



**How To – Standard Costing** 



#### **DOCUMENT SUMMARY SHEET**

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## Introduction

## **Standard Costing in ADempiere, a Worked Example**

The following is a worked example of using Standard Costing in ADempiere to manage a fast moving inventory of memory modules where the cost of the modules changes frequently, the selling price of the modules is determined by the market and is not set as a consequence of the value ascribed to any particular merchants inventory.

Because inventory quantities are small and inventory turn is very large, there is a high probability of goods being shipped out to customers before the vendor invoice (with possibly a new cost for those goods) is processed into the accounts system. This out-of-order processing gives rise to the probability that items sold will be costed at the wrong price because the new price will not be available until the vendor invoice is processed. Because small inventory quantities are held there is a risk of 'negative" stock due to the out-of-order processing with really distorted inventory values arising as a result.

Using Standard Cost provides a degree of certainty of the value that will be ascribed to an item of inventory regardless of order of processing. The following example using the ADempiere ERP&CRM system will hopefully highlight the methods involved.

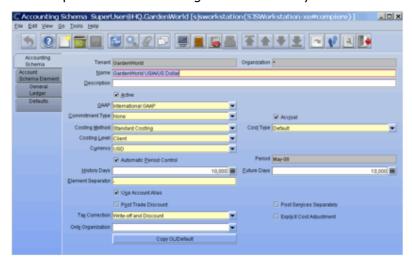


# 1 Accounting Set Up



# **Define Costing Method**

In ADempiere define the costing method for the system.



This means that all debits and credits to the inventory account will use the standard costing record value rather than some other value that may be being recorded such as average PO or average invoice.

# 1.1 Costing Set Up

Define costing information to be maintained for each product in addition to the standard cost.

The extra data is for information only and is not used to calculate inventory value or cost of sales.

#### **Grid View**



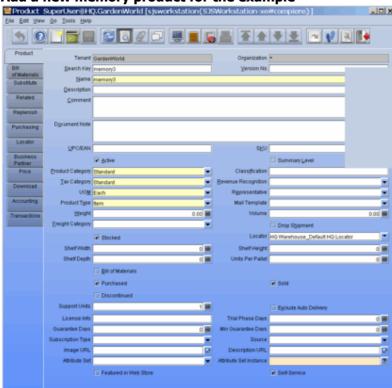
Single record view of a single record.





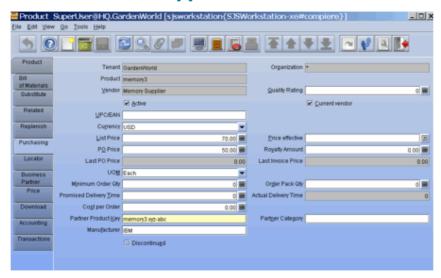
# 1.2 Add an Example Product

Add a new memory product for the example



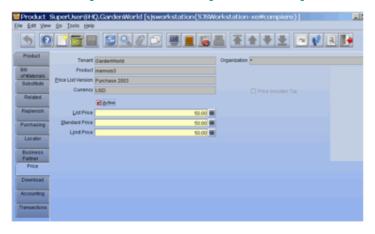


# 1.3 Set the default supplier information



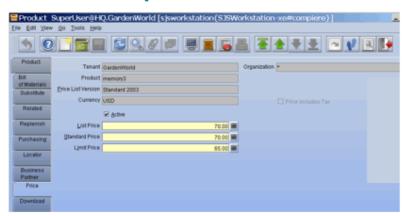
Add the suppliers part number etc to the record to be used on Purchase Orders if needed.

## 1.4 Add the product to a purchase price list:





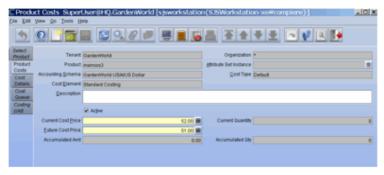
## 1.5 And to a sales price list



## 1.6 Define the standard cost for the product

– this will be used to cost all inventory transactions for this product until such time as a new cost is defined.

If new cost information has become available it can be stored in the 'future cost' field until the decision is made to run the process that sets the standard cost = to the future cost (alternatively the standard cost can be picked up from a price list or manually entered)



Here the current cost has been set to \$52.00 and the future cost to \$51.00 (because (say) a price reduction has been advised to us or the AUD has firmed) Note that we have set the price as \$50.00 on the purchase price list because this is what we want on the Purchase Order.



# **2 Acquiring Product from Suppliers**

## 2.1 Create a Purchase Order.

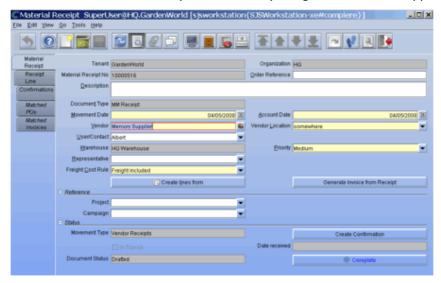
Note that there are three order lines. Line 1 is ordered for delivery on 7 May, line 2 for 14 May, line 3 for 21 May (at a slightly higher cost). The View that the print format uses does not have promise date in it so we will need to add it (a couple of lines of sql)





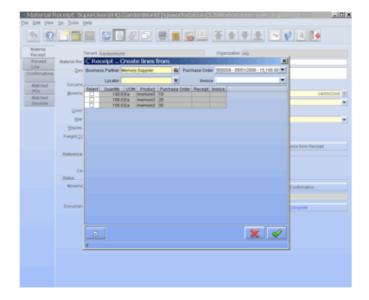
## 2.1.1 Create Material Receipt Header

This is to receive the first shipment. The only thing entered is the supplier code, the rest defaults.



## 2.1.1.1 Add the receiving lines by picking up the details from the Order

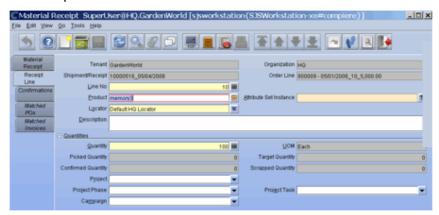
Click on Create Lines From button <see next page>





And select the first item on the list

The receipt line is added



More information can be added if needed.

#### Click the Complete button to process and increment inventory.

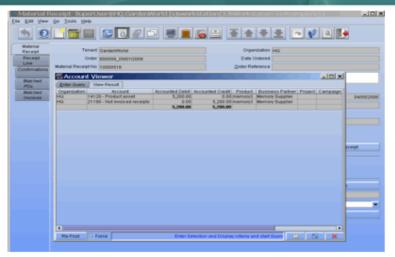
The created document (if you choose to print it) looks like:



The General Ledger Posting is as follows:

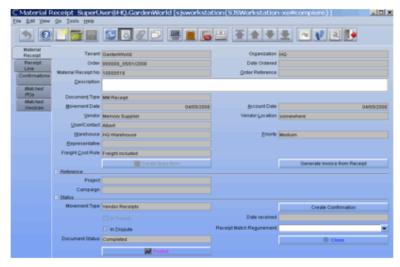
<see next page>





## 2.2 Create Vendor Invoice Record

Now close the Account Viewer form and click on the "Generate Invoice from Receipt Button":

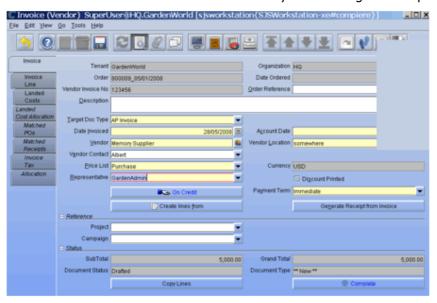




Follow the forms guidance, enter the invoice number and price list



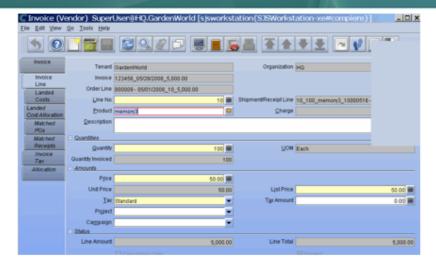
And the vendor Invoice is created in draft ready for checking and completing



#### 2.2.1 The Vendor Invoice Line

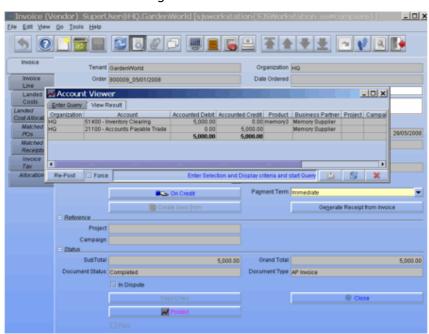
**The Invoice line shows the product received** and its cost based on the price list. If the price on the invoice is different it can be changed (subject to security rules) and if an extra line for (say) freight is required to balance to the actual suppliers invoice then it can be added also.





The invoice can now be Completed and Posted as follows.

#### The Vendor Invoice Posting



## **2.3** Invoice and Material Receipt Matching

The System will now do the accounting entries associated with matching the Material Receipt and the Invoice. (This is the standard "Goods Received but not invoiced" and "Goods Invoiced but not Received" type process).



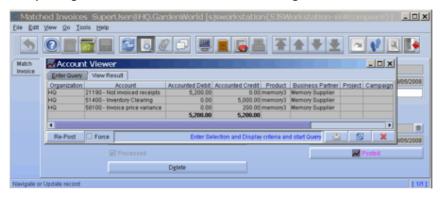
#### 2.3.1 Matched Invoice Record

A matching record is created which shows which material receipt relates to which invoice.



## 2.3.2 Matched Invoice Posting

The posting of the document shows the following



This indicates that the price on the invoice was \$200 less than the standard cost of the product  $(100 \times $52)$ . The difference is put to the P&L account called Invoice Price Variance as a gain. If a Freight bill arrived (which might be the cause of the difference because it was allowed in the standard cost then this would be debited to Invoice Price Variance account to reduce the apparent gain (or optionally to a freight inwards account).



# **3 Sales Transactions**

## 3.1 Sales Order

Process a sale of 20 Units of Memory3 to Adaxa

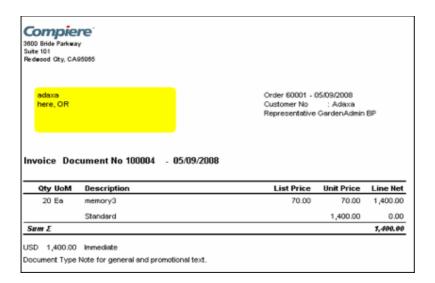
## 3.1.1 Sales Order Document



## 3.2 Sales Invoice

This creates a Sales Invoice as follows:





## 3.3 Material Shipment

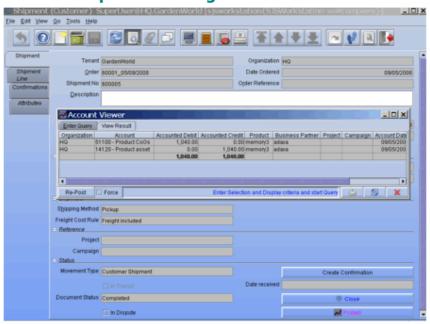
#### It also creates a Material Shipment



And the completed Material Shipment decrements inventory qty and debits cost of sales at Standard Cost.



## 3.3.1 Material Shipment Posting

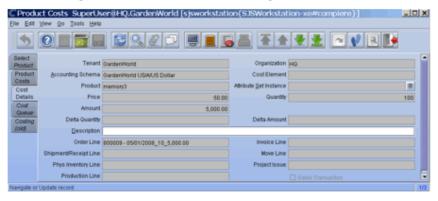




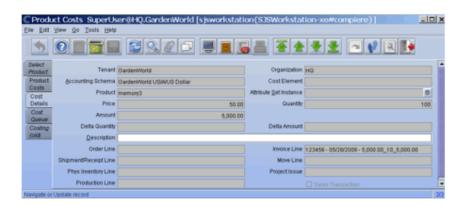
# **4 Product Costing Records**

# 4.1 Costing Windows

#### The Costing Records show the following



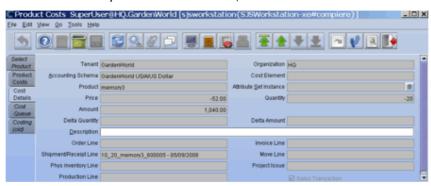
The order of 100 units at \$50.00



The Purchase Invoice Line of 100 units at \$50.00



The Customer Shipment of 20 units at \$52 standard cost



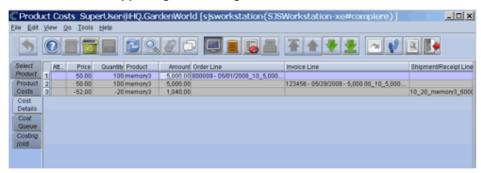
### Or in spreadsheet view:





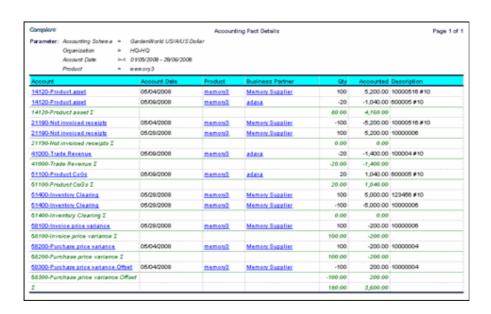
## 4.1.1 Cost Details supporting the Costing Records

The Cost Details supporting the Costing Records is shown in the next tab.



## 4.2 Accounting Transactions Generated To Date

The accounting transactions in the Inventory GL Account Show:



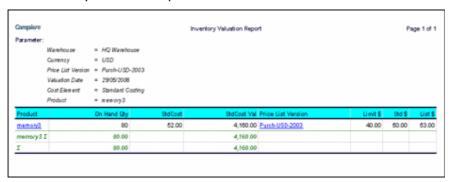
Note that it does not balance to zero because I selected for only the product memory3 so the Creditors control and debtors control transactions which do not include the product code in the line are excluded.

You can see that we have an inventory value of \$4160.00 being 80 at \$52.00.



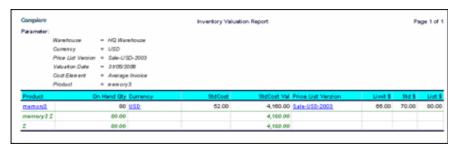
## 4.3 Inventory Valuation Report

The Inventory Valuation Report shows

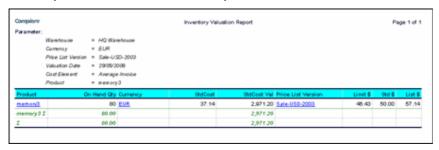


In this report, the on hand qty and std cost/value compared to the selected price list of Purch-USD-2003 which stores the Limit price (not relevant in PO situation), the Standard Price – the price we expect to pay, and the List Price – if the supplier has a List or RRP price.

The same report can be printed comparing the values to other price lists (eg sales price lists). In the sales price list the Limit Price is price below which a user without extra authority can not sell below.



Similarly the report can be selected in Other Currencies (such as EUR in the case below). The currency conversion rate set in the system for the relevant date is used for the conversion.



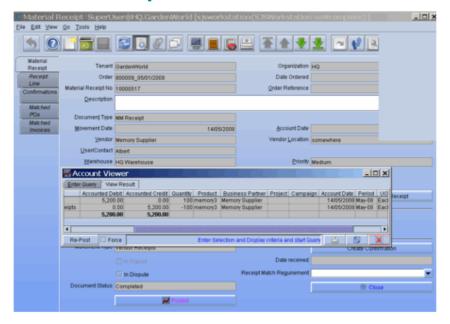


# **5 Additional Purchases and Sales**

#### Assume we now buy and sell some more inventory.

We receive a further 100 units from our initial order as at 14 May but the price has changed for some reason.

# **5.1** Material Receipt

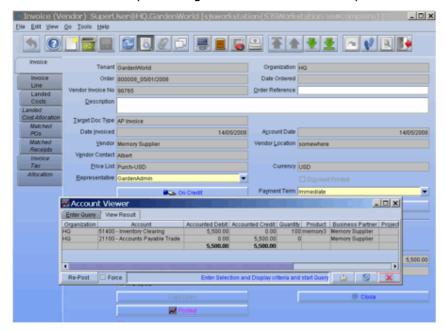




## 5.2 Vendor Invoice

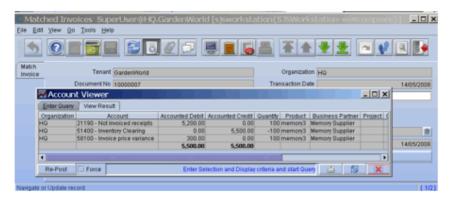
The Invoice is received and entered.

For some reason the price has gone to USD55.00 and the price increase is authorised.



# 5.3 Invoice / Receipt Matching

The Receipt Matching takes place

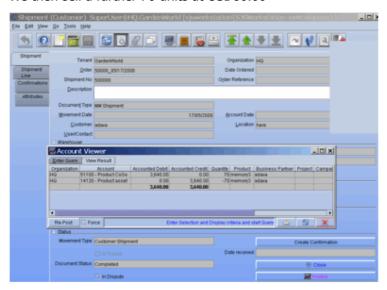


And there is a \$300 debit to Invoice Price Variance because the purchase price was greater than the current Standard Cost for the product. This represents a loss since the standard cost is the cost we should have bought them for.



## **5.4** Sales Order

We then sell a further 70 units at USD80.00

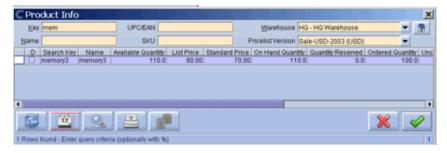




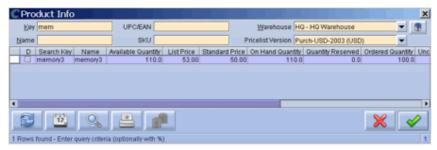
# **6 Product Information**

## 6.1 The Product Info Window

The **quick >View >Info > Product** now lets us see a quick view of the quantity of stock on hand, reserved and available for sale in each of our warehouses and the prices applicable on each of our price lists.



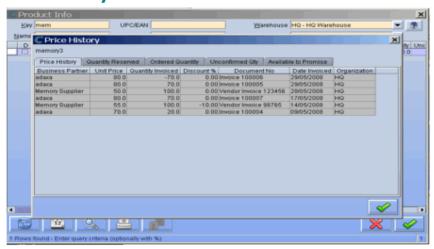
This is the same information with the Purchase price list selected (there is no limit on the number of price lists)



The same window also displays a quick history of recent purchase and sale transactions and their prices.

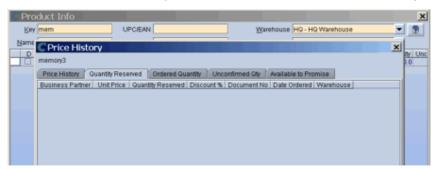


### **6.1.1** Price History



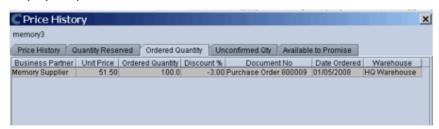
## **6.1.2** Reserved Inventory

And also shows a list of any orders for which there is reserved stock (None shown here)



#### **6.1.3** On Order from Vendor

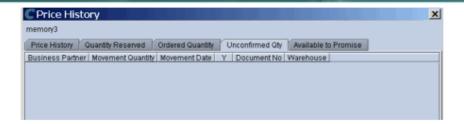
Displays any items that are still on a Purchase Order and undelivered



## **6.1.4** Awaiting a QA Process

Displays any goods that have been received but not yet passed the incoming QA process





### **6.1.5** Available to Promise

Displays what is available to promise and when (although there is a small bug as it is displaying the PO date not the promised date from the order line – we have to fix this)



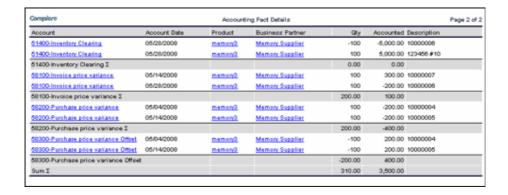


# **7 Current Accounting Position**

# 7.1 General ledger Listing

Looking now at the Accounting transactions related to this product we see the following:

Conquiere			Accounti	ng Fact Details			Page 1 of
Parameter: Accounting Schem		GardenWorld US/A/US I	Dollar				
Organization		HQ-HQ					
Account Date	344	0 1/05/2008 - 02/05/2009	•				
Product	-	тетогу3					
Account		Account Date	Product	Business Partner	Qty	Accounted	Description
14120-Product asset		05/04/2008	memory3	Memory Supplier	100	5,200.00	10000518 #10
14120-Product asset		05/09/2008	memon/3	adaca	-20	-1,040.00	600005 #10
14120-Product asset		05/14/2008	memon/3	Memory Supplier	100	5,200.00	10000517 #10
14120-Product arret		05/17/2008	mamon/3	adasa	-70	3,640.00	500000 #10
14120-Product asset Σ					110.00	5,720.00	
21190-Not invoiced receipts		05/04/2008	memon/3	Memory Supplier	-100	-5,200.00	10000516 #10
21190-Not invoiced receipts		05/14/2008	memon/3	Memory Supplier	100	5,200.00	10000007
21190-Not invoiced receipts		05/14/2008	memon/3	Memory Supplier	-100	-5,200.00	10000517 #10
21190-Not invoiced receipts		05/28/2008	memon/3	Memory Supplier	100	5,200.00	10000006
21190-Not invoiced receipts	Σ				0.00	0.00	
41000-Trade Revenue		05/09/2008	memon/3	adaca	-20	-1,400.00	100004 #10
41000-Trade Revenue		05/17/2008	memon/3	adaca	-70	-5,500.00	100007 #10
41000-Trade Revenue		05/29/2008	memon/3	adava	-70	-5,600.00	100005 #10 ((100006 <-))
41000-Trade Revenue		05/29/2008	memon3	atava	70	5,600.00	100008 #10 ([->100005])
41000-Trade Revenue Σ					-90.00	-7,000.00	
51100-Product CoOs		05/09/2008	mamon/3	adasa	20	1,040.00	600005 #10
51100-Product CoOs		05/17/2008	memon/3	adava	70	3,640.00	500000 #10
51100-Product CoGs Σ					90.00	4,680.00	
51400-Inventory Clearing		05/14/2008	memon/3	Memory Supplier	100	5,500.00	98765 #10
51400-Inventory Clearing		05/14/2008	memon3	Memory Supplier	-100	-5,500.00	10000007
Complerelli		Supertine	@40.GardeWorld by	worksiałon(SaSWronksialon vadcom	olevel]		May 29, 2008 SABAB PM B





## **7.1.1** Current Stock Position in Accounts

As can be seen there is now stock of 110 @ \$52.00 = 5720.

(You will notice in account 41000 that an invoice was created and reversed because it was on the wrong date).

Price Change Handling



# **8 Product Price Change**

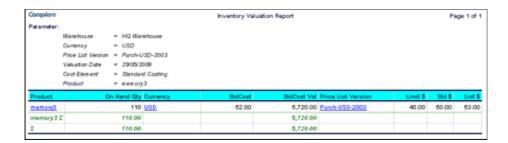
Assume that we are advised by our supplier that the price of memory3 has dropped to \$45.00

## **8.1.1** Inventory Valuation Rules

Under our accounting standards we are obliged when reporting to value inventory at the lower of cost, market or realisable values. So, under the accounting rules we should value all memory3 at \$45.00 regardless of when we bought it. This makes sense since in a well informed market our customers will be expecting to see a selling price that is relevant to the new cost of \$45.00.

## 8.2 Before Recording Changed Value

- Ensure all documents are completed and posted.
- Run an inventory valuation report.



# 8.3 Recording the Changed Inventory Value in the Accounts

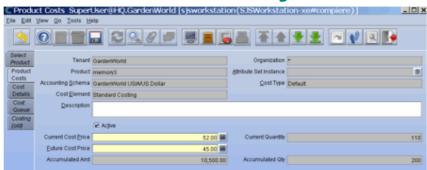
We can enter the change in a number of ways.

We could:

- overtype the value in the cost record.
- set all the new standard costs in the "future cost" as below.



### 8.3.1 Future Cost set in Standard Costing Record

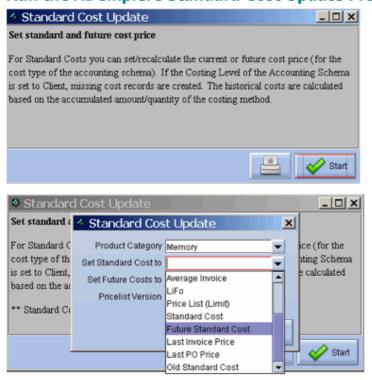


## 8.3.2 Importing Standard Costs

We could also gather all the information in a spreadsheet and import into a price list then run the process to update standard costs from the price list.

## 8.4 Example: Updating from the "Future Cost"

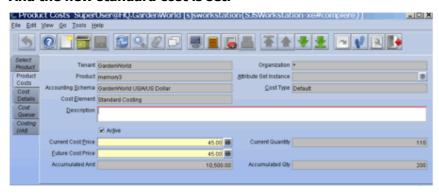
## 8.4.1 Run the ADempiere Standard Cost Update Process







#### And the new standard cost is set.



## 8.5 Recording the Inventory Value Change by Journal

We now need to **process a journal** to reduce the inventory value by

 $110 \times (45-52) = (770)$ 

This can be done by entering a single journal

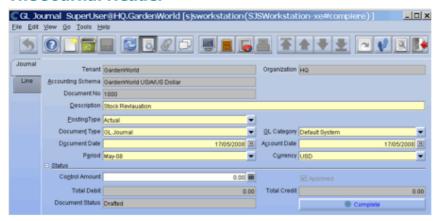
- Debit cost of sales 770.00
- Credit inventory (770.00)

Or optionally a journal line can be created for each product if product is made a component of the account code. Journals with many lines are quite easy to import. If a journal line per product is entered then the value of inventory per product can be maintained in the general ledger. For most organisations this is overkill but it can be done if required.

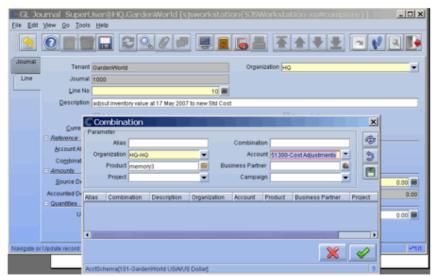
The following example is "by product"

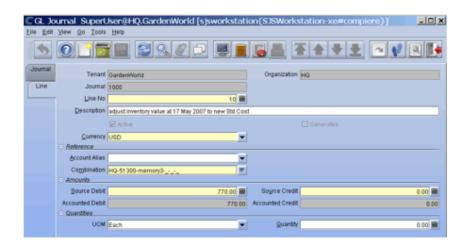


#### **8.5.1** The Journal Header



#### 8.5.2 The Journal Line





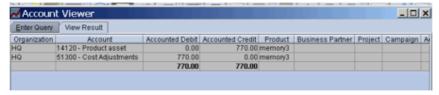


## **8.5.3** Journal Line Report

#### Report

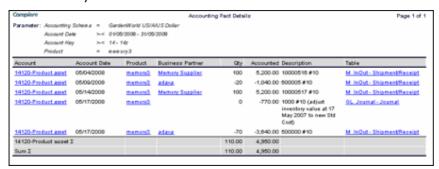
Compolere		Jos	urnal Line	Page 1 of
Parameter: Journal Line = 1000000				
Line No Combination	Acct Debit	Acct Credit	Account Date	Description
10 HQ-14120-memory3	0.00	770.00	05/17/2008	adjust inventory value at 17 May 2007 to new Std Cost
10 HQ-51300-memory3	770.00	0.00	05/17/2008	adjust inventory value at 17 May 2007 to new Std Cost
Σ	770.00	770.00		

### 8.5.4 Journal Posted



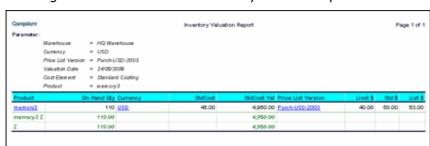
## 8.5.5 New Inventory Value – Ledger Report

The inventory value in the GL is now decremented to the new std cost.



## **8.5.6** Inventory Valuation Report Agrees

The ledger is consistent with the inventory valuation report from the inventory tables.





# **9 Customer Transaction Queries**

### 9.1.1 Customer Query Window

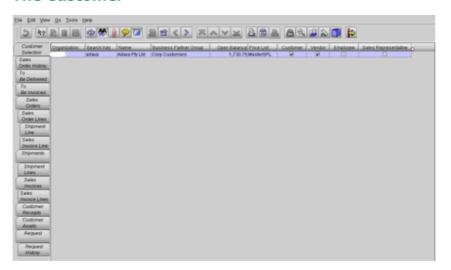
[Note: The following screen shots are from a live system which is used to sell mobile phone services. It is an older version of the software and the account is a real account for Adaxa at that shop. Some transactions are test transactions entered by Adaxa in its own account].

A Window allows selection of a customer by wildcard from a list. In the screenshot below, Adaxa has been selected.

The various tabs on the left hand side show the information able to be displayed in this window.

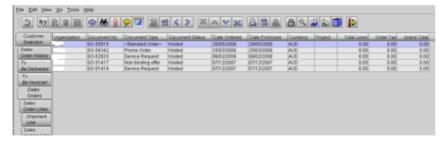
The window is not standard ADempiere but has been created using ADempiere's data dictionary and has NOT required any code changes to create.

#### **9.1.1.1** The Customer



#### 9.1.1.2 Sales Orders

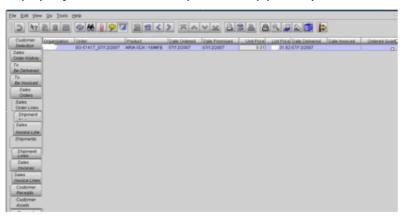
Selecting the tab "Sales History" lists all sales orders to this customer with most recent first.





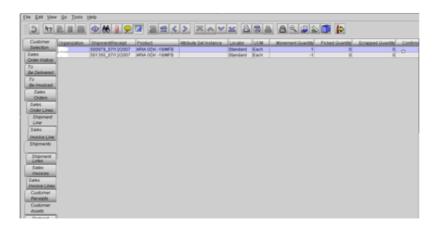
#### 9.1.1.3 Sales Order Lines

The next tab shows the **sales order lines** from the selected order (it could also just have displayed just the order lines by order or by product).



## 9.1.1.4 Shipments for these Order Lines

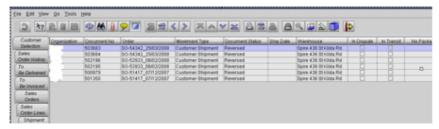
The next tab shows the **shipments** associated with the order line. Each document can be zoomed to from the displayed line.





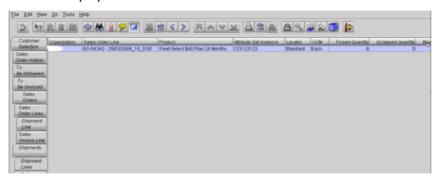
## **9.1.1.5** All Shipments of the Customer

This tab shows all **shipment**s (not just the ones related to a previously selected Sales Order as above)



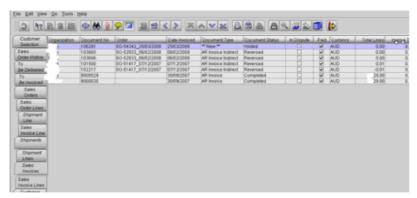
## 9.1.1.6 Shipment Lines of the Selected Order

This tab shows the **shipment lines** for the selected shipment. Each document can be zoomed to from the displayed line.



### 9.1.1.7 Invoices to this Customer

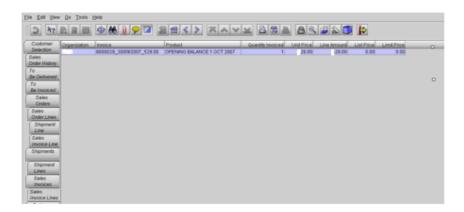
This tab shows **invoices** raised to the Customer





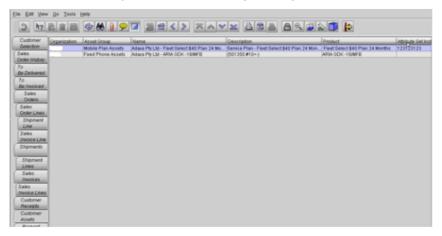
#### 9.1.1.8 Invoice Lines

This tab shows **invoice lines** for the selected invoice above. Each document can be zoomed to from the displayed line.



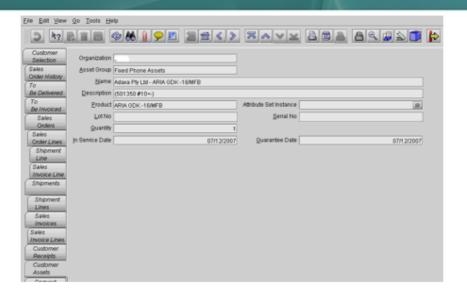
#### 9.1.1.9 Assets of this Customer

This tab shows the **Asset** record created when a product from a Product Category which has an asset group association was shipped (basically anything with a serial number or a warranty period or a downloadable piece of software etc). This spreadsheet view shows all assets of the customer



This form view shows the details in a more readable format. There are many more fields of information in the record and many have been 'undisplayed' in this system.







# 10 Adaxa's Offices and Contacts

Information of a general nature about Adaxa and its services can be found at <a href="www.adaxa.com">www.adaxa.com</a> or obtained by sending an email to <a href="mailto:info@adaxa.com">info@adaxa.com</a> with a description of the information that you would like to receive. If you are an existing client and wish to initiate a request for software support please send an email to <a href="mailto:helpdesk@adaxa.com">helpdesk@adaxa.com</a> with as much detail as possible about the nature of your support request.

For all other information please contact the Adaxa office nearest to you.

### **Australia**

Address: 10 Kylie Place, Melbourne, Victoria, 3192, Australia

Contacts: Office

1300 990 120 (Within Australia)

+613 9510 4788 (Outside of Australia)

### **New Zealand**

Address: 73 Boston Road, Mt Eden, Auckland, 1023, New Zealand

Contacts: Office

• 0800 232 922 (Within New Zealand)

• +649 9744 600 (Outside of New Zealand)

### **United States of America**

Address: 4400 NE 77<sup>th</sup> Ave, Suite 275, Vancouver, WA 98662, USA

Contacts: Office

+1 760 576 5115