,000,500,40011,501,50011,502/	88,000,402,000,,,500,40011,,,501,50011,,,502/
88,200011,503,200011,965,000,966,050/	88,200011,503,200011,,,965,000,,,966,,,050/
88,967,075,968,006,969,017/	88,967,,,075,,,968,,,006,,,969,017/
49,10490203,10490055/	49,10490203,10490055/
03,222222222,AUD,015,10000009,100,000,102,000,400/	03,222222222,AUD,015,10000009,100,000,,,102,000,,,400/
88,125555,402,400,500,40009,501,50009,502/	88,125555,,,402,400,,,500,40009,,,501,50009,,,502/
88,200009,503,200009,965,000,966,000/	88,200009,,,503,200009,965,000,,,966,000,,/
88,967,000,968,000,969,070/	88,967,000,,,968,000,,,969,070/
16,495,450000,0,0,INTERNET TRANSFER	16,495,450000,Z,0,,INTERNET TRANSFER
88,Internet Transfer PYMT-ID 999999999 AA to 123/	88,Internet Transfer PYMT-ID 999999999 AA to 123/
16,495,150000,0,0,INTERNET BILL PAYMNT	16,495,150000,Z,0,,INTERNET BILL PAYMNT
88,INTERNET BPAY PMT 111111111111 NARRATIVEINFO/	88,INTERNET BPAY PMT 111111111111 NARRATIVEINFO/
16,495,1700000,0,0,INTERNET TRANSFER	16,195,1700000,Z,0,,INTERNET TRANSFER
88,Internet Transfer PYMT-ID 12346789 O1 to 123/	88,O1 to 123 AAAAA O1 PTY LTD ATF/
16,495,860475,0,0,INTERNET TRANSFER	16,495,860475,Z,0,,INTERNET TRANSFER
88,Internet Transfer PYMT-ID 222222222 Narrative	88,Internet Transfer PYMT-ID 222222222 Narrative
49,13776545,13776475/	49,13776545,13776475/
03,333333333,AUD,015,10000010,100,000,102,000,400/	03,333333333,AUD,015,10000010,100,000,,,102,000,,,400/
88,47310,402,200,500,40010,501,50010,502/	88,47310,,,402,200,,,500,40010,,,501,50010,,,502/
88,200010,503,200010,965,000,966,187/	88,200010,,,503,200010,,,965,000,,,966,187/
88,967,000,968,000,969,031/	88,,,967,000,,,968,000,969,031/
16,920,541105,0,0,Payment Narrative 123456/	16,920,541105,Z,0,,Payment Narrative 123456/
16,595,6585,0,0,MERCHNAME/	16,595,6585,Z,0,,MERCHNAME/
49,11085468,11085250/	49,11085468,11085250/
98,35352216,3,35351780/	
99,35352216,1,29,35351780/	

Note:
015 represents closing balance from previous business day

BAI2 Differences
999-999 represents the account BSB
2 represents file sequence number
2 represents Blocking factor
Funds type code always "Z" for BAI2

3.2   Logical File Format

- Each file is bounded by an '01' and a '99' record

- Where there are no relevant account records at the time of the run, the file will comprise only these two records. The date in the '01' record is only the creation date and does not refer in any way to the value date of the data contained

- Within the file, a new group (bounded by an '02' and a '98' record) is used for each Originator/As-Of Date (see below) combination in the customer's data. As many groups as required may be used. There can be many different As-Of dates within one file. If a group contains identical Originator/As-Of date combination as supplied in a previous logical file any data for the same accounts will supersede the previous logical file

- Within a group, a new account block (bounded by an '03' and a '49' record) is used for each different account. As many blocks as required may be used

- Transactions within an account block are ordered according to their transaction type, reference number, amount (descending) and sequence number

- '88' records are generally used if the record exceeds 80 characters (including CRLF) when all fields are put to the record. In this case, a slash (/) must be put as the delimiter of the last field that will fit completely on the record, a new record started (an '88' record), and the data continued on the new record. This process may be repeated as necessary. In certain situations, an '88' record may be used when the previous line is less than 80 characters

3.3   Record Formatting Rules

Each record type has the following attributes:

- All records are up to 80 characters in length including a terminating CRLF (carriage return/ line feed)

- Each record is identified by a 2-digit **Record Type** code and is the **first** field in a record line

- Fields are free format

- Field delimiters are commas (,) or slashes (/)

- Slashes (/) are only used as delimiters for the **last** field in a record

- No delimiter is used where the **last** field is Text

- Fields not used are identified by adjacent delimiters

- An amount and its sign are included in the same field. A sign is only used if the amount is negative and when used, trails the amount

- All amount fields include two decimal places but do not include the decimal point itself. Leading zeroes are not included.

- Any control totals in the account, group and file trailer records that are negative will have a leading sign

3.4   Record type

The file format specification consists of eight record types:

Record	Type
01	File header
02	Group header
03	Account identification and summary status
16	Transaction detail
49	Account trailer
88	Continuation (optional)
98	Group trailer
99	File trailer

3.5   Record Descriptions

3.5.1   Record type '01' – File header

The first record in the file is the File header.

Field Name	Field Description
Record type	Always '01'
Sender identification	Originator of file. This is the bank ID, an 8-character alphanumeric field used to identify banks Not used for NAI NATAAU3M for BAI2
Receiver identification	Next recipient of the file
File creation date	System date, format yymmdd
File creation time	System time, Format hhmm Expressed in AEST using a 24-hour clock. For End-of-day (Main) files this will be '0000'.
File sequence number	1 for NAI 2 for BAI2
Physical record length	Number of characters in each record This includes the two-character Record type and the record delimiter (if any). *Not used for BAI2
Blocking factor	Number of physical records in a block. Always 2 for BAI2

3.5.2   Record type '02' – Group Header

The first record in each group of records is the Group header.

It follows either the File header record (record type '01') or a Group trailer record (record type '98').

Field Name	Field Description
Record type	Always '02'
Ultimate receiver identification	As for the Receiver identification field in the File header (record type '01') record.
Originator identification	Originator of file. This is the bank ID, an 8-character alphanumeric field used to identify banks. For BAI2 files, this will be the account's BSB
Group status	Always 1 (original)
As-of date	Statement date in format yymmdd
As-of time	This is always 0000
Additional Field	Used for BAI2 only, not used by NAB

3.5.3   Record type '03' – Account identifier and summary status

The first record for each account is the Account identifier and summary status record.

It follows either a Group header (record type '02') or an Account trailer (record type '49') record.

Field Name	Field Description
Record type	Always '03'
Commercial account number	Customer commercial account number at the origination bank. It excludes the BSB number for domestic accounts
Currency code	SWIFT currency code
Transaction code	3-digit account summary code. See **Account Summary Codes**
Amount	Amount expressed with two implied decimal places and optional trailing sign. For currencies with no decimal component (for example, Japanese Yen or Italian Lira) the last two digits are always zero. If there is no trailing sign, the amount is positive
Item Count	NAI – Not used BAI2 – Empty
Funds Type	NAI – Not used BAI2 – Empty

The Transaction code and Amount fields are repeated for each account summary code

The account summary codes can appear in any order, but each code appears only once

3.5.4   Record type '16' – Transaction detail

A Transaction detail record follows either the Account identifier and summary status (record type '03') record or another Transaction detail (record type '16') record.

Field Name	Field Description
Record Type	Always '16'
Transaction code	3-digit transaction detail code. See **Transaction Detail codes**.
Amount	Amount expressed with two implied decimal places. For currencies with no decimal component (for example, Japanese Yen or Italian Lira) the last two digits are always zero. The amount is unsigned. The transaction code determines DR or CR. See **Transaction Detail Codes**
Funds type	Always 0 (immediately available) for NAI Always 'Z' for BAI2
Reference number	Optional alphanumeric field defined by the originator. The contents of this field depend upon the source of the transaction. For example, it could be a cheque number for cheque transactions
Text	Optional alphanumeric field defined by the originator. The contents of this field depend upon the source of the transaction. For example, it could provide dishonour details for a dishonoured cheque. No delimiter is used at the end of a record that has text in the last field.

3.5.5   Record type '88' – Continuation

The last record for each account is the Account trailer. It follows the last Transaction detail record (record type '16') for an account. If there are no transactions, it follows the Account identifier and summary status record (record type '03').

Field Name	Field Description
Record Type	Always '49'
Account control total A	The sum of amount fields in record types: '03' (including the amounts for account summary codes **965,966,967,968,969**) '16', '88' Note – Account control Total A previously excluded the amounts summary codes '500', '501', '502', and '503'
Account control total B	The sum of all amount fields in record types: '03' (excluding the amounts for account summary codes **965,966,967,968,969**) '16' '88' Note – Account control Total B previously included all amounts.

Account control totals A and B have two implied decimal places and an optional preceding sign. If there is no preceding sign, the amount is positive.

3.5.6   Record type '49' – Account trailer

Continuation records are used as overflow records. The format of this record continues the same format as the record immediately preceding it.

It can follow any record type. In practice, it is only required for Account identifier and summary status (record type '03') and Transaction detail (record type '16') records.

Field Name	Field Description
Record Type	Always '88'
Remainder of record	Continuation of record format of record immediately preceding this continuation record

3.5.7   Record type '98' – Group trailer

The last record in each group of records is the Group trailer. It follows the last Account trailer (record type '49') record for the group.

Field Name	Field Description
Record Type	Always '98'
Group control total A	The sum of the Account control totals A in all Account trailer (record type '49') records in this group
Number of accounts	The number of accounts in this group That is the number of Account identifier and summary status (record type '03') records in this group
Group control total B	The sum of the Account control totals B in all Account trailer (record type '49') records in this group

Group control totals A and B have two implied decimal places and an optional preceding sign. If there is no preceding sign, the amount is positive.

3.5.8   Record type '99' – File trailer

The last record in the file is the File trailer.

Field Name	Field Description
Record Type	Always '99'
File control total A	The sum of the Group control totals A in all Group Trailer (record type '98') records in this file
Number of groups	The number of groups in this file. That is, the number of Group header (record type '02') records in this file
Number of records	The total number of records in this file. This includes the File header and File trailer records but excludes any device-oriented or job control records
File control total B	The sum of the Group control totals B in all Group Trailer (record type '98') records in this file

File control totals A and B have two implied decimal places and an optional preceding sign. If there is no preceding sign, the amount is positive.

3.6   Account Summary Codes & Descriptions

- Transactions are given a 3-digit NAI code which identifies the transaction type, and a description which is used to give more information about the transaction
- While the standard NAI will follow the table below, the BAI2 conversion performed by NAB has some differences
- This conversion places debit items starting from transaction code 950 instead of starting from 961
- Transaction codes **950-956** are normally reserved for credit items but are currently converted and used as debit items.
- The content and labels of these debit items are accurate; however, many ERP systems have been setup to class items through to 956 (inclusive) as credit transactions. See **Transaction Details Codes** for more details
- In many cases there are generally no issues encountered importing this into an ERP application, but there are a few customised versions of this file in case you may have specific requirements
- Fast Payment transactions will be seen under transaction code 399 (Miscellaneous credits) or 699 (Miscellaneous debits)

There are 2 types of Account information file codes:

1. Account summary codes
2. Transaction detail codes

3.6.1   Account Summary Codes

Code	Description
001*	Customer number
003*	Number of segments for the account
010*	Opening Balance
015	Closing balance
100	Total credits
102**	Number of credit transactions
400	Total debits
402**	Number of debit transactions
500	Accrued (unposted) credit interest
501	Accrued (unposted) debit interest
502	Account limit
503	Available limit
965	Effective Debit interest rate
966	Effective Credit interest rate
967	Accrued State Government Duty
968	Accrued Government Credit Tax
969	Accrued Government Debit Tax

*Not used by NAB

**For BAI2, this item will display in the "Amount" field as an amount instead of "Item Count" or record type 03

3.6.2 Transaction Detail Codes

Code	DR/CR	Transaction Description	Statement Particulars
175	CR	Cheques	Cash/Cheques
195	CR	Transfer credits	Transfer
238	CR	Dividend	Dividend
252	CR	Reversal Entry	Reversal
357	CR	Credit adjustment	Adjustment
399	CR	Miscellaneous credits	Miscellaneous credit
475	DR	Cheques (paid)	All serial numbers
495	DR	Transfer debits	Transfer
501	DR	Automatic drawings	Company's name (abbreviated)
512	DR	Documentary L/C Drawings/Fees	Documentary L/C
555	DR	Dishonoured cheques	Dishonoured cheques
564	DR	Loan fees	Loan fee
595	DR	FlexiPay	Merchant name
631	DR	Debit adjustment	Adjustment
654	DR	Debit Interest	Interest
699	DR	Miscellaneous debits	Miscellaneous debit
905	CR	Credit Interest	Interest
906	CR	National nominees credits	National nominees
910	CR	Cash	Cash
911	CR	Cash/cheques	Cash/cheques
915	CR	Agent Credits	Agent number advised
920	CR	Inter-bank credits	Company's name (abbreviated)
925	CR	Bankcard credits	Bankcard
930	CR	Credit balance transfer	Balance transfer
935	CR	Credits summarised	Not applicable
936	CR	EFTPOS	Merchant name
938	CR	NFCA credit transactions	Not applicable
950**	DR	Loan establishment fees	Establishment fee
951**	DR	Account keeping fees	Account keeping fee
952**	DR	Unused limit fees	Unused limit fee
953**	DR	Security fees	Security fee
955**	DR	Charges	Charge (or description)
956**	DR	National nominee debits	National nominees

Code	DR/CR	Transaction Description	Statement Particulars
960	DR	Stamp duty-cheque book	Cheque book
961	DR	Stamp duty	Stamp duty
962	DR	Stamp duty-security	Security stamp duty
970	DR	State government tax	State government credit tax
971	DR	Federal government tax	Federal government debit tax
975	DR	Bankcards	Bankcard
980	DR	Debit balance transfers	Balance transfers
985	DR	Debits summarised	Not applicable
986	DR	Cheques summarised	Not applicable
987	DR	Non-cheques summarised	Not applicable
988	DR	NFCA debit transaction	Not applicable

**BAI2 Transaction Type Codes begin with their Debit range at 950 in the NAB file, rather than the 960 commonly found in the import templates of common ERPs.