

LabSpeed Precious Metals Feature Add-In



LabSpeed

Precious Metals

User Guide

Topos Technologies

PRECIOUS METALS OVERVIEW3

GOLD VALUATION LABSPEED TEMPLATES.....4

GOLD FORM VIEW5

PRECIOUS METAL SETUP12

CREATING A NEW PRECIOUS METAL FORM.....19

MONITOR MODE20

Precious Metals Overview

The Topos Precious Metal Form is a special feature LabSpeed Add-In that adds an interactive View for XRF analyzers (such as SPECTRO xSort™ handheld or the SPECTROTEST™ mobile analyzer) that assay for gold, silver or other precious metal in items such as jewelry, coins, flatware and dental crowns.

Use LabSpeed Precious Metals Form To:

- Combine the assay outputs of an XRF Analyzer and RS-232 scales into a single form
- Automate the price calculation and generation of the final customer report.
- Create a database of customers, results, item descriptions and notes for later retrieval and report generation (coming soon).

Key LabSpeed Precious Metals Features Include:

- Definable for use with any Precious Metal, such as Gold, Silver and Platinum
- In Monitor configuration, the analytical results are detected automatically; or the Form can be used with saved analytical data.
- Automatically Imports Item weights from the Ohaus® Adventure Pro Balance and other scale with RS-232 interface. Item weights can also be entered by hand
- Definable formulas for calculating the actual price, adjusted price and an optional calculation, such as Karats for Gold.
- Quick connect to a favorite website to obtain the latest Market Price
- One-click import of item picture
- Selectable list of Item Descriptions. New Item Descriptions are automatically added to the list for later selection
- Customer Information for multiple items
- Single-Click generation of Final Report. In Monitor configuration, the report can be automatically printed before continuing to the next analysis

Gold Valuation LabSpeed Templates

Once installed, two Gold Valuation Templates appear in the Client Template lists for supported instruments (e.g. SPECTRO xSort™ handheld XRF and SPECTROTEST™ mobile analyzer).

1. Gold Valuation
2. Monitor Gold Valuation

Use these templates to automate the price calculations for Gold from the XRF results and to generate customer reports.

The *Gold Valuation Template* is used to browse samples that have been stored in files and thus to calculate prices and generate reports from historic data. It contains two Views:

1. Gold Form – The Special Interactive Gold Form View
2. Gold Report - A standard LabSpeed Report created to display the Gold Form contents in a nice report layout

The *Monitor Gold Valuation Template* is used to monitor the output from live analyses and to automatically import the data into the Form and automatically print the report. It contains three Views:

1. Monitor Status View – The Start/Stop Monitor View with Monitor Status
2. Gold Form – The Special Interactive Gold Form View
3. Gold Report - A standard LabSpeed Report created to display the Gold Form contents in a nice report layout

Gold Form View

Name	Type	DateTime	Method	Filename	Base	GradeMode	GradeID
parker-4	Single	3/20/2009 12:13:18 PM	Light Elements 10	Result Au.asc	Au	Off	
parker-4	Single	3/20/2009 12:14:34 PM	Light Elements 10	Result Au.asc	Au	Off	
parker-4	Single	3/20/2009 12:14:52 PM	Light Elements 10	Result Au.asc	Au	Off	
parker-4 (Ave.)	Ave	3/20/2009 12:15:03 PM	Light Elements 10	Result Au.asc	Au	Off	

Gold Form View

The Form is interactive. Sample Weight, Gold Market Price, Price Adjustment Factor and Customer Information is entered for each sample result before the report is generated by selecting the *Submit Changes* button.

Setup Precious Metal...

The precious metal is defined and the Form defaults are setup by clicking the Setup button. This will be described in detail later.

Form Features


- Sample weights may be entered manually, or imported from an electronic scale, such as the Ohaus Adventure Pro Balance™.
- Customer information may be entered and applied to multiple samples.
- Market Price may be obtained from a link to your favorite web site.
- Karats may be optionally calculated from the Analysis result
- Formulas may be entered to calculate the Actual Price and an Adjusted Price
- A Factor may be applied to control the Adjusted Price
- A Description may be entered and a Picture imported for the report
- Notes may be entered for the report
- Status and instructions are displayed for ease of use
- Previous and Next Sample buttons are available for traversing a sample list

Price Calculation


Actual Price (\$) Σ	Price (\$) Σ	Factor (%)	Karats Σ
740.78	518.55	70	22.20
Element	Result (%)	Weight	Weight Units
Au	92.70	.56	oz
<input type="button" value="Get Weight"/>			

The Actual Price for Gold is dependant on the sample analysis result (usually measured in weight %), the market price for Gold (usually in units of \$/oz) and the sample weight (usually in oz). The units are important, but it is possible to work in any weight units, such as grams, by modifying the price *formulas* to include conversion factors.

Actual Price (\$) - The total price value of the gold sample. Click on the Σ button to view and modify the current formula that calculates the Actual Price.

Price (\$) - The adjusted price. Click on the  button to view and modify the current formula that calculates the Price. By default, the adjusted Price is calculated by applying a simple Factor to the Actual Price.

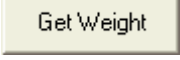
Factor (%) - A user-entered factor that may be used in Price formulas. By default it is set to 70% and used to calculate the Adjusted Price to be the Actual Price discounted by 30%. You may enter any adjustment factor here and use it for whatever purpose in the price formulas.

Karats - Karats is an optional *Secondary Calculation*. The secondary calculation may or may not be used depending on the precious metal defined. Click on the  button to view and modify the current formula that calculates the Secondary Calculation. The label for the secondary calculation is defined in Form Setup.

Element - The Element is obtained from the sample data. It is defined in the Form Setup.

Result (%). This is the XRF Analysis result, which is obtained from the sample data. It is defined in the Form Setup.

Weight - The sample weight may be entered manually, or imported from an electronic scale.

The scale is defined in Form Setup. If a scale is defined, then the  button will be enabled. Clicking the button will import the weight and weight units from the scale.

Weight Units - If an electronic scale is not used, weight units may be entered. These are used in the final report and not used in formulas.

Market Price

Get Market Price	Market Price (\$) 1,427.00
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The Market Price for Gold is the price per unit weight, which is in ounces by default. It can be entered in any units, such as ounces or grams but for simplicity, Market Price units should match the units for sample weight. If the Market Price and sample weight units don't match (for

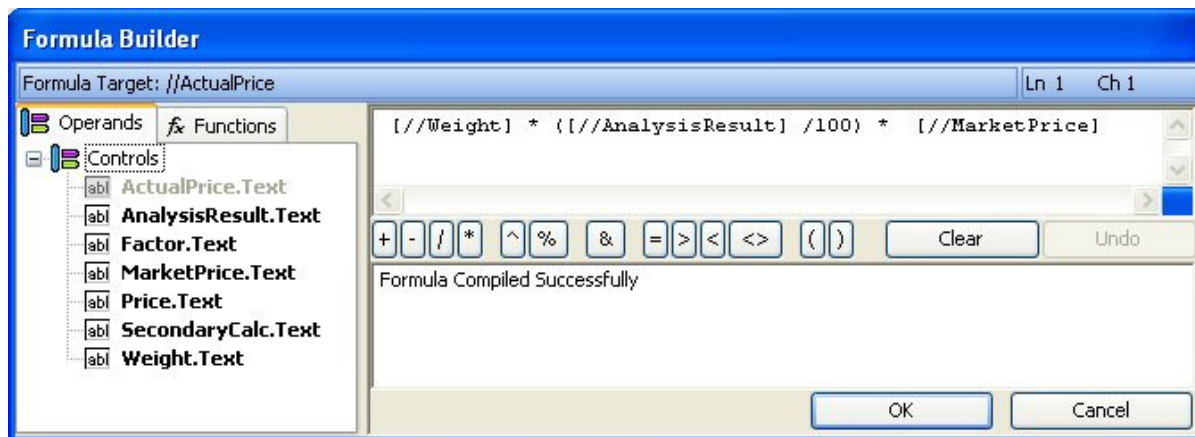
example the Market Price is \$/oz and the sample weight is grams), the price formulas should be modified to account for the conversion to a common weight unit.

Formulas

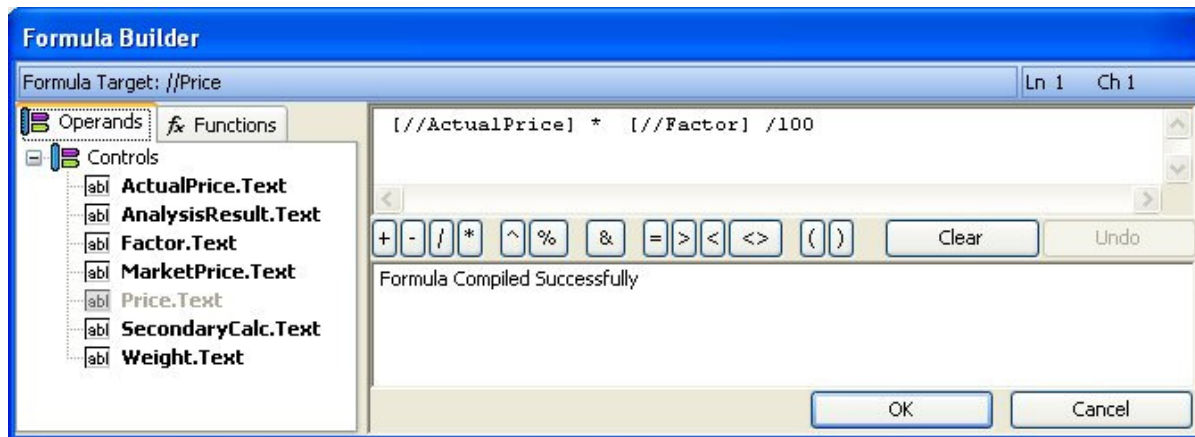
Formulas may be viewed and modified for calculating the Actual Price, Price and Karats. The LabSpeed formula builder is described in detail in LabSpeed Help; the process is the same here.

To access the formula for one of these values, click the Σ button in the field label. The following shows the formulas for each value by default and it may be modified by you. Notice Karats formula uses a function to round the answer to 1 decimal place.

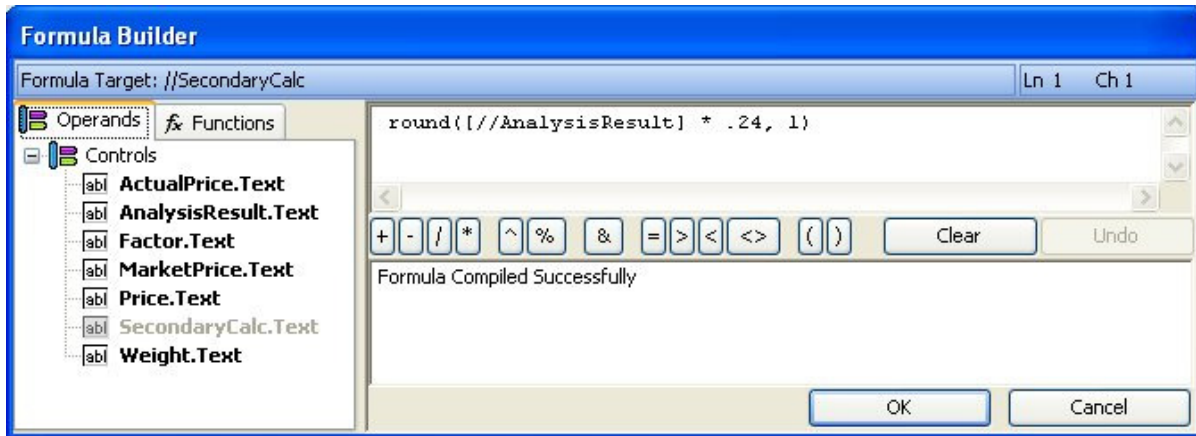
Actual Price



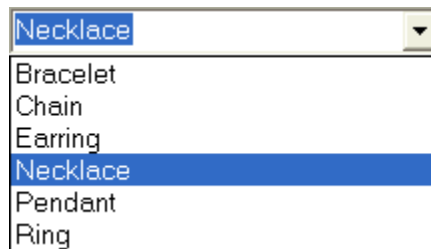
Price



Karats (Secondary Calculation)



Item Description



The Item description describes what the item is. You may select one from the drop down list or enter your own. If an Item Description is new, it will be added to the list so it will be selectable for future samples. The Item Description will be included in the final report.

Picture



A picture of the item may be imported by clicking *Import Picture*.. A picture may be removed by clicking *Delete Picture*. The picture will be included in the final report.

Notes

Notes may be entered for additional information about the item analyzed. Notes will be included in the final report.

Customer Information

The screenshot shows a web-based form titled "Customer Information". At the top, there are three buttons: "New Customer...", "Copy Customer", and "Paste Customer". The form fields are as follows:

First Name	Last Name	
Thomas	Smith	
Company		
Street	City	
845 Infinity Drive	Akron	
State/Prov	Postal Code	Country
OH	24356	USA
Phone	(888) 555-1212	
Fax	()	
Email	tsmith@comunicat.net	

Customer information is entered on a sample-by-sample basis. However, the assumption is that the customer information does not change as new samples are analyzed. To clear the customer information for a new customer, click the *New Customer...* button. In addition, if desired, customer information may be copied from one sample to another. Click the *Copy Customer* button to copy the current customer information, then go to another sample whose customer information is the same and click *Paste Customer*.

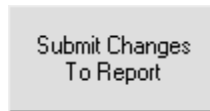
State and Country fields are selectable from a dropdown list. New states and new countries will be added to the list, so they will be selectable for future customers.

Previous and Next Sample Analysis



Many times the output file from the XRF analyzer will contain more than one sample. For example, it may contain several items analyzed for the same customer. Once the form for one analysis is completed, continue to the next sample by clicking *Next Sample >*. To return to a previous sample, click *< Previous Sample*.

Submit Changes to Report




Once all the forms have been filled out for all samples, click *Submit Changes To Report*. All entered information will be provided to all other Views in the Session. Typically, the Template will contain a Report View. After clicking *Submit* the Report will be populated and ready to print.

Note: In the Monitor mode, the report will automatically print (if it has been set up to automatically print) and the next sample analyses will be loaded when available.

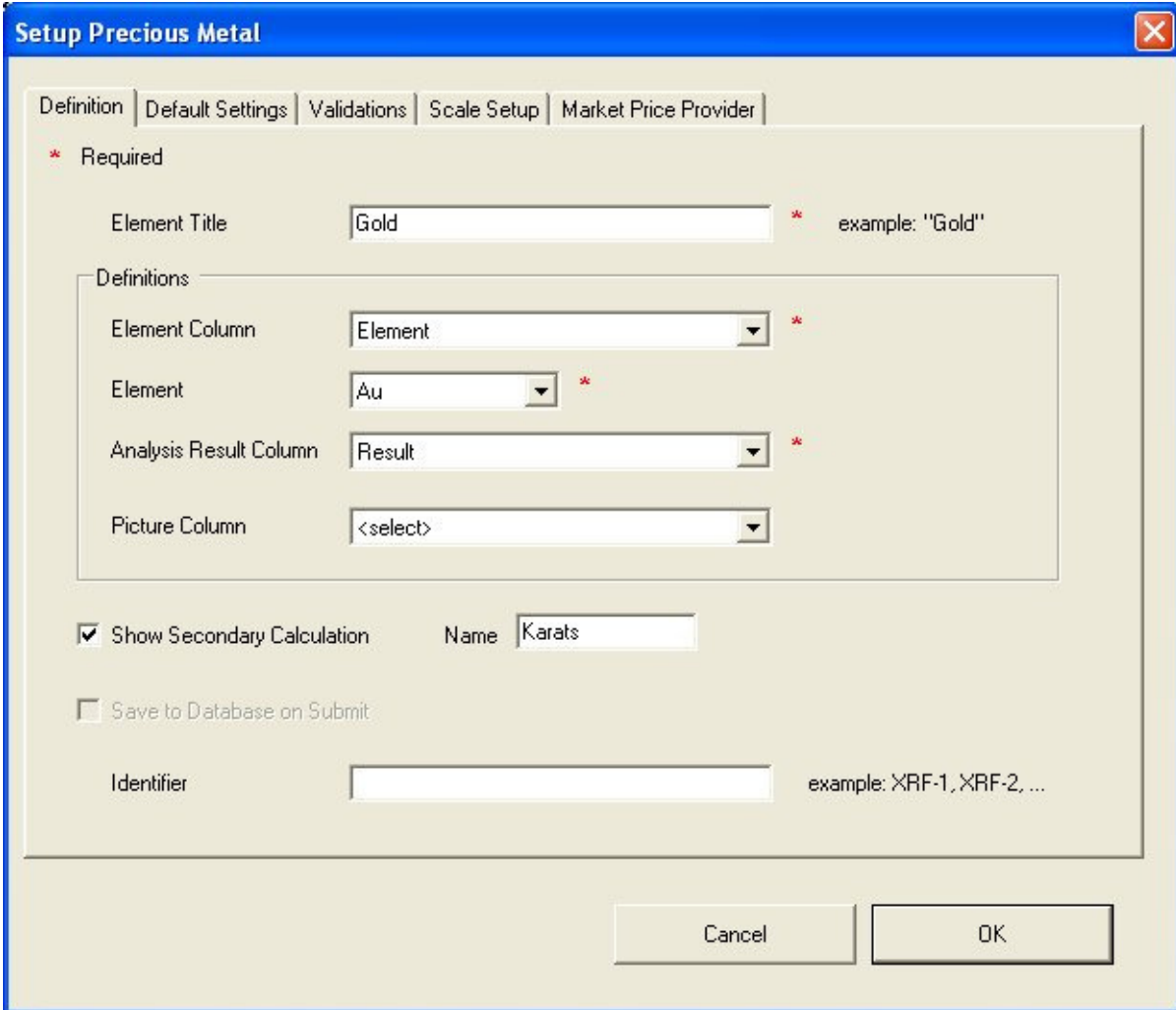
Precious Metal Setup

Setup Precious Metal...

Click the  button to define the precious metal and setup other defaults and behaviors.

Definition

The Gold Form has been pre-setup to map to results generated by the SPECTRO xSort™ handheld and the SPECTROTEST™ mobile XRF analyzers. If you are using a different analyzer you may need to remap some of these fields.



Setup Precious Metal

Definition | Default Settings | Validations | Scale Setup | Market Price Provider

* Required

Element Title * example: "Gold"

Definitions

Element Column *

Element *

Analysis Result Column *

Picture Column

Show Secondary Calculation Name

Save to Database on Submit

Identifier example: XRF-1, XRF-2, ...

Cancel OK

In order to set the element definitions and field maps, a sample analysis that contains the precious metal of interest must be part of the Session data.

Element Title	This is a display title for the Form and is also available for reporting.
Element Column	Select from the dropdown list of columns. Choose the one that contains the element symbol.
Element	Select from the dropdown list of elements (e.g. Au)
Analysis Result Column	Select fro the dropdown list of columns. Choose the one that contains the element concentration or result (usually in weight %)
Picture Column	This is unusual, but sometimes the picture is stored with the data. If so, select from the dropdown list of columns and choose the one that contains the picture. If this column is defined, the picture will automatically be imported along with the result.
Show Secondary Calculation	Choose to show a secondary calculation on the Form. For Gold, this is used to calculate and display Karats. If you choose to show a secondary calculation, enter an appropriate Name.
Save to Database on Submit	(coming soon in a future release). Select this to automatically save all form data to a database for later retrieval.
Identifier	If there are multiple XRF stations, you may wish to tag each station with an identifier. The identifier is available for reporting.

Default Settings

Set up some recurring defaults and set Locked Session behavior.

The screenshot shows a Windows-style dialog box titled "Setup Precious Metal" with a close button (X) in the top right corner. The dialog has four tabs: "Definition", "Default Settings" (which is selected), "Validations", "Scale Setup", and "Market Price Provider".

Under the "Default Settings" tab, there are two main sections:

- Defaults (Optional)**: This section contains four input fields:
 - "Price Factor (%)" with the value "70" entered.
 - "State/Prov" with an empty text box.
 - "Country" with the value "USA" entered.
 - "Picture Folder" with the path "C:\Documents and Settings\Topos Technologies\My Documents\My Pictures\" entered. To the right of this field is a blue "Browse" button.
- When Session is Locked**: This section contains two checked checkboxes:
 - Allow change to Market Price
 - Allow change to Factor

At the bottom of the dialog are two buttons: "Cancel" and "OK".

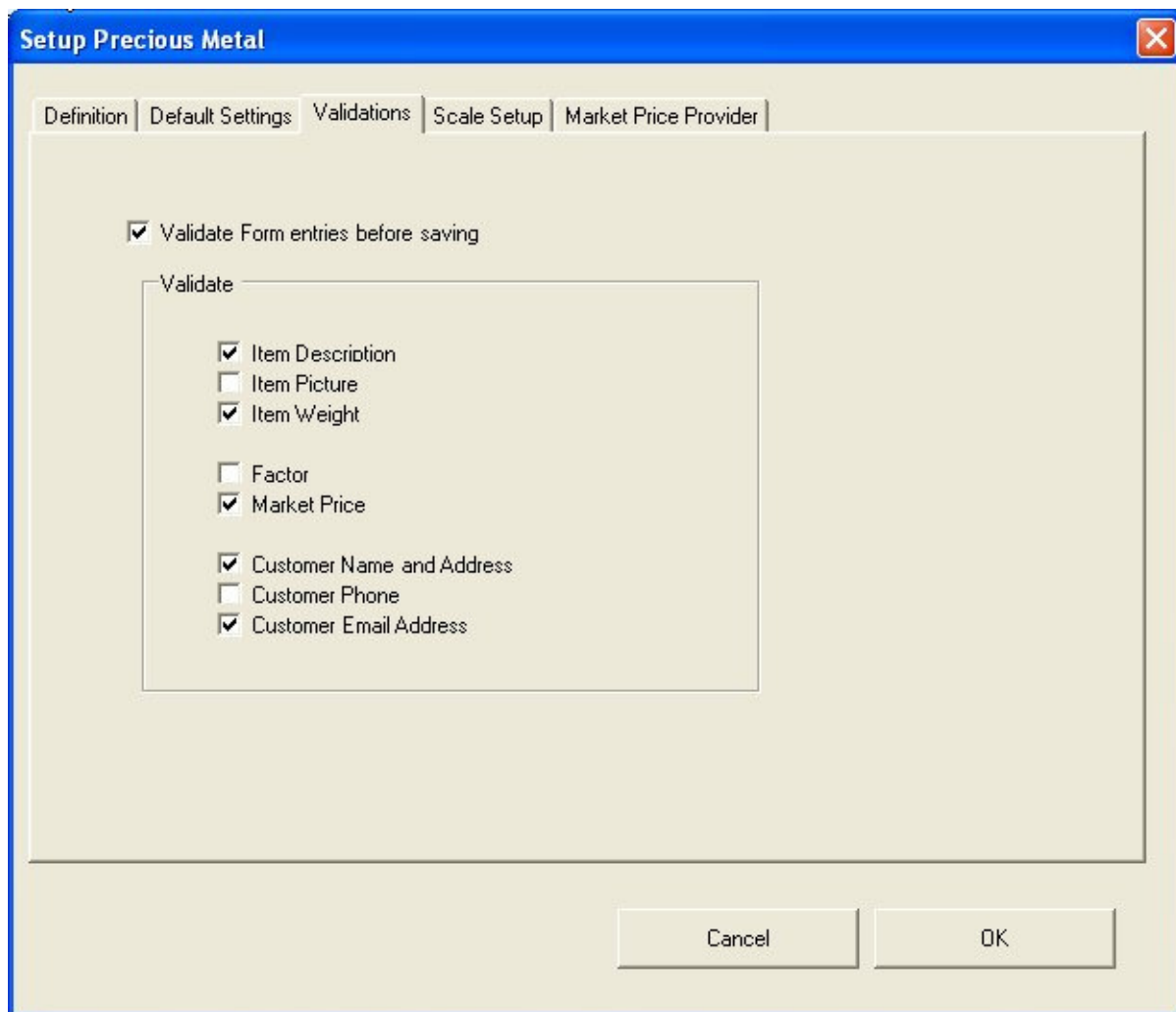
- | | |
|-----------------------|---|
| Price Factor | A factor that is used in Price calculations. Usually it is used as an adjustment to the Actual Price. The default is 70%, which when multiplied by the Actual Price, produces a Price which is 30% lower. |
| State / Prov | The default State in Customer Information |
| Country | The default Country in Customer Information |
| Picture Folder | The default directory where item pictures are stored. When import Picture is clicked, this is the directory that will come up first. |

Session Locked – Allow change to Market Price When the Session is Locked, check this to allow changes to the Market Price.

Session Locked – Allow change to Factor When the Session is Locked, check this to allow changes to the Factor

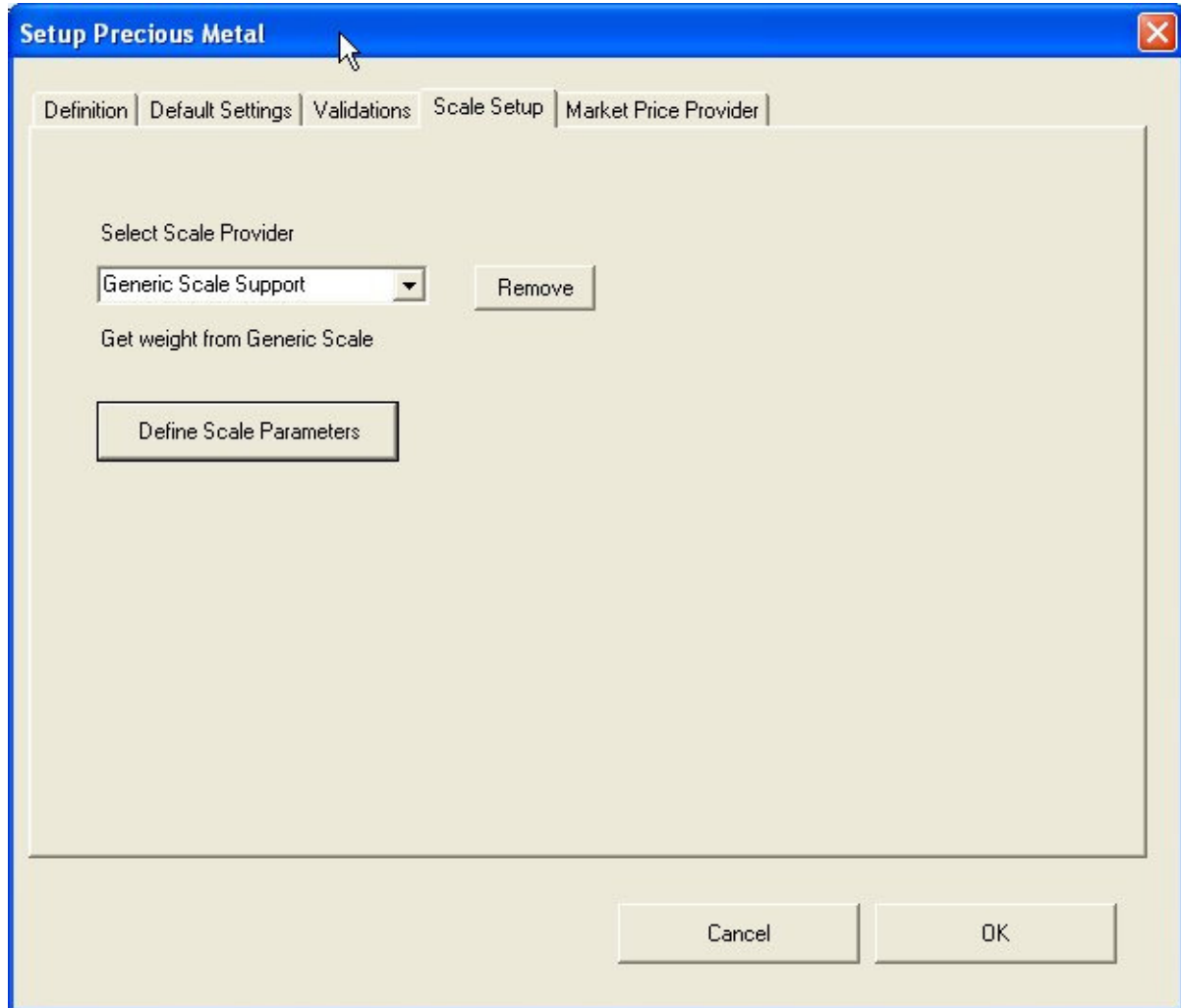
Validations

Individual items on the Form may be optionally validated before saving the entered values, such as when moving to another sample and when submitting changes to the report.



Scale Setup

Item weights may be imported automatically if an electronic scale is used. Support for Ohaus Adventure Pro Balance™ and a generic electronic scale is available as special feature Add-Ins. If either or both scales have been installed and added to the LabSpeed client list, then they will be selectable here. You can also define the scale parameters, such as the RS-232 port settings and command sequence required to retrieve the weight and weight units.



Scale Parameters – Port settings and Command script can be retrieved from the scale documentation. The command should return the Weight followed by the Weight Units followed by a termination character. Use the TEST button to test the command.

Generic Scale Properties

RS 232 Port Settings

Port Name: COM1

Baud Rate: 9600

Parity: none

Stop Bits: 1

Data Bits: 8

Handshake: none

Command:

Command Termination Character: CR

Expected Results: 3.27 g <CR>
e.g. Weight Units <CR>

Receive Termination Character: CR

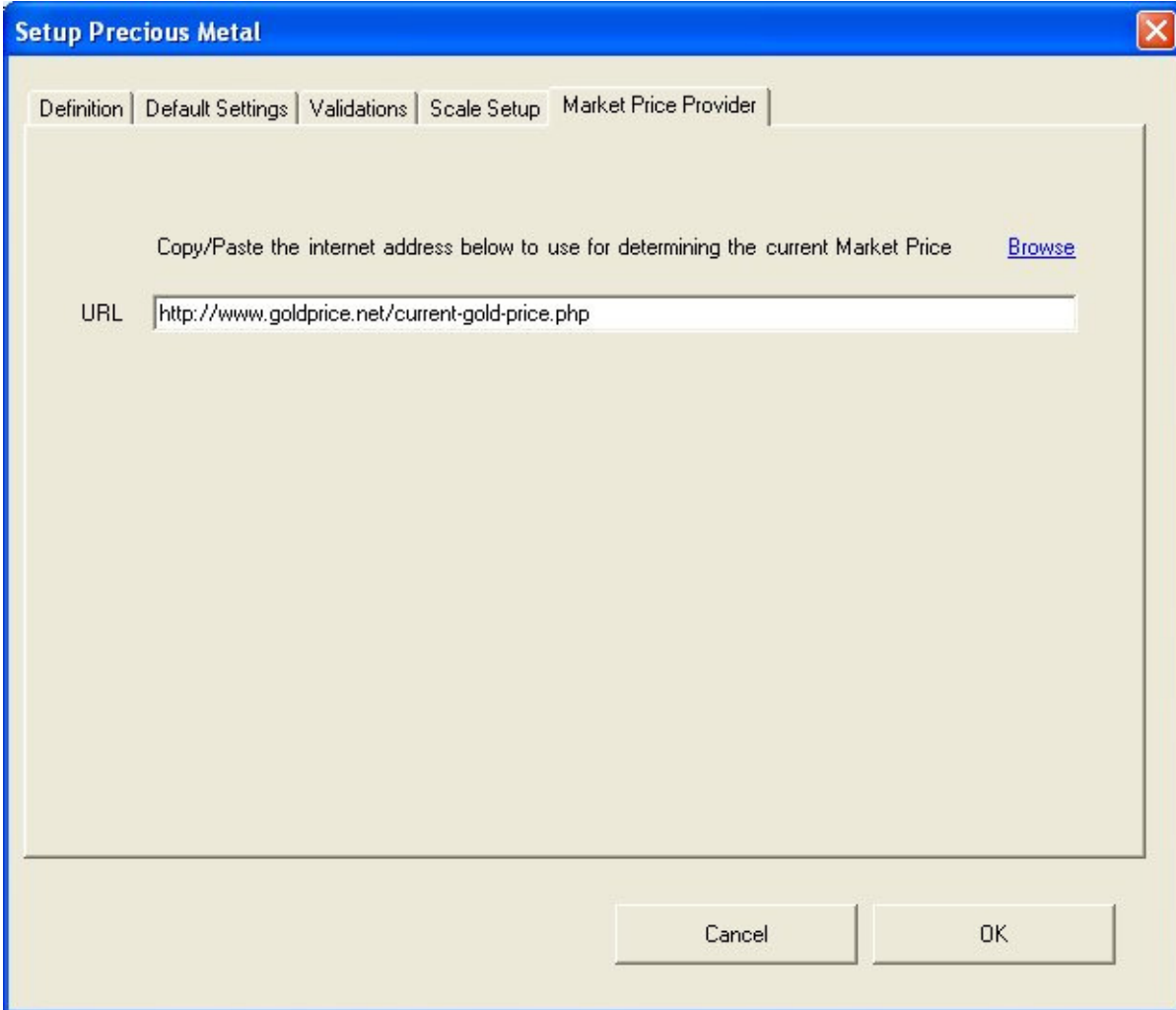
TEST - Get Weight

Read Results:

Cancel OK

Market Price Provider

If you have internet access, enter the web site URL you would like to use for checking the current Market Price. Click on the Browse button to locate the site. Then you can copy the web site address from the Browser URL line to the text box below.



The screenshot shows a software dialog box titled "Setup Precious Metal" with a blue title bar and a close button (X) in the top right corner. The dialog has five tabs: "Definition", "Default Settings", "Validations", "Scale Setup", and "Market Price Provider", with the last tab selected. The main area contains the text "Copy/Paste the internet address below to use for determining the current Market Price" followed by a blue "Browse" link. Below this is a text input field labeled "URL" containing the address "http://www.goldprice.net/current-gold-price.php". At the bottom of the dialog are two buttons: "Cancel" and "OK".

Accept Your Changes

Click *OK* to accept all changes to all five sections. Each entry is validated and a warning is issued if any problem is found.

Creating a New Precious Metal Form

Creating a New Form for a Different Precious Metal

The Gold Form may be easily modified to create a new Form for a different precious metal, e.g. Silver (Ag), Platinum (Pt) and others. The process is the same.

1. Load an analysis with the metal of interest (e.g. Ag)
2. Select the *Setup Precious Metal* button and change the following
 - a. Re-define the columns for *Element Title* and *Element*.
 - b. Change the Secondary Calculation from Karats to something else, or remove it altogether.
 - c. Change the Market Price Provider URL if different.
3. Enter the correct Market Price on the Form
4. Update the Actual Price and Price Formulas. (they may not need to change)
5. Update the Secondary Calculation formula if you are showing it
6. Rename the Gold Form View in the Session explorer (e.g. to Silver Form)
7. Rename the Gold Report View in the Session explorer (e.g. to Silver Report)
8. Update the Title in the Report View (using Design Mode)
9. Save the Template as a new name (e.g. Silver Valuation).

Monitor Mode


Precious Metals Form installer installs two Gold templates for the SPECTRO xSort™ handheld and SPECTROTEST™ mobile XRF analyzers.


1. Gold Valuation
2. Monitor Gold Valuation

The *Monitor Gold Valuation Template* is used to monitor the output from live analyses and automatically import newly acquired data into the Form. In addition, the report is automatically printed once the form has been submitted. The *Monitor Gold Valuation Template* contains three Views:

1. Monitor Status View – The Start/Stop Monitor View with Monitor Status
2. Gold Form – The Special Interactive Gold Form View
3. Gold Report - A standard LabSpeed Report created to display the Gold Form contents in a nice report layout

Use the Monitor Status View to Start and Stop the monitor service that checks for new sample

data. Use Design Mode  in the Monitor Status View to setup the File Monitor Mode parameters, such as file name and path. For more information about File Monitor Mode and setup go to LabSpeed HELP, where it is described in detail.

Once the monitor file directory has been setup, select  on the Monitor Status View. This initiates the service that detects when a new sample file has been saved.

Click on the **Gold Form** View to make it the active View. Until a first sample is run, everything is disabled and you will see the status message



An analysis file may contain one or more sample – it depends on how you use the XRF analyzer and when you save the results. LabSpeed file monitor mode detects when a sample results file has been saved. When it is detected, all samples are loaded into the Form sample list.

For each sample, fill out the Form and complete all information. When done, select the



button. This will populate all pages of the Report and then continue to monitor for the next sample file.

If you want the report to automatically print when Submit is clicked, make sure the Report has been set to Auto-Print (go to the Report View and check this on). You also have the option to auto-export the report in a variety of formats.