



NEOVISION

## Heatmaps for Brokerage Management (BrokerMaps)

Imagine a trading manager who can instantly recognize:

- Opportunities compatible with client portfolios
- Risks endangering client portfolios
- Individual broker performance
- Hotspots of activity in global markets

This manager can alert the specific broker responsible for specific portfolios about opportunities and risks. This manager can spot brokers who need additional training and find high-performance traders to mentor them. This manager can vigilently keep his organization profitable.

Imagine a broker who can: instantly:

- Organize client accounts by investment balance, profit, loss, value at risk
- Organize client positions by industry sector, market risk, credit risk, or trends
- Compare client positions with up-to-date trade prices, activity since purchase, and other real-time information from online financial-data services

This broker will lead his team in profits for clients.

Imagine an investor who can, on demand:

- Access a variety of graphed models of personal account positions via personal computer or broker terminal
- Apply favorite analytics on-the-fly for visual “what if” analysis
- Compare a personal portfolio with up-to-date global market activity
- Request secure, confirmed trades through a preferred broker with the click of a mouse on a graph.
- Watch the performance of the brokerage as whole

This client benefits from both online trading and long-term professional guidance.

***Your brokerage can obtain all these benefits in one, easy to use, software application, called Heatmaps.*** We invite you to experience its power today.

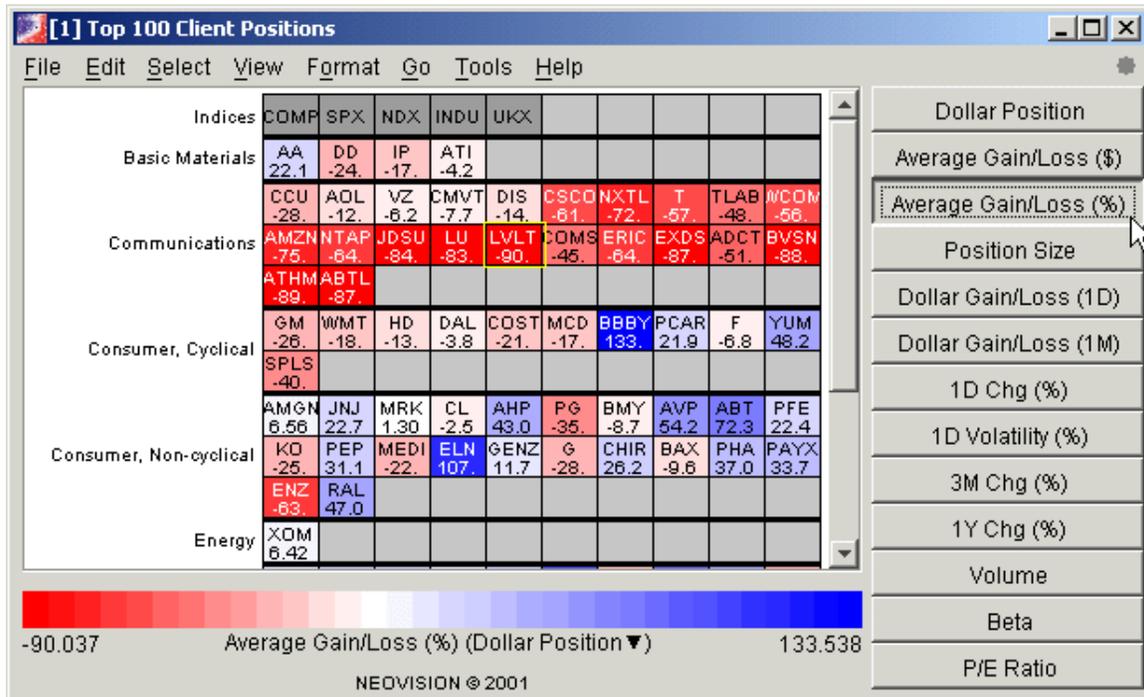
### Manager View

When you first launch the Heatmaps for Brokers you see a trading manager’s view. Each of the 100 small squares, called *cells*, identifies a top-performance vehicle owned by at least one client of the brokerage. The initial view shows values for dollar position across the brokerage. The bluer the cell, the greater stake your clients have in the vehicle that the cell represents.

## Heatmaps for Brokerage Management (BrokerMaps)

In Figure 1, we click a button on the right of the screen to choose a different analytic for value comparison. The new analytic shows values for average gain (blue cells) or loss (red cells) across all client portfolios. Because the cells are sorted by dollar position, they appear in order of relative position. You can compare the commitment in total dollars of your clients against the relative gain or loss in value of investment dollars during the current trading session.

**Figure 1: Top 100 client choices**



Now you know how your clients fair on average. Should they buy, sell, or hedge on any of these vehicles?

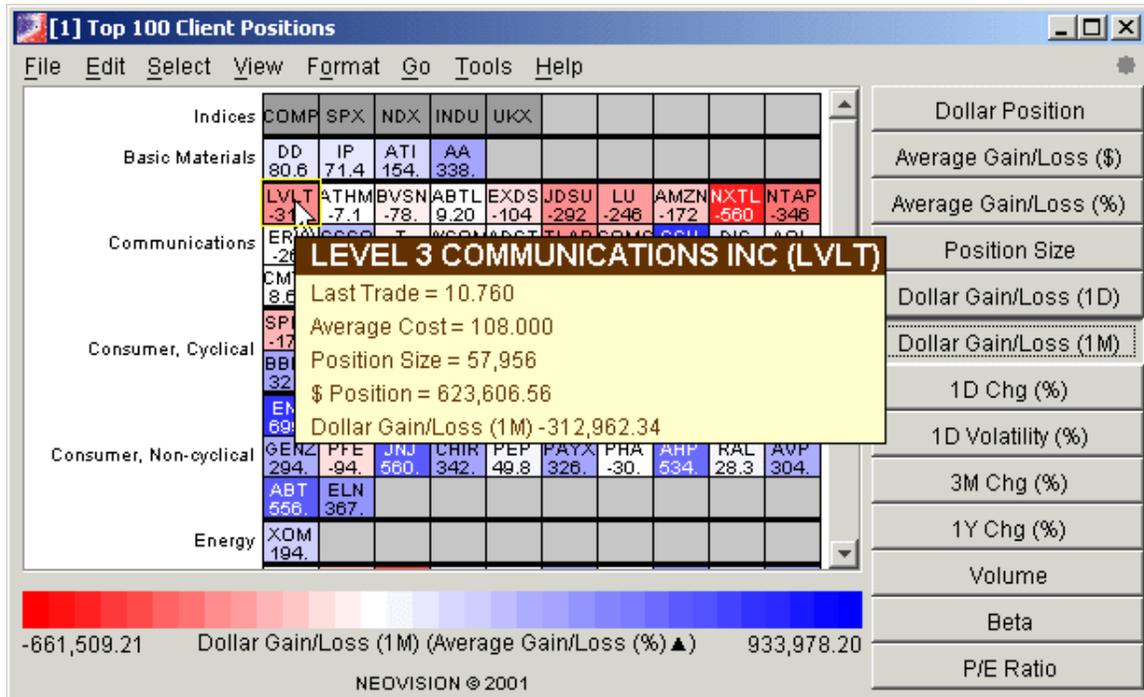
Refer to Figure 2. Click the **Dollar Gain/Loss (1M)** button to see the past month's trends in price across all investments for that vehicle in the market place. In Figure 2, we changed the sort order to show relative performance, from loss to gain, across the brokerage. To change the sort order, click the **Tools** menu, then click **Sort Ascending By** or **Sort Descending By**. In Figure 2, we chose **Sort Descending By** and then chose **Average Gain / Loss (%)**.

By sorting on one analytic and choosing cell color according to a different analytic, we can add a dimension to the information the graphic gives us. Notice how much you learn without a textual listing of figures. Everything is arranged by color and order.

We noticed that LVLT is red (decreasing in value) both in your client portfolios (Figure 1) and on the open market.(Figure 2). For a synopsis, we view the yellow *popup* details for LVLT. To view the popup details for any vehicle in a display, hold your mouse over the cell.

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**Figure 2: One-month global trend**

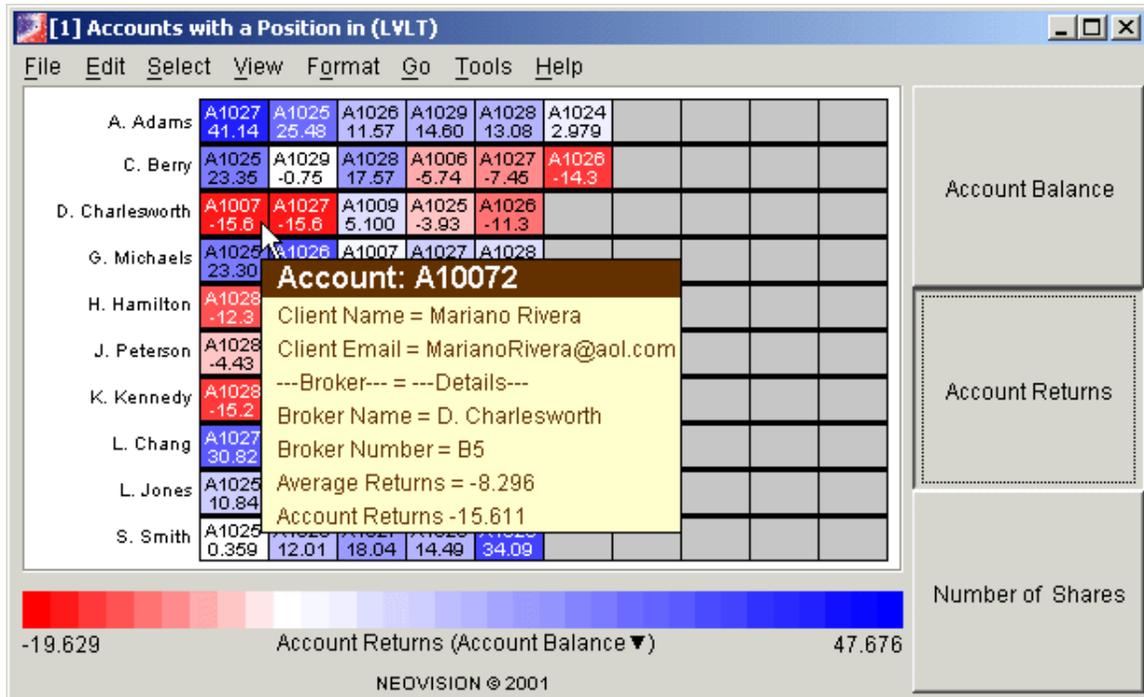


A trading manager next views all the accounts that have some investment in LVLT in case the manager wants to alert affected brokers to offer an alternative investment to their individual investors. To view all the clients who own LVLT, click the mouse on the LVLT cell. Figure 3 shows the results, sorted by account balance and colored by account returns.

Because the name of the broker responsible for each group of accounts appears at the left, the display shows that the largest (left-most) account managed by broker Charlesworth has suffered significantly poor (red) returns from LVLT. Again, we hold the mouse over the account cell to see more details.

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**Figure 3: All Clients with LVLТ positions**



At a glance, you, as manager also see that broker Charlesworth has several accounts suffering losses from LVLТ. To view overall performance by the broker, select a display that provides a comparison of agent performance. Click the **Select** menu, click **Displays**, then choose either the **All Client Accounts Heatmap** (a grid, Figure 4) or **All Client Accounts Mosaic** (Figure 6).

Figure 4 sorts accounts by balance and colors the cells by return value. In Figure 4, you readily see from the proportion of red cells in their groups, that both broker Charlesworth and broker Berry manage many accounts that have diminishing returns. In contrast, broker Adams accounts all experience profitable returns. You might want to ask broker Adams to help broker Charlesworth and Berry assess their account portfolios to redistribute their clients investments.

In Figure 5, we reverse the sort order and analytic button and notice that broker Berry's largest (bluest) account appears in the lowest (right-most) position of return. You might counsel broker Berry to quickly improve the profitability of the portfolio belonging to account 10379 before you lose the account to another brokerage.

# Heatmaps for Brokerage Management (BrokerMaps)

Figure 4: Grid comparison of returns sorted by balance

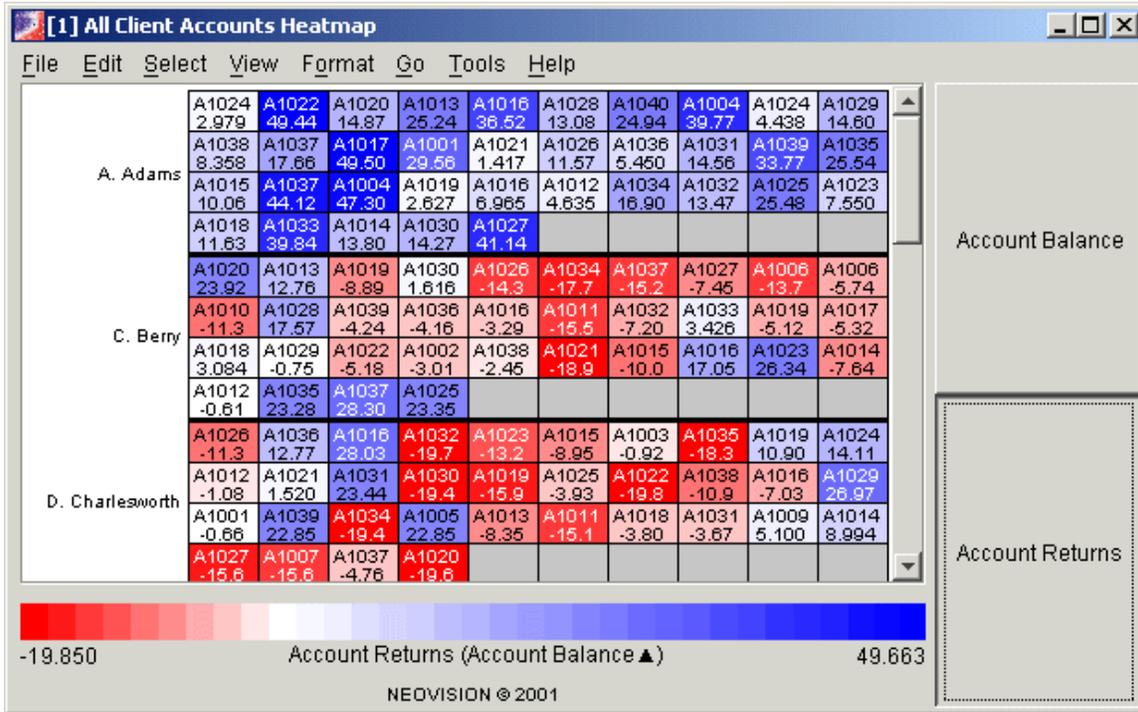
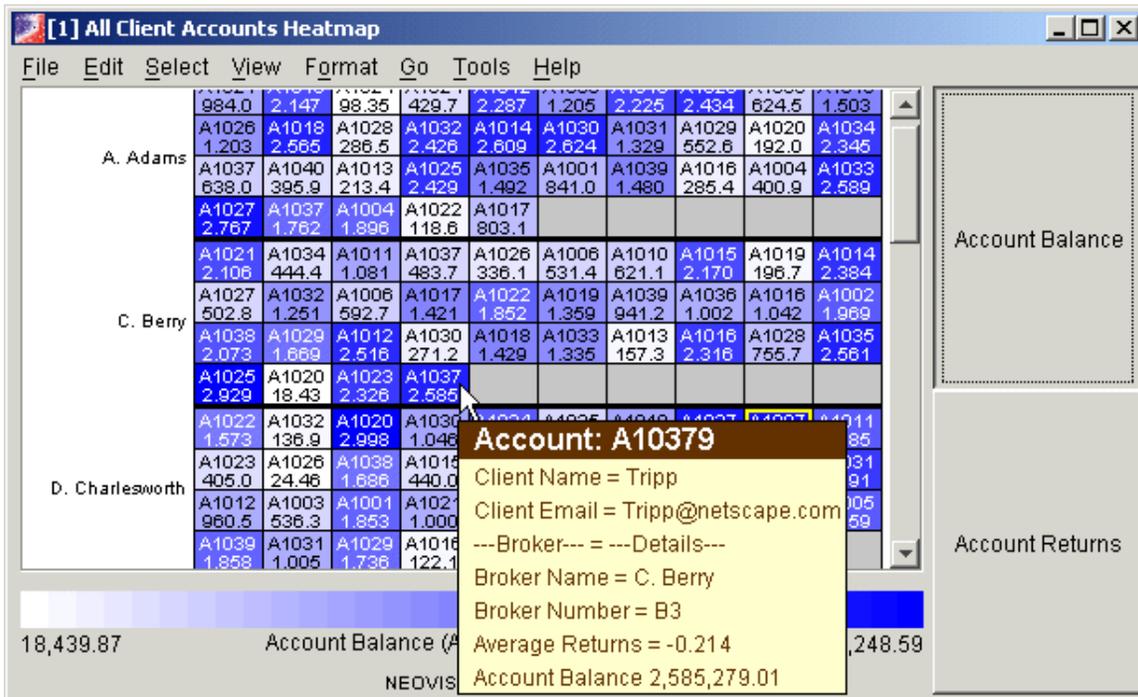


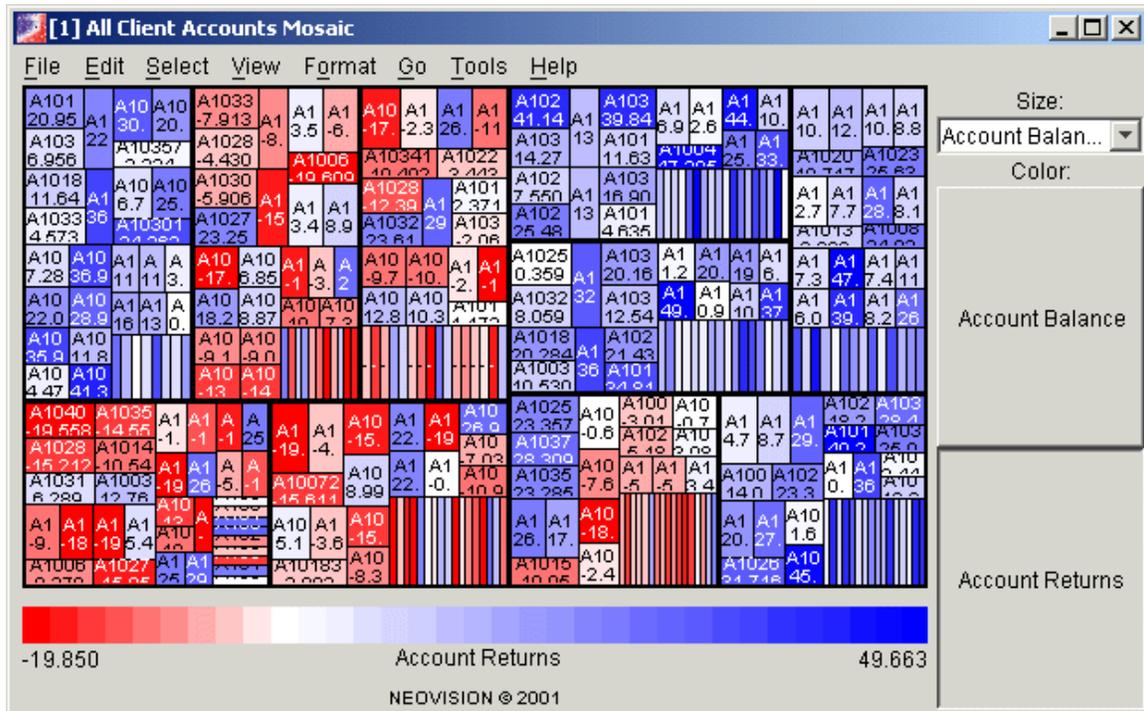
Figure 5: Balance sorted by return



## Heatmaps for Brokerage Management (BrokerMaps)

Using the mosaic (Figure 6), you can quickly compare balances with returns by broker. Square size varies according to balance. Thus, large, red cells indicate clients with high balances that need repair. Notice that brokers appear to have either many losing accounts or all profitable accounts. To find out which broker's group is primarily red (losing money), click the **View** menu, then click **Force Group Labels**. Each broker's name appears over the corresponding group of cells. To compare aggregate return by broker, click **View**, then **Groups**.

Figure 6: Mosaic comparison among brokers



## Broker Views

In this section, you play the part of a broker, in this case, broker Adams. In your broker role, you can view a grid summarizing all of the accounts that you manage:

1. From the initial display, **Top 100 Client Positions** (Figure 1, page 2), click the **Select** menu, click **Displays**, then choose **All Client Accounts Heatmap** (Figure 4, page 5)
2. Put your mouse over a cell in your group and click the right button to display the cell menu. Click **This Broker's Accounts Heatmap**. See the example in Figure 7.

## Heatmaps for Brokerage Management (BrokerMaps)

**Figure 7: Cell menu for an account in broker Adams' group**

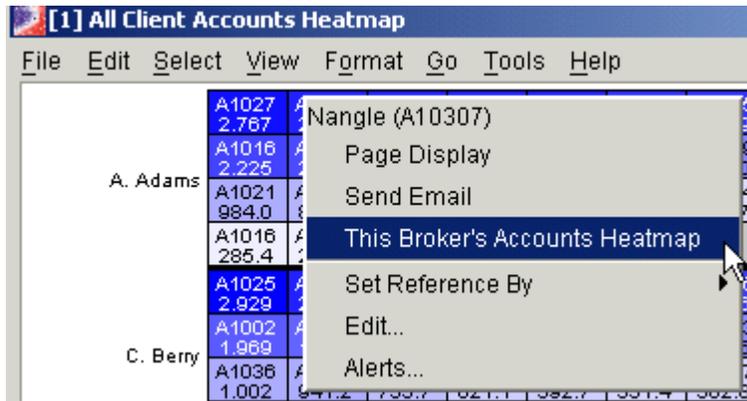
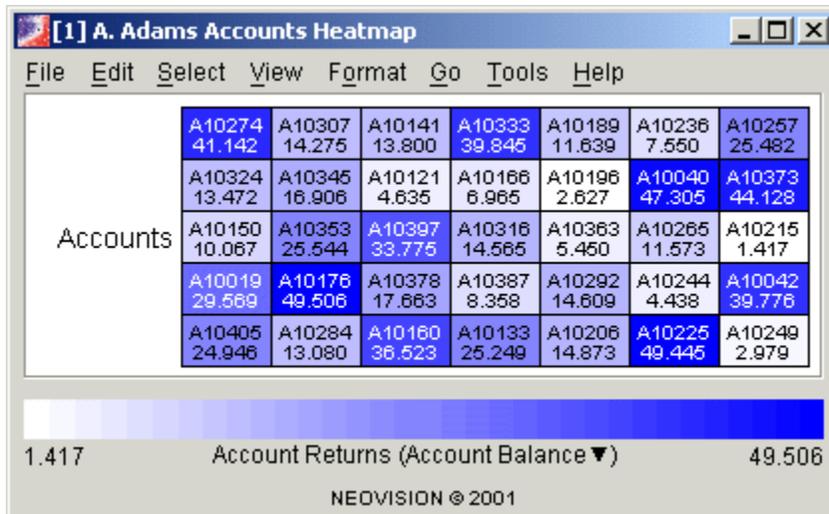


Figure 8 shows broker Adams accounts sorted by balance and color-coded to indicate comparative returns. To your credit, all your accounts experience some gain. The display contains no negative returns. However, as broker Adams, you might want to analyze the light blue and white cells that appear in the top two rows, because these indicate large balances that realizing poor returns.

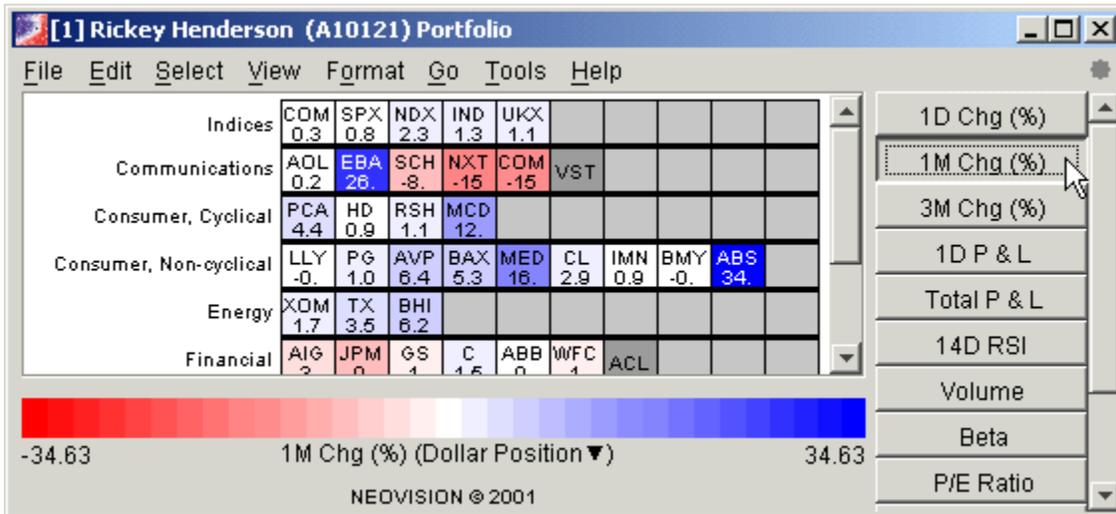
**Figure 8: Broker Adams account summary**



To analyze a particular account, click on the cell that represents the account. For example, if you click on the white cell depicting account A10121, you see a breakout of account A10121's investments, as in Figure 9.

## Heatmaps for Brokerage Management (BrokerMaps)

**Figure 9: Single account analysis**

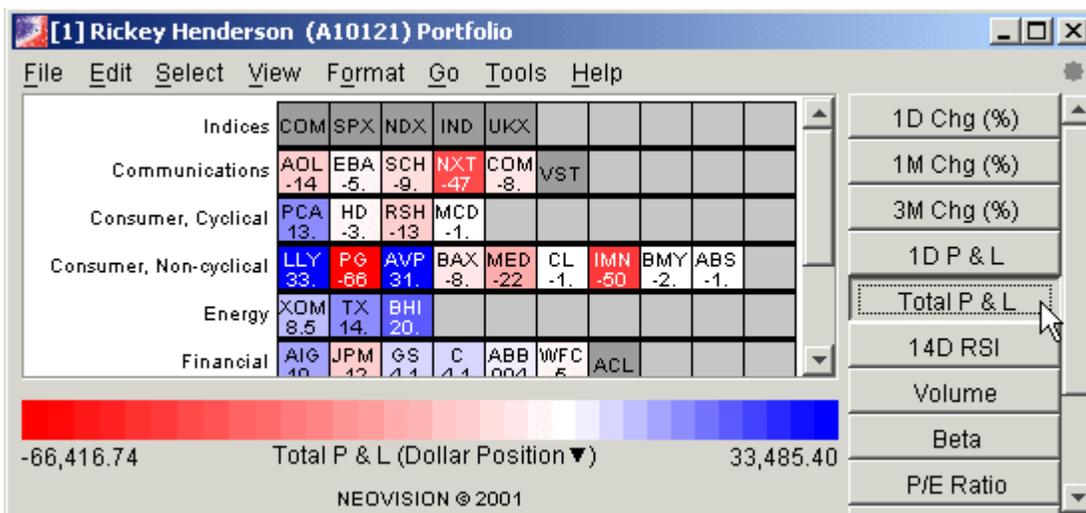


Broker Adams arranges Mr. Henderson’s holdings from highest to lowest dollar position in each industry sector. The **Tools** menu provides Group By and Sort Ascending/Descending By options to help you arrange a view to emphasize those factors you want to analyze.

Because the market is fluctuating day to day, particularly in the Communications sector, broker Adams chooses the **1M Chg (%)** button to see the longer-range trend in trade price over the past month. Other buttons, such as **3M Chg (%)** (three-month change) and **P/E Ratio** yield similar color relationships among the investments.

**Total P & L** (Figure 10) indicates that Mr. Henderson’s portfolio has too much loss in the non-cyclical consumer investments, despite the stable performance over the last month.

**Figure 10: Account long-term profit and loss**



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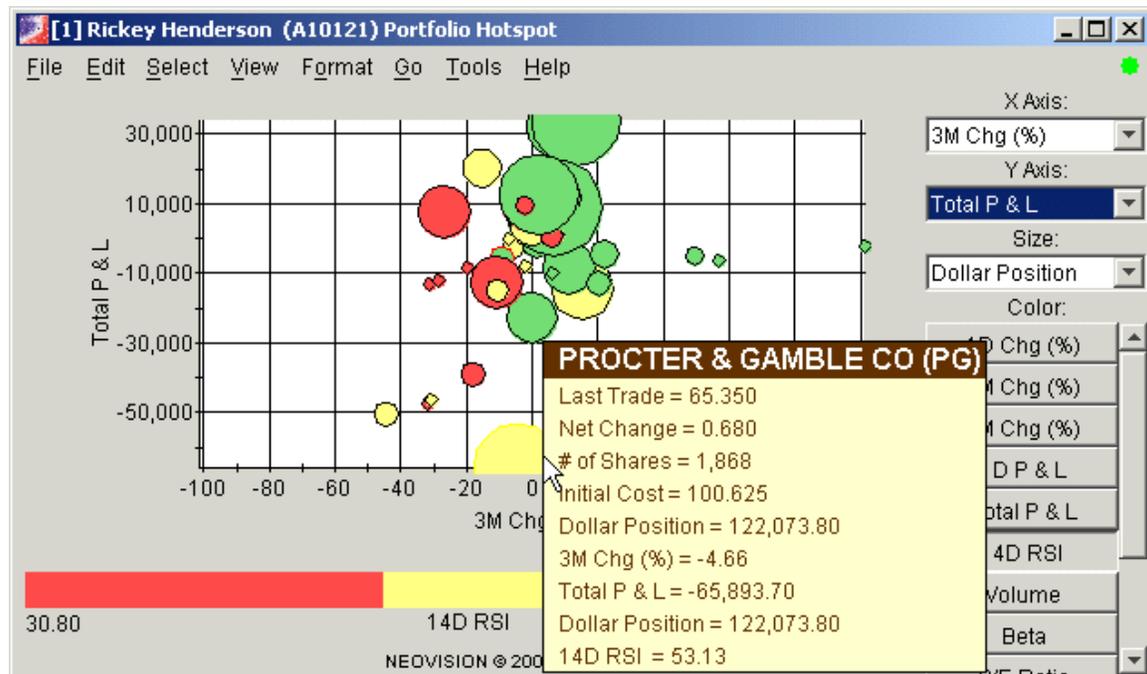
To fine-tune the analysis, broker Adams clicks **Select** and **Display** to choose the *Hotspots*® view of this account. You can see, in Figure 11, that the broker can simultaneously see four factors regarding account A10121:

- Spot size indicates relative dollar position in each investment vehicle.
- The vertical (Y) axis places losing vehicles below profitable vehicles.
- The horizontal (X) axis arranges vehicles from low to high according to **3M Chg (%)**, the change in price since three months ago.
- Color indicates relative strength over a fourteen-day period. To calculate strength (RSI), the data source divides average rising closing prices by average declining closing prices for the vehicle over the last fourteen days.

All the spots cluster around the middle of the graph, which means they hardly fluctuated over the three-month period.. Notice that a large, yellow spot appears at the bottom (lowest P&L). Large spot means big investment, yellow color means medium strength.

Recall that you hold you mouse over a cell to see the popup details. Agent Adams holds the mouse over that big yellow, losing spot to identify the issuing company and to obtain exact dollar amounts. The stock does not have sufficient relative strength to justify a wait-and-see attitude. Instead, the broker checks the recommended buys published regularly by the brokerage.

**Figure 11: Four-dimensional Hotspots display**

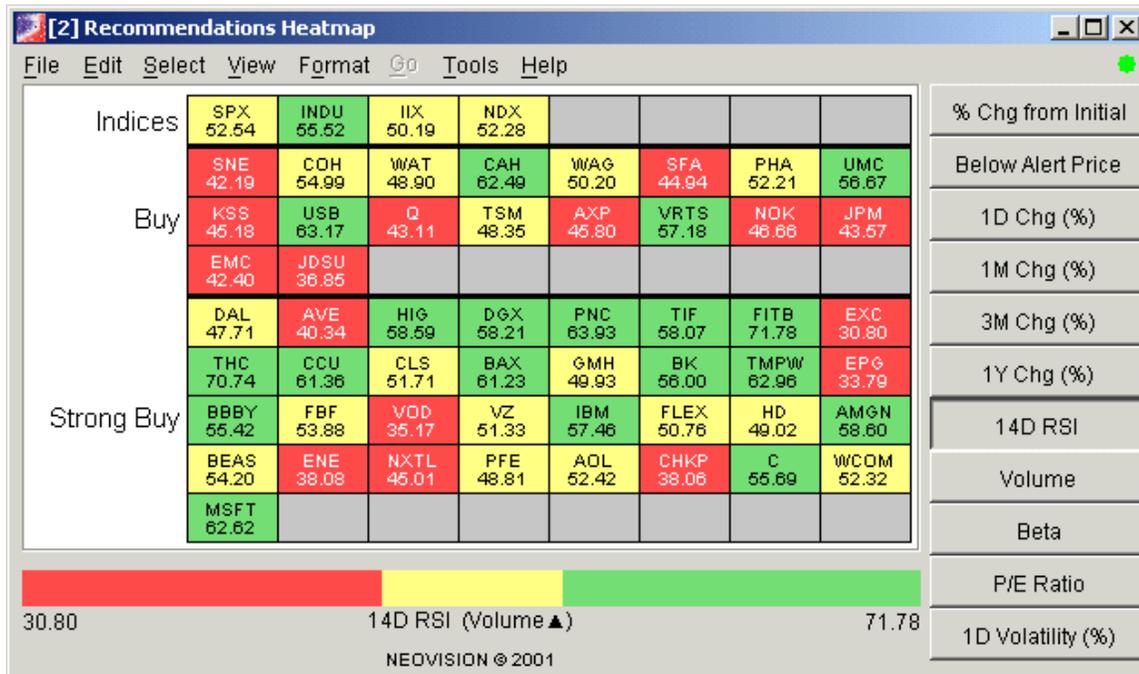


The broker leaves the client window open, and opens a new window to see recommendations. In the **File** menu, click **New Window**.

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In the second window, broker Adams clicks **Select** and **Display**, then chooses **Recommendations Heatmap**. Normally the recommendations shows separate groups to distinguish growth vehicles from income vehicles. Anxious for a buy suggestion, the broker clicks **Tools**, then **Group By**, then **Rating**, which results in Figure 12. Broker Adams sorts the vehicle cells by volume and color-codes them by relative strength.

**Figure 12: Recommended buys**



In the Heatmaps window that shows the account Hotspots graph, broker Adams clicks **Go** and **Back** to return to the grid view in Figure 9 on page 8. In the grid, you can see all the vehicles clearly identified by ticker symbol. By comparing the account grid with the recommendations grid, you can look in the strong-buy group for strong (green) investments that the account does not already own. Remember to hold the mouse over any strong buy cells that look promising to see more details to indicate why your company recommends those cells as strong buys.

We hope you enjoyed your experience with at-a-glance broker and account analysis. If client Henderson has internet service, he can see the views of his own accounts in Figure 9, Figure 10, and Figure 11, as well as the brokerage recommendations shown in Figure 12.

## Summary

Heatmaps visualization provides the following benefits to your brokerage:

- Proactive management
- Rapid reaction to clients

## Heatmaps for Brokerage Management (BrokerMaps)

- Enhanced content and depth.
- Quickly answers the question, "How are my clients doing today?"
- Unified application set -- Client Inquiry, Gain/Loss, Holdings across Book
- Productivity aids:
  - Single page vs. many
  - Integrated applications
- Information and service aids:
  - Performance data
  - Performance over time data
  - Quantitative data

Figure 13: Your account is one mouse click away

