

MYOB Exo Business White Paper

Stock Serial Numbers

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Contents

Overview	1
Serial Numbers versus Batch Numbers	1
Serial Number Types.....	1
Stock Levels and Serial Numbers	3
Serial Number Processing	4
Navigation and Data Entry	5
Sequential Entry	5
Closing the Serials Window	6
Pre-assignment	6
Reporting on Serial Numbers	7
Clarity.....	7
Serial Number Tracking	7
Additional Serial Number Considerations	8
Changing Serial Number Types.....	8
Crediting Serials (Returns).....	8
Deferred Invoicing	9
Last-link Storage	9
Stock Take.....	10
Reference Field	10
Serial Number History	11
Advanced Serial Number Features	12
Expiry Dates.....	12
Pre-Assignment	12
Serialised Costs	13

Bills of Materials	14
Sales Order Workflow Add-on Module.....	14
Serial Number Profile Settings	15
Company Profile Settings	15
User Profile Settings	16
Database Table Structure	16
TABLE STOCK_SERIALNOS.....	18
TABLE STOCK_TRANS_SERIALIZ.....	20
TABLE CR_INVLINES_SERIALIZ.....	20
TABLE DR_INVLINES_SERIALIZ	21

Overview

This document gives a technical overview of key serial number processes.

Serial numbers can only be used with stocked items; lookup items cannot be serialised.

Before serial numbers can be used, they must be activated for the database by ticking the Company-level profile setting **Enable serial number tracking**. There are other profile settings that also govern their behaviour.

Serial Numbers versus Batch Numbers

Serial numbered items differ from batch numbered items in the following fundamental ways:

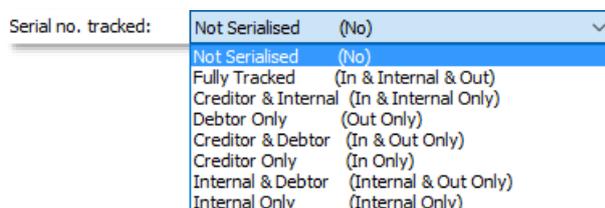
- Each serial number has an implicit quantity of one. They cannot be used with decimalised or zero quantities. Batch numbers have a quantity and these can be decimalised.
- Multiple serial numbers can apply to a single document line and stock transaction. The batch number for a document line must be constant for the entire line quantity. If multiple batches are required per stock item on the document then multiple document lines must be entered.
- Serial numbers are entered in a separate grid or form usually appearing during the document save process. Batch numbers are entered directly on the document line prior to saving.
- Serial numbers are maintained against the database by application program code. Batch numbers are maintained from triggers in the database when a stock transaction containing a batch number is committed.

Serial Number Types

Occurrence of serial number processing depends on both the serial type (mode) of the stock item, and the class of the trading partner in the particular Exo Business function. There are three classes of trading partners:

- Creditor (Supplier), e.g. purchase orders and Creditor invoices
- Internal (no Creditor or Debtor), e.g. adjustments, transfers and works orders
- Debtors (Customer), e.g. sales orders and Debtor invoices

The user defines the serial type of each stock item. Types are offered for each combination of the three trading partner classes. The Stock Item Details screen offers this as a drop down combo control on the Details 1 tab:



The types offered are:

- **Not Serialised** – the item is not serialised. Serial number dialogs and tabs will not appear for this item.
- **Fully Tracked** (Creditor, Internal, Debtor) – the item is serial tracked for all stock transaction types. This setting ensures that a serial number list by location will match the total in stock quantity for that location. It requires that serial numbers be identified for all stock movements and is therefore maintenance intensive.
- **Creditor and Internal** – the item is serial tracked only for the inwards supply chain, i.e. a transaction associated with supplier/Creditor processing and internal stock movements but not transactions associated with Debtors. Use this setting if you need to trace the source of a serial number (including internal transfers) but do not require information on the customer it was sold to.
- **Debtor Only** – the item is only tracked for transactions associated with a Debtor. Use this option if you only require tracing customer sales by serial number (e.g. for customer warranty purposes) and do not require serial detail for purchases or stock on hand.
- **Creditor & Debtor** – the item is tracked for all movements except internal movements (e.g. transfers). Use this option if you need to know both trading partners associated with this item (e.g. for both Supplier and Customer warranty), but do not need to keep stock levels by serial. This option can reduce the required serial processing compared to “Fully Tracked” when lots of adjustments, transfers, or works orders are involved.
- **Creditor Only** - the item is only tracked for transactions associated with a Creditor. Use this option if you only require tracing supplier purchases by serial number (e.g. for supplier warranty purposes) and do not require serial detail for stock on hand or sales.
- **Internal & Debtor** – the item is serial tracked only for the outwards demand chain, i.e. a transaction associated with customer/Debtor processing and internal stock movements but not transactions associated with Creditors. Use this setting if you need to trace the destination of a serial number (including internal transfers) but do not require information on the supplier it was obtained from.
- **Internal Only** – the item is tracked only for internal movements that do not involve either a Creditor or Debtor. Use this setting if you do not require the tracking of the purchase of this item but do need to trace it through internal transfers or consumption (e.g. raw materials used in production).

Stock Levels and Serial Numbers

It is possible for the stock level of a stock item and the quantity of serial numbers for the stock item to not be equal.

Items set to anything other than “Fully Tracked” can be considered loose bindings as they can process some stock movements without entry of serial numbers. This does not imply that serial numbers are chosen automatically by the system where not requested, but rather that serial numbers are not maintained in those cases. The serial number list for an item is therefore not necessarily an accurate representation of stock on hand.

Serial number records are maintained indefinitely once created. In Exo Business, all serial number processes check for and maintain the uniqueness of a serial number within a stock item (regardless of stock location). Serial numbers may be duplicated across differing stock items.

Each serial record has a property, INSTOCK, which will have a value of “Y” or “N” to indicate the last known state of that serial. Also, the property LOCNO indicates the last known location of that serial number. In cases where the item is not fully tracked, LOCNO will be amended where necessary by the last participating stock transaction.

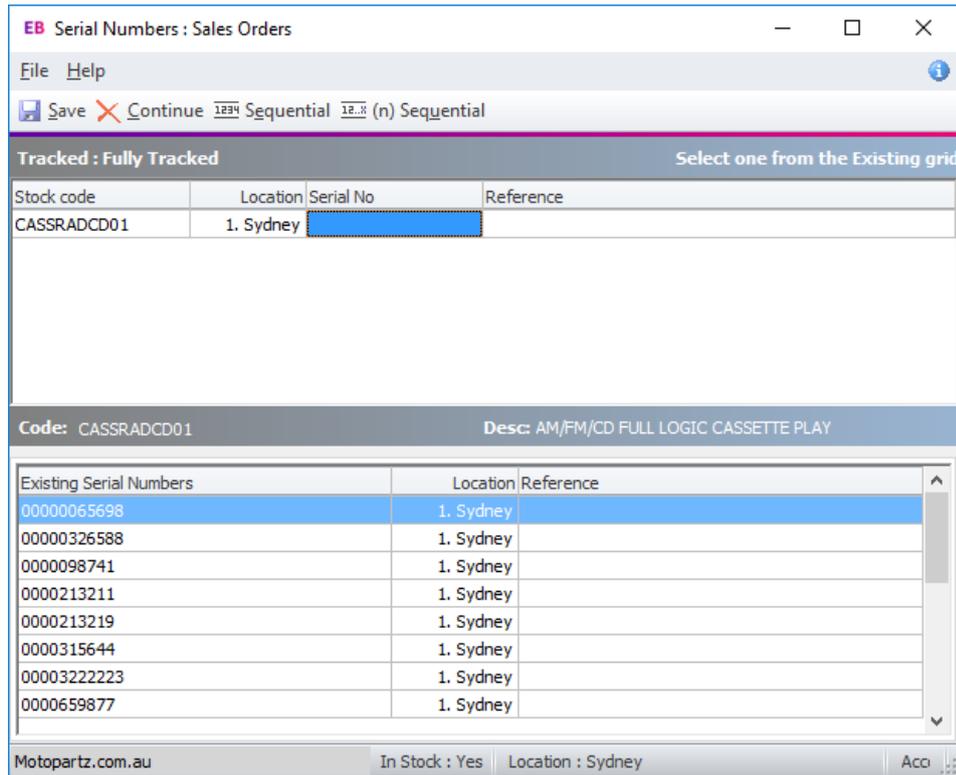
As an example, for a Creditor & Debtor only item:

- After purchase and before sale LOCNO will reflect the location of the inwards goods receipt. This is still true even if an internal transfer has moved the stock to a different location or consumed it as part of a manufacturing process.
- After sale LOCNO is updated to match the supply location.

Also in the above example, if there are no single entry internal only type movements (adjustments, works orders etc.), then even if transfers (double entry) occur, the total stock across all locations is represented by the serial list but the location breakdown is likely to be incorrect.

Serial Number Processing

Serial numbers are maintained as part of the workflow whenever stock transactions are created for a serialised stock item. This is usually associated with a business document (e.g. Debtor invoice). When the document is saved using the **Save & Exit** or **Save** buttons, the stock items that should be serialised are determined based on the combination of the document class and the serial type of the stock items. The quantity of serials for each of these is computed. A serial numbers screen is displayed:



The top grid is populated with the required number of serialised rows. This is calculated from the line quantities of the parent document, and only items that should be considered serialised for this document class are displayed. If no items require serial processing, then the serials screen will not appear and the transaction will continue.

It is not possible to delete or insert rows, as this would require altering the quantities on the parent document. At any stage the **Cancel** button can be used to discard any serial information entered and return to the parent document that can then be amended as necessary. Clicking **Save** again will return to a fresh serials screen.

As the top grid is navigated:

- The lower grey bar will show the stock item code and name, and the upper grey bar will show the serial number type and available actions.
- The lower grid will show any applicable serial number list for the item in focus.
- The status bar beneath shows the filters that were applied in presenting this list and stock the stock status, location selection, and account selection.

Usually the lower grid shows a list of available serials. When the item is for a contra (negative) quantity such as a credit note, the row in the upper grid will be coloured red

and the lower grid typically shows a list of serials previously traded with this partner. The column header wording of the first column (e.g. Existing Serial Numbers in the above example) also changes to reflect this.

Navigation and Data Entry

For some serial number types and document classes the serial numbers must already exist in the list shown in the lower grid. In others they may be created.

The following points should be noted when navigating the serial number screen:

- When the cursor focus is in a **Serial No** cell of the upper grid, the left and right arrows move along this upper grid row, while the up and down arrows move the selected line in the lower grid. If the cursor focus is in another upper grid column (e.g. **Expiry** or **Reference**) then the up and down arrows navigate the top grid.
- Entering, scanning or selecting a serial number will move the focus line of the top grid down one row. This accommodates rapid entry.
- If an entered serial number matches an entry in the lower list, it is selected. Selection can also be done using a mouse or navigating the bottom grid and pressing enter. A selected serial will copy all its static attributes such as Expiry and Reference.
- Selected serials disappear from the bottom grid so that they may not be selected multiple times. If a serial is selected in error, simply select another. The newly selected serial will replace the previous selection, and the replaced serial will be returned as the last row on the bottom list (i.e. the lower grid is not automatically resorted).

Sequential Entry

After entering a serial number, sequential numbers can be automatically entered or selected for consecutive rows that have the same stock code. This is done using the **Sequential** or **(n) Sequential** buttons.

The **Sequential** button will recurse until a change of stock code is detected. The **(n) Sequential** button will request a quantity and recurse this many times or until a change of stock code (whichever comes first). These functions are also available on the right mouse click menu, or by pressing F12 or CTRL-F12 respectively

When using these functions to create new serials the right-most portion of the serial number in focus is used as the incrementing integer. For example if started with a serial in the form ABC-123-1001-Z, then 1001 will be the portion incremented. The next serial will be ABC-123-1002-Z. This function will also clone the Expiry and Reference fields from the starting row.

When selecting existing serials the system will select from the lower list in sequence. Expiry and Reference will be obtained from the selected serial.

Closing the Serials Window

When all rows of the upper grid are populated the **Save** button may be clicked to close the serials screen and continue with the transaction save.

Clicking **Save** without all rows populated will present a warning dialog before returning to the serials screen.

Clicking **Cancel** will return to the parent document. All serial number entry in the current session will be discarded.

Pre-assignment

When pre-assigning serials (see page 12), the same workflow occurs as described previously for stock transactions.

If serials have been pre-assigned, then when the serial selection screen re-opens (either for review or subsequent stock transitions), the serials previously assigned will automatically populate the upper grid.

If the quantity required in the current session is less than the quantity pre-assigned then the pre-assigned serial will populate the upper grid in ascending Serial No. sequence (e.g. a Sales Order for ten items may have ten pre-assigned, but only four are being supplied for the current session). The additional assigned serials will show in the lower grid as rows with a different background colour. This allows easy identification for preferred substitution. A non-assigned serial may also be chosen as replacement if desired.

If insufficient serials have been pre-assigned, blank serial number cells will appear and will require entry.

Reporting on Serial Numbers

For most document types, MYOB Exo Business maintains link fields in the serial number records to both the header-level and line-level records of the participating document.

Clarity

Clarity reports can be used to detail serial numbers used on transaction documents. Link fields can be used by Clarity documents to optionally print sub-reports showing serial number lists per document or per document-line. The sample file **InvoiceWithSerials.CLF** is provided in the Clarity Variants Library available on the partner website.

The table at the end of this document outlines the metadata joins expected when linking sub-reports to document headers or lines

Older FMT reports do not support reporting from the STOCK_SERIALS table.

Serial Number Tracking

The Serials tab of the Debtor, Creditor and Stock Item Details screens, and the **Serial Number Tracking** menu function both provide a grid showing serial numbers for a stock item.

Right-clicking on a serial number row will offer a list of document classes to drill to. Classes with no link will be greyed out on this menu. The separate Serial Number Tracking screen also has buttons on the button bar for each document class plus buttons for Debtor and Creditor account screens. These buttons are disabled when no link is present so scrolling this screen quickly identifies the links present. This screen can also be accessed as a separate window from the Serial Nos tab of the Stock Item Details account screen by clicking the  button.

The available drill-down features are:

- Creditor Account
- Debtor Account
- Purchase Order
- Inwards Goods
- Sales Order
- Creditor Invoice
- Debtor Invoice
- Assigned Document

Two additional options are possible when this form is accessed from other Exo Business modules:

- Stock Transfer Requests (Supply and Sales Order Workflow)
- Jobs (Job Costing)

Additional Serial Number Considerations

Changing Serial Number Types

Changing the serial number type (see page 1) for an item that has no stock transaction (e.g. a new item) poses no problems.

Changing the serial number type when transactions exist is a different matter, especially when stock on hand is non-zero. Exo Business provides tools that allow the user to align the list of serials with the stock level without also creating stock transactions (i.e. not altering basic stock keeping field). These tools are locked by default.

Access to the serial number editing tools is controlled by the User-level profile setting **Allow serial number override**. If it is set to “Y”, two additional buttons are available on the Serials tab of the Stock Item Details account screen:

-  **Add new serial numbers** - request the quantity of serials to be added and then input a list of serials.
-  **Remove the selected serial number** - delete the serial row highlighted in the grid (a confirmation dialog appears).

Crediting Serials (Returns)

When crediting serial numbered stock, the system offers a list of serial numbers for selection from serial numbers previously traded with that business partner (Debtor or Creditor). Items that are set to “Fully Tracked” will not permit entry of serials that do not exist in the selection list. Other serialised stock items that are appropriate for the trading partner may either be selected from the offered serial list or a new serial number can be created.

Creation of serial numbers on return for a “Fully Tracked” item is blocked by default. The intent is to block fraudulent returns from a customer or prevent an item being returned to the incorrect supplier. Some circumstances may mean that this restriction is not appropriate, e.g. when the Exo Business software has been implemented after some trading of these items has commenced. It may be necessary to process a return for an item legitimately traded on a previous occasion whose transaction was never recorded in an Exo Business database.

The profile setting **Serials numbers creation on return** allows for loosening these controls. It has the following values:

- No – the system is constrained for both Creditors & Debtors (default)
- Creditors return – no constraint on Creditors but Debtors constrained
- Debtors return – no constraint on Debtors but Creditors constrained
- Both Debtors & Creditors return – neither Creditors nor Debtors are constrained

Deferred Invoicing

This refers to the case where a Debtors or Creditors invoice is created at a later time (i.e. not in same process as stock transaction). This occurs when costing receipts or supplying Sales Orders and the invoice is not generated at the same time.

In a partial invoice situation (invoicing less than supplied), the system matches the serials by invoice reference from the linked stock transaction (i.e. Exo Business finds the stock transaction for the invoice and locates serials with a matching link). This assumes that there has not been a subsequent stock transaction of the same class prior to invoicing (e.g. a customer return between supply and invoice). Processing of different classes is accommodated (e.g. item is received from supplier, supplied to customer, customer invoice raised, creditor invoice processed).

Last-link Storage

When multiple transactions of a similar class occur for the same serial number (e.g. a Debtors Invoice followed by a Debtors Credit Note for goods return) the links are only maintained for the last movement. Each document class has its own set of links and therefore do not interfere with each other.

In the case of a credit note, for example, the STOCK_SERAILNOS fields INVSEQNO, STOCKOUTSEQNO and DRINVLINSEQNO will point at the Credit Note and the links from the serial number to the original invoice are lost. If the invoice was created from a sales order then the original sales order links are still retained, provided that the credit note was manually entered and not a negative quantity sales order.

Note that STOCKINSEQNO and STOCKOUTSEQNO are direct (non-visible) links to the STOCK_TRANSACTIONS table and apply to multiple business transaction classes. A STOCKINSEQNO originally linked to the STOCK_TRANS for an INWARDS_GOODS_LINE may be overwritten with the link to a STOCK_TRANS associated with a CR_INVLINE used to return the goods to supplier. Both the IGRLINESEQNO and the CRINVLINSEQNO in STOCK_SERAILNOS remain valid but the original STOCKINSEQNO link to the STOCK_TRANS for the incoming goods is lost.

Maintaining all this history would require an additional table and would add additional complexity to the internal processing. It was decided that this was not warranted as usually only the last stock movement of that business type for a given serial number was of interest.

Serial history may have been recorded by document if creating PDF output of business documents.

Stock Take

By default serialised items are included in a stock take setup. Serials can be excluded from this process.

Note: To exclude serial numbered items from stock take, enable the Company-level profile setting **Exclude stock items with serial numbers from stock take**, or tick the **Exclude Serialised Stock Items** option on the on the Stock Take Options window.

Stock adjustments for serial numbered items pose their own considerations:

- If the stock item is of serial type “Fully Tracked”, then any adjustments must also provide the additional serials or determine which serials to be removed. This can be done by keying stock adjustments in the Stock Movements screen.
- Other serial types do not insist that the sum of serials for a stock item / location combination match the stock level. It therefore becomes the user’s choice if serial numbers are to be adjusted in association with stock take discrepancies. This consideration would normally only apply to serial types with the Internal attribute.

Reference Field

Serial numbers also offer an alphanumeric reference field for each serial item. This field has no special significance and can be used to store any additional information. Up to 30 characters is accommodated per serialised item.

This field is always present but can be hidden, if not required, by using the visible column attribute of the Exogrids. Blank or null entries are permitted so use is optional.

Note: Adding the menu item **Setup Stock Serial Numbers** accommodates correcting serial reference numbers and even changing an existing mis-keyed serial number. This item is not installed to the default menus for security reasons.

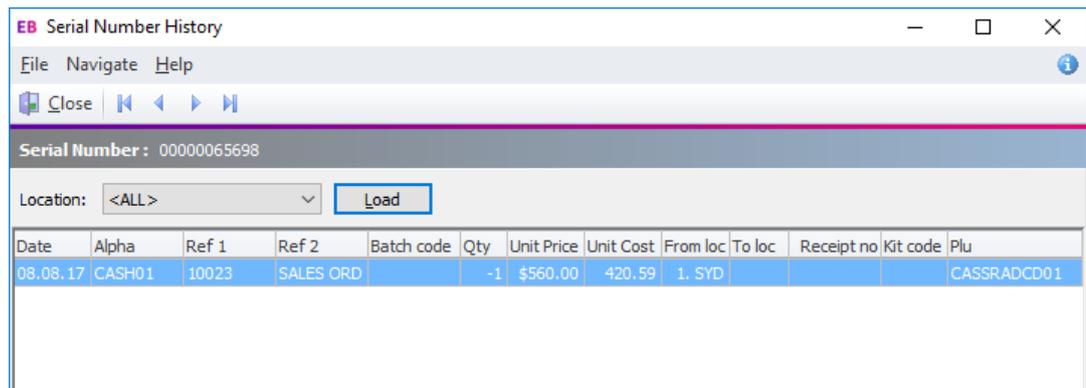
Although serial numbers are identified during processing by their recorded serial number the system assigns each serial number a unique identifier to each item (SEQNO). Exo Business does not use the actual value of the serial number field for linking purposes therefore this tool can safely change it. This is useful if say some goods were accidentally receipted (created) with the wrong serial number. Uniqueness of serial numbers within a stock item is still an imposed constraint.

Note: Extra Fields functionality is not supported on the STOCK_SERIALNOS table.

Serial Number History

MYOB Exo Business provides several screens to view the history of serial numbers. The main serial number record stores only the last document number for each document class. Access to these documents is provided via a right-click menu from the Serials tab in the Debtors, Creditors and Stock account screens.

On the Serials tab of the Debtors, Creditor and Stock account screen, the right click menu includes a **View History** item. This opens a window of stock transactions associated with the serial number:



Transactions in this window can be drilled into in the same way as on the main Transactions tab in the stock account screen.

The **View History** menu item may also be accessed from the available serials window in the lower grid when processing serial numbers.

Note: The Serial Number History screen shows stock transactions associated with stock movements. If invoicing (Debtors or Creditors) is done subsequent to the supply or receipt, the stock transaction does not contain the invoice number and hence cannot directly drill to the invoice.

For Sales Orders the stock transaction provides right-click menu access to Sales Order history from which the invoice(s) may be drilled.

To facilitate reprint of invoices with serial numbers, the system also maintains separate audit by serial number linked to invoice number. This may optionally be used in Clarity instead of the links to the primary serial number record. For compatibility with earlier versions, the default Clarity files provided still use the single level of history provided by the main serial number record.

See the section “Structure “at the end of this document for table structures and links that may be used in Clarity.

Advanced Serial Number Features

This section covers optional advanced features that capture additional data or extend the workflow. By default, they are inactive.

Expiry Dates

If the Company-level profile setting **Use expiry dates for batched and serialised items** is active, the system will offer and expect expiry dates to be entered on serial records if the **Item Expires** option is also checked on the Details 1 tab of the Stock item. Expiry dates are entered in the form dd.mm.yy.

Pre-Assignment

Pre-assignment is the process of linking or associating a serial number with a document prior to the workflow that generates a resulting stock transaction. This is normally a reversible process in that alternative serial numbers may be exchanged for pre-assigned ones at any time prior to creating the stock transitions.

Pre-assignment is optional and requires that the Company-level profile setting **Allow serial number pre-assignment** be activated.

Three processes may pre-assign serial numbers. These are:

- Inwards Goods – serial numbers can be entered in Inwards Goods Receipts and then recalled for processing during Inwards Goods Costing.
- Sales Orders – serial numbers can be entered at time of Sales Order Entry and then recalled for processing during supply.
- Stock Transfer Requests – when stock is moved to the In Transit location using the **Send** button (creates stock transactions) then if the pre-assignment profile is set, the selected serial numbers are tagged as assigned to the Request document until received into the destination location. This ensures that only the sent serials are processed on during the Receive process. This is especially useful where serials for a stock item may exist in the in-transit location for multiple transfer requests at any given time. On using the **Receive** button, the tagged list of in-transit serials is recalled for easy processing.

Pre-assignment has no effect on free stock levels or other stock calculations. By associating a serial with a document, the user can:

- Create a serial number record prior to actual stock transaction processing.
- Tag a serial to a particular document so that it is unavailable for selection on any other document.
- Allow rapid recall of the pre-assigned list at time of generating the stock transaction.

Note: The true document class link fields are not updated until a stock transaction is processed. In this way, if a serial participates more than once for a given document class (e.g. returned item sold on a subsequent Sales Order), the original link is not lost until overridden by the new stock transaction. De-assigning a serial number thus restores the history condition that existed previous to assignment.

- Pre-assignment is determined from the serial number property ISASSIGNED, which can be one of the following values:
- N - not assigned
- i - Inwards Goods (Supplier)
- Sales Order (Customer)
- q - Stock Transfer Requests (Internal)
- r - (Reserved for future use)

Note: These values are case-sensitive.

An assigned serial number will also have header and line level links in a pair of fields designated for this purpose. These are separate from the links associated with the particular document class. The assigned links have indeterminate values when ISASSIGNED = 'N' (i.e. they are not cleared after use). If using assignment links in Clarity then the query must explicitly test the ISASSIGNED field for the correct letter associated with the document class.

Serialised Costs

The serial numbers do contain a unit cost field. If the function is enabled, then the last cost from the last stock transaction affecting this serial number is stored with this serial number.

To enable this function, the profile **Use actual serialised cost for serialised items** must be activated.

Note: This is an advanced feature and its use is not recommended. There will be maintenance issues resulting from normal processing as the sum of costs from serial numbers will unlikely match the location total quantity times average cost of the item. This is a natural variance and not a fault in the software. Reconciliation issues will therefore arise. These costs should not be summed for stock valuation purposes however they do provide a form of line item history.

Bills of Materials

Exo Business provides some additional support for serial numbers when processing Bills of Materials.

The BILLCODE is stored in the field STOCK_SERIALNOS.KITCODE for participating serial numbers.

There is no logic to correlate or link output serial numbers to component serial numbers. In other words, the individual component numbers for an individual serial number of an output stock item is not determinable where the output quantity is greater than one. Serial numbers, both component and output, can be determined for a document.

When a bill of material is embedded within another document (e.g. Sales Order or Debtors Invoice) then the BOM type is relevant to the serialised actions taken:

A BOM of type “Kit” sells the component directly and does not manufacture an output item. A serial number will therefore not be requested for the OUTPUTCODE. The component lines are true sales lines and therefore serial numbers will be requested only if the stock item’s serial type contains the debtor attribute.

A BOM of type “Build” (manufactured) involves two simultaneous processing functions: manufacture (internal attribute) and sale (Debtor attribute). Serial numbers will be requested for items (both components and output) that have either internal and/or Debtor attributes.

If Exo Business were to apply exact rules of definition, then a BOM of type “Build” should theoretically not request serial numbers for components which do not contain the internal attribute (e.g. such as those marked Debtor only). This was deemed contrary to popular expectation where serial numbers for components of a manufactured item are often listed on the debtor invoice for documentation purposes only, even though the output item is the only stock code that is participating in the sale process.

The parent supply or invoice processes do not check for discrete multiples of a BOM across all components. For example, manufacturing five units where each require a component quantity of three does not enforce the supply or invoice quantities of that component to be a multiple of three. The row count for serials requested will simply derive from the supply or invoice quantities entered (as per a non-BOM line). Pre-assignment also works in the usual way.

Sales Order Workflow Add-on Module

The advanced kitting feature in the Sales Order Workflow add-on module provides for a BOM of type Build within a sales order to act as a one-off works order. BOMs in this module are always of type Build and manufacture an output item (usually serialised). The output item is then sold as a discrete unit. The module adds additional functionality (and complexity) to link any serialised components to the serialised output item. In this way the serial numbers of components used in assembly of a specific serialised output item can be identified. Note that integer quantities are required, as serialised items can’t have decimal fractions.

The core series of Exo Business products do not offer this component to output item linking.

Note: The fields involved (KITCODE, KITID_SERIAL, COMPNO and UNITNO) are listed in the table at the end of this document; these fields exist in non-Sales Order Workflow databases but are not maintained by any other module.

Serial Number Profile Settings

The following Exonet Config profile options are related to serial numbers. Most have been discussed in previous sections. They are listed here for completeness.

Company Profile Settings

Allow serial number pre-assignment – Permits pre-assignment on Inwards Goods Receipts, Sales Orders, and Stock Transfer Requests.

Disable serial number screen popup for inwards goods receipts with fully assigned serial numbers – Tick this setting to skip serial numbers screen from popping when inwards goods receipt have fully assignment serial numbers.

Enable serial number tracking – permits items to be serialised, and tracked within the various stock processing functions.

Enforce batch quantity checks – forces the selection of only valid batch quantities that exist in a particular location on an outbound transaction. Applies to batch numbers only.

Exclude stock items with serial numbers from stock take – this profile can be checked if serialised items are to be excluded in stock take setup. This can also be done from within the stock take setup screen.

Hide serial number on invoice – a superseded option that suppressed the old serial number logic that created comment lines with serial numbers on debtor invoice lines (DR_INVLINES).

Serial numbers creation on return – Controls the permissions for creating a serial number when returned from Customer or to Supplier. This profile offers a multiple choice.

Use actual serialised cost for serialised items – a custom-level feature not available to general users at present.

Use expiry dates for batch and serial numbers – adds support for expiry dates on batch or serial number records.

User Profile Settings

Allow assisted auto-population of serial numbers – Specify a string of characters to enable a series of Serial Number Processing functions.

- Y = Enable all Serial Number Processing Functions
- N = Disable all Serial Number Processing Functions
- S = Enable the Sequential button
- X = Enable the (n) Sequential button
- G = Enable showing the lower grid of pre-existing serials.

Allow serial number override – this enables the additional buttons on the stock items serial numbers tab. These permit manual creation/deletion of serial numbers without generating STOCK_TRANSACTIONS. This is used to correct the alignment of a serial number list with the stock levels reflected in STOCK_LOC_INFO.QTY. (Use with caution)

Database Table Structure

This section summarises the database field structure and other advanced information for use by Exo Business implementation staff.

Serial numbers in Exo Business products use a common screen form that caters for all transaction types.

Primary serial number information is stored in the table STOCK_SERAILNOS. This table has a primary key of SEQNO but the software validates that no duplicate serial numbers can be entered for the same STOCKCODE. The linking fields in this table maintain one level of history per document class.

The basic properties of this table are:

- Stock code
- Location
- Serial number
- Reference (additional alphanumeric number)
- Expiry date (optional use)
- INSTOCK property (replaces use of location = -1, see previous note)
- ISASSIGNED property (denotes document linkage prior to stock transaction)
- Actual cost (for custom use only – not for general release)
- Last updated

This table also contains four classes of fields that may form joins. These are:

- Account number (Debtor or Creditor).
- Document header (SEQNO of header table e.g. DR_TRANS, CR_TRANS).
- Document line (LINEID of document lines table. Note: this is not the prime SEQNO).
- For STOCK_TRANS table the SEQNO of last inwards and last outwards transactions.

Note: Additional fields may exist in the table for use by the enhanced kitting function in the Exonet Sales Order Workflow product. Exonet core products ignore these fields. These fields by name are KITCODE, KITID_SERIAL, COMPNO and UNITNO and form a relationship between serialised components and their serialised manufactured item.

For stock items of type "Full" it is expected that each STOCK_LOC_INFO.QTY equals the COUNT of STOCK_SERAILNOS where stock code and location match and INSTOCK = 'Y'. For stock items of other serial number types this will not usually be true. ISASSIGNED has no influence on this relationship.

It is expected that all relevant serial number information for a document line will be obtained utilising joins from related rows in document line tables to the matching group of rows in the STOCK_SERAILNOS table. Most relevant line tables now contain a non-volatile LINEID field. This field is set equal to the prime SEQNO of the row on initial insert into the table. Products published by Exonet ensure that these LINEID fields maintain their initial value when the row is updated, including the case when the row is deleted and reinserted. In this way a constant unique identifier exists for the life of the document line. Software produced by third parties must ensure this data integrity. The STOCK_SERAILNOS table utilises these fields for joins. Clarity sub-reports may be used to produce serial number lists per document line.

Note: Field SERIALNO in all these tables is not a primary key as it may be changed using the Edit Serial Numbers function. When changing a serial number this function will update the new audit tables where required.

TABLE STOCK_SERIALNOS

PRIMARY KEY (SEQNO)

INDEXED ON STOCK_SERIALNOS (STOCKCODE,SERIALNO)

Field Name	Field Type	Default Value	Allow Nulls	Description
SEQNO	INTEGER		NO	
STOCKCODE	VARCHAR(15)		NO	
SERIALNO	VARCHAR(50),		YES	
REFERENCE	VARCHAR(30),		YES	Additional note – no logic around this
EXPIRY_DATE	DATE	“TODAY”	NO	Additional note – no logic around this
LOCNO	INTEGER	“-1”	NO	Current Locno from Stock_Locations
ACTUAL_COST	DOUBLE PREC	0	NO	For future use - not implemented at this time
PURCHORDNO	INTEGER	“-1”	NO	Joins PurchOrd_Hdr.Seqno
SALESORDNO	INTEGER	“-1”	NO	Joins SalesOrd_Hdr.Seqno
CRINVSEQNO	INTEGER	“-1”	NO	Joins CR_Trans.Seqno
INVSEQNO	INTEGER	“-1”	NO	Joins DR_Trans.Seqno
JOBNO	INTEGER	“-1”	NO	Joins Jobcost_Hdr.Jobno
STOCKINSEQNO	INTEGER	“-1”	NO	Joins Stock_Trans.Seqno
STOCKOUTSEQNO	INTEGER	“-1”	NO	Joins Stock_Trans.Seqno
CR_ACCNO	INTEGER	“-1”	NO	Joins CR_Accs.Accno
DR_ACCNO	INTEGER	“-1”	NO	Joins DR_Accs.Accno
IGRLINESEQNO	INTEGER	“-1”	NO	Joins DR_Accs.Accno
JOBLINESEQNO	INTEGER	“-1”	NO	Joins DR_Accs.Accno
SALESORDLINESEQNO	INTEGER	“-1”	NO	Joins DR_Accs.Accno
PURCHORDLINESEQNO	INTEGER	“-1”	NO	Joins DR_Accs.Accno
CRINVLINSEQNO	INTEGER	“-1”	NO	Joins CR_Invlines.CRInvlineID
DRINVLINSEQNO	INTEGER	“-1”	NO	Joins DR_Invlines.DRInvlineID

INSTOCK	CHAR(1)	"Y"	NO	Is this serial number available for sale?
UNITNO	INTEGER	"-1"	NO	Used by Sales Order Workflow only
LASTUPDATED	DATE	"NOW"	NO	Date of the last movement
COMPNO	INTEGER	"-1"	NO	Used by Sales Order Workflow only
KITCODE	VARCHAR(50),		YES	BILLCODE for rows which are part of a Bill of Materials
KITID_SERIAL	VARCHAR(50),		YES	Used by Sales Order Workflow only
IGRSEQNO	INTEGER	0,	YES	Joins Inwards_Goods.Seqno
ISASSIGNED	CHAR(1)	"N"	NO	Is assigned to an active transaction in progress
SO_INVLINESEQNO	INTEGER	0,	YES	Joins Salesord_Lines.Seqno
SO_INVSEQNO	INTEGER	0,	YES	Joins Dr_Trans.Seqno
PO_INVLINESEQNO	INTEGER	0,	YES	Joins Purchord_Lines.Seqno
PO_INVSEQNO	INTEGER	0,	YES	Joins CR_Trans.Seqno
ASSIGNED_SEQNO	INTEGER	"-1"	YES	Is assigned to an active Hdr transaction in progress
ASSIGNED_LINESEQNO	INTEGER	"-1"	YES	Is assigned to an active Line transaction in progress
REQUESTSEQNO	INTEGER	"-1"	YES	Joins Stock_Requests.Seqno
REQUESTLINESEQNO	INTEGER	"-1"	YES	Joins Stock_Requestlines.Seqno
RMASEQNO	INTEGER	"-1"	YES	Joins RMAHeaders.Seqno
RMALINESEQNO	INTEGER	"-1"	YES	Joins RMALine.Seqno
STKMOVSEQNO	INTEGER	"-1"	YES	Joins Stock_Trans_Hdr.Seqno
STKMOVLINSEQNO	INTEGER	"-1"	YES	Joins Stock_Trans.Seqno
WORKSORDSEQNO	INTEGER	NULL	YES	
WORKSORDLINESEQNO	INTEGER	NULL	YES	
SU_SEQNO	INTEGER	NULL	YES	

Additional audit tables exist from version 6.187 and up to maintain indefinite serial number history. There are 3 tables:

- STOCK_TRANS_SERIALS – serial audit of STOCK_TRANS
- CR_INVLINES_SERIALS – serial audit of CR_INVLINES
- DR_INVLINES_SERIALS – serial audit of DR_INVLINES

These tables contain only linking data to join the primary serial numbers row to the transaction row. All properties are obtained from the linked transaction to prevent unnecessary data replication. For convenience the join to STOCK_TRANS is provided by a view.

TABLE STOCK_TRANS_SERIALS

PRIMARY KEY (SEQNO)

INDEXED ON (SERIALNO, STOCKTRANSSEQNO)

```
CREATE VIEW STOCK_TRANS_SERIALS_VIEW AS SELECT STS.SERIALNO, ST.* FROM
STOCK_TRANS_SERIALS STS LEFT JOIN STOCK_TRANS ST ON
STS.STOCKTRANSSEQNO=ST.SEQNO
```

Field Name	Field Type	Default Value	Allow Nulls	Description
SEQNO	INTEGER		NO	
SERIALNO	VARCHAR(50),		YES	Joins Stock_Serialnos.Serialno
STOCKTRANSSEQNO	INTEGER		YES	Joins Stock_Trans.Seqno

TABLE CR_INVLINES_SERIALS

PRIMARY KEY (SEQNO)

INDEXED ON (SERIALNO,INVLINEID)

Field Name	Field Type	Default Value	Allow Nulls	Description
SEQNO	INTEGER		NO	
SERIALNO	VARCHAR(50),		YES	Joins Stock_Serialnos.Serialno
INVLINEID	INTEGER		YES	Joins CR_Invlines.CRInvlineID
POSTTIME	DATETIME	Getdate()	NO	Row creation date & time

TABLE DR_INVLINES_SERIALS

PRIMARY KEY (SEQNO)

INDEXED ON (SERIALNO,INVLINEID)

Field Name	Field Type	Default Value	Allow Nulls	Description
SEQNO	INTEGER		NO	
SERIALNO	VARCHAR(50),		YES	Joins Stock_Serialnos.Serialno
INVLINEID	INTEGER		YES	Joins DR_Invlines.DRInvlineID
POSTTIME	DATETIME	Getdate()	NO	Row creation date & time