

LBD's M850 Digital Meter

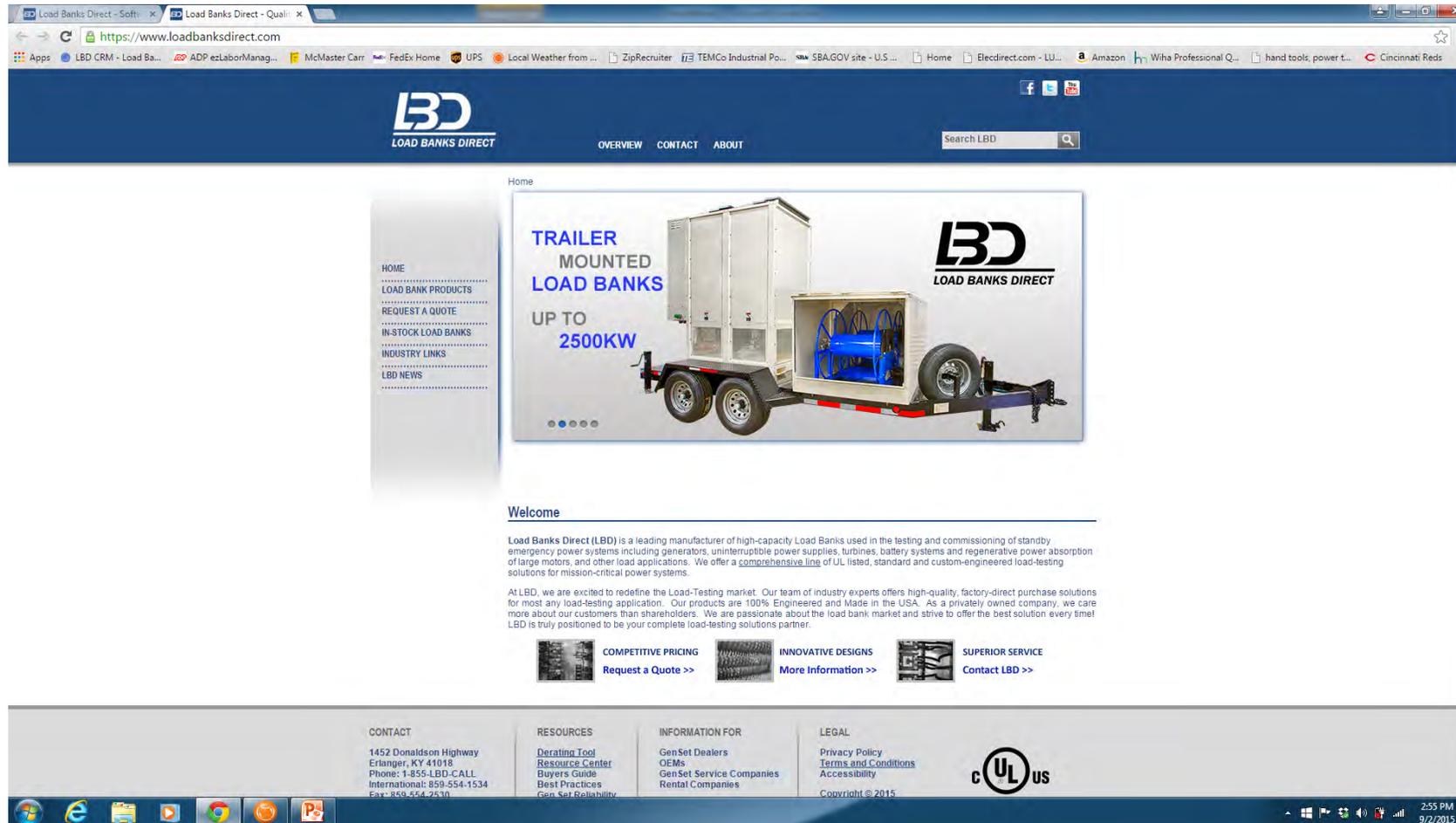
Instructions for Data Logging

Install Drivers on Data Logging PC

- Drivers for the RS485 to USB connection are required to communicate with the meter
- Some versions of the meter have the CD included with the Installation Manual Packet. CD will have the B&B Electronics Logo – USB Serial Driver v.2.8.29.0. If a CD is not included, please go to <http://www.easysync-ltd.com/product-downloads> and download the “USB to RS485” driver.

Go to LBD Website for the MultiLog Software

<https://www.loadbanksdirect.com>



Go to bottom of page and click on Resource Center

The screenshot shows the Load Banks Direct website interface. At the top, there is a navigation bar with the LBD logo, menu items (OVERVIEW, CONTACT, ABOUT), and a search bar. Below this is a large banner for "TRAILER MOUNTED LOAD BANKS UP TO 2500KW". To the left of the banner is a vertical menu with links: HOME, LOAD BANK PRODUCTS, REQUEST A QUOTE, IN-STOCK LOAD BANKS, INDUSTRY LINKS, and LBD NEWS. Below the banner is a "Welcome" section with introductory text about LBD's services. At the bottom of the main content area are three call-to-action buttons: "COMPETITIVE PRICING Request a Quote >>", "INNOVATIVE DESIGNS More Information >>", and "SUPERIOR SERVICE Contact LBD >>". The footer contains a "RESOURCES" section with links to "Derating Tool", "Resource Center", "Buyers Guide", "Best Practices", and "Gen Set Reliability". A red arrow points from the "Resource Center" link to the instruction text above. Other footer elements include "INFORMATION FOR" (GenSet Dealers, OEMs, etc.), "LEGAL" (Privacy Policy, etc.), and the UL US logo.



Click on software and drivers

The screenshot shows a web browser window displaying the Load Banks Direct website. The browser's address bar shows the URL <https://www.loadbanksdirect.com/resource>. The website header features the LBD logo and navigation links for OVERVIEW, CONTACT, and ABOUT. A search bar is also present. The main content area is titled "LBD Resource Center" and includes a breadcrumb trail: Home > Resource Center. Below this, a text block states: "Instruction manuals, outline drawings, monitoring & logging software, drivers and sales brochures are available for download. Please select a product category below:". A list of links follows: [Type LP Portable Load Banks](#), [Type LS Stationary Load Banks](#), [Type LD Duct Mounted Load Banks](#), [Type LT Trailer Mounted](#), and [Software & Drivers](#). A large red arrow points to the "Software & Drivers" link. A vertical sidebar on the left contains links for HOME, LOAD BANK PRODUCTS, REQUEST A QUOTE, IN-STOCK LOAD BANKS, INDUSTRY LINKS, and LBD NEWS. The footer contains contact information, resources, information for various companies, and legal notices, along with a UL LISTED logo. The Windows taskbar at the bottom shows the system tray with the time 2:59 PM and date 9/2/2015.

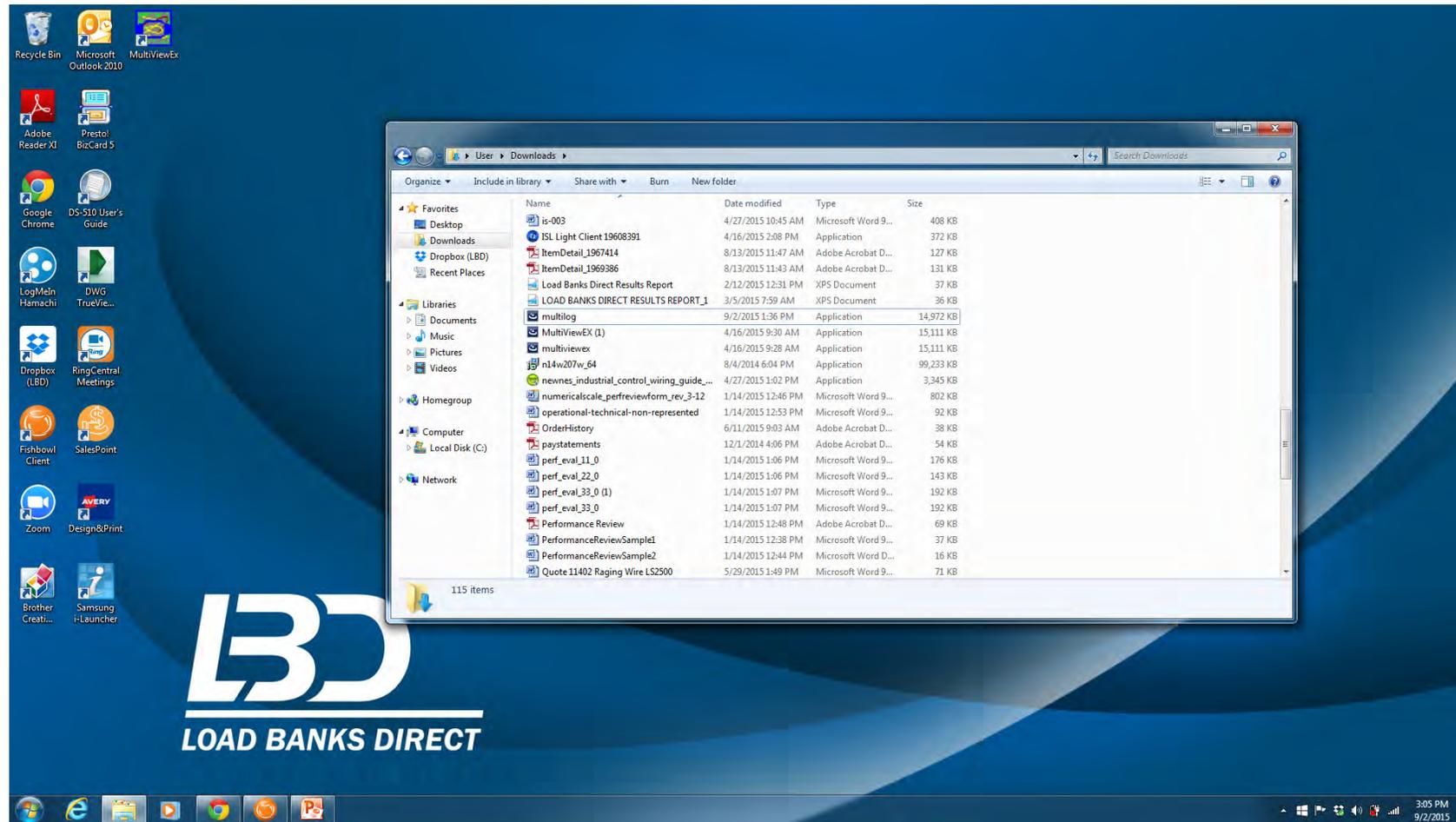


Click on Multilog Logging Software

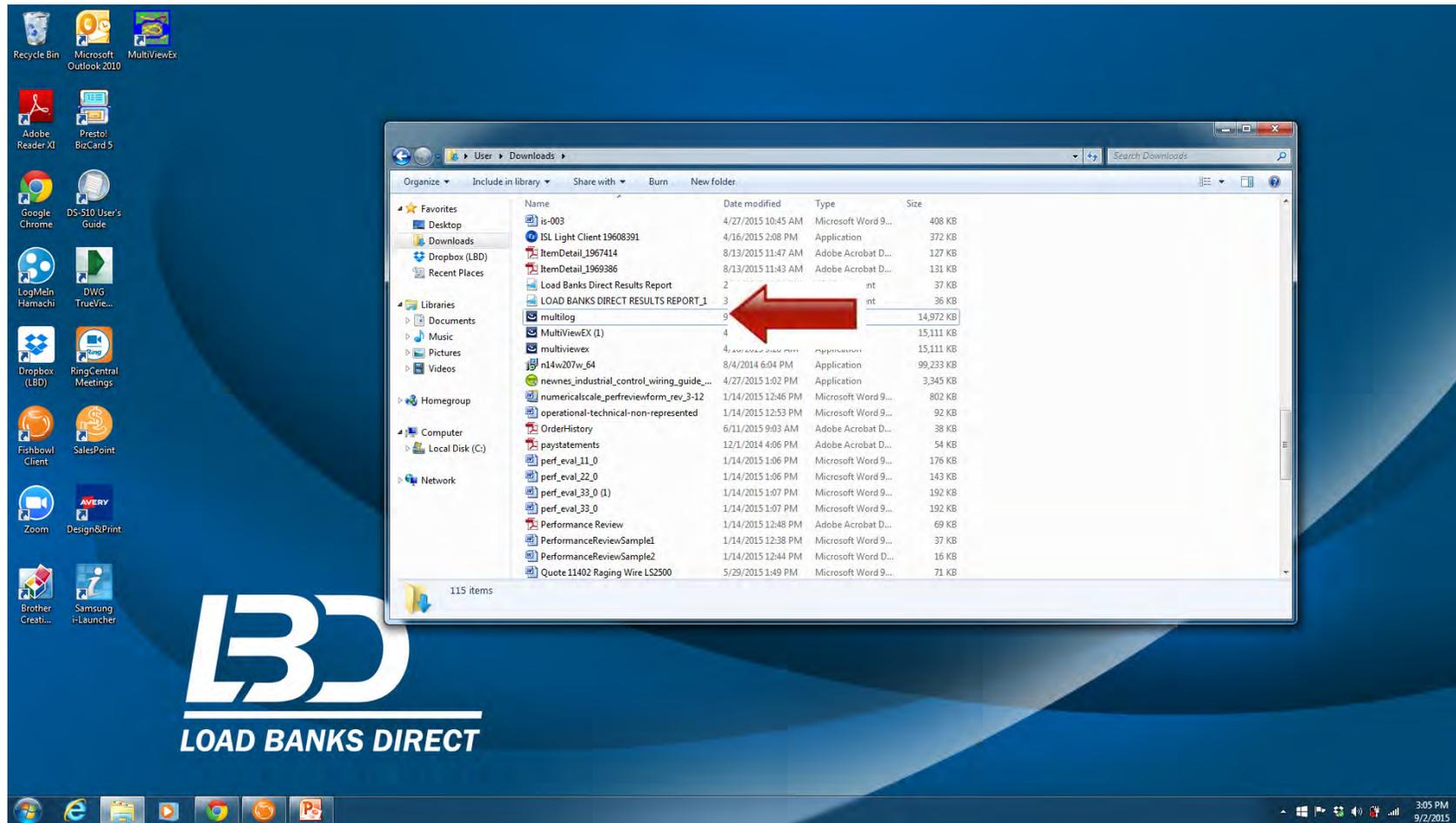
The screenshot shows a web browser window displaying the 'Software & Drivers' page on the Load Banks Direct website. The browser's address bar shows the URL 'https://www.loadbanksdirect.com/software-drivers'. The website header includes the LBD logo, navigation links for 'OVERVIEW', 'CONTACT', and 'ABOUT', and a search bar. A left sidebar contains a menu with items like 'HOME', 'LOAD BANK PRODUCTS', 'REQUEST A QUOTE', 'IN-STOCK LOAD BANKS', 'INDUSTRY LINKS', and 'LBD NEWS'. The main content area is titled 'Software & Drivers' and lists several download links for M850 Digital Meter software. A large red arrow points to the 'MultiLog Logging Software' link. Below the link, there is a brief description: 'MultiLog is a Windows application that monitors and logs whilst logging or viewed historically.' The footer of the page contains contact information, resources, information for various companies, and legal notices, along with a 'UL LISTED' logo. The Windows taskbar at the bottom shows the system tray with the date and time '2:51 PM 9/2/2015'.



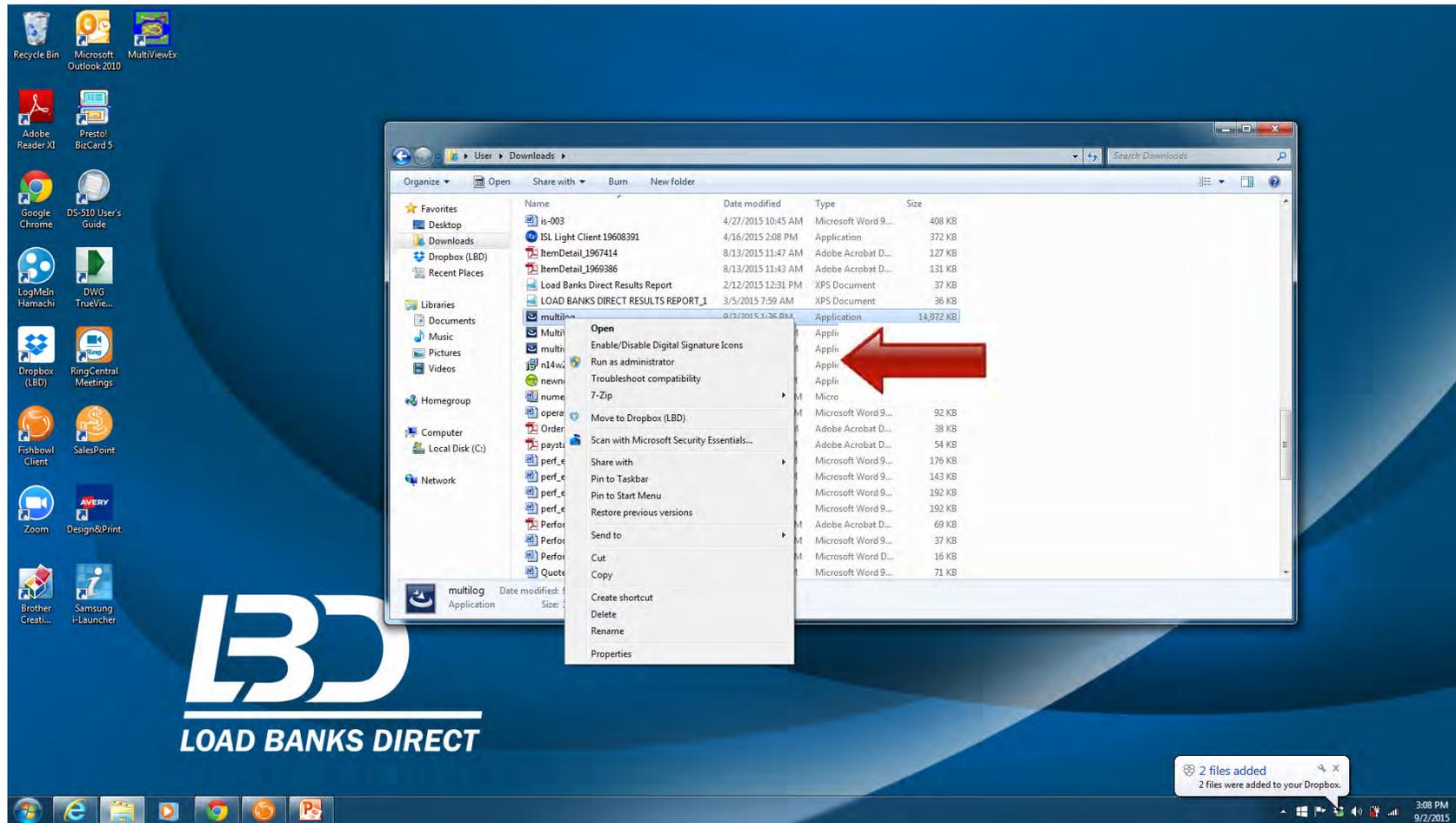
Go to Computer Download File



RIGHT CLICK on Multilog



Click on Run as Administrator



Installing Software

- Click YES to allow program to make changes to computer
- After installation go to Microsoft Start Button and Open MULTIALOG software
- Important: Next you must right click on Multilog icon, then right click on Multilog to select “Run as Administrator.”
- Once the Multilog opens you must select Settings tab, then Communication tab to access Port Settings. Port Settings must match your computer USB port connected to the power meter. Settings will not necessarily match what is displayed on the next page. To identify your computer’s port settings, go to Control Panel, select Device Manager then Ports.

Project Settings

Step 1: Right Click

Step 2: Fill out the optional project details

Step 3: Select the logging frequency and duration.

The screenshot shows the 'NewLog - Multilog' application window. A context menu is open over a graph, with 'Project Settings' highlighted. The 'Project Settings' dialog box is shown in two states: first, with the 'Project Description' tab selected and fields for Project Name, Start Date, End Date, and Description; second, with the 'Logging Setup' tab selected, showing 'Printable Logging Parameters' (VL1-2, VL2-3, VL3-1, V1, V2, V3, I1, I2, I3, kW Sum, kVA Sum, kVA Sum, PF Avg, kWd (Imp), kVAHr (Imp), Hz, kWd (Imp), kVAd, Ad) and 'Log Frequency' (1 Sec) and 'Log Duration' (1000 Sec) highlighted with yellow and green circles respectively. The status bar at the bottom shows 'No Port Open' and 'NUM'.

Port Settings

The screenshot shows the NewLog - Multilog software interface. A context menu is open over a graph area, with the 'Communications' option highlighted. A red arrow points from the 'Communications' option to the 'Port Settings' dialog box. The dialog box is titled 'Port Settings' and contains the following fields:

- Node Number: []
- Port: COM1
- Baud Rate: 38400
- Parity: EVEN
- Stop Bits: 1
- Latency (ms): 200
- Float = Big Endian (Word Swap)

The 'Connect' button is circled in green. The dialog box also displays the text: 'Default settings shown. *Port might vary'. At the bottom of the dialog box are 'OK', 'Cancel', and 'Help' buttons. The background shows three graphs with various data points and labels like 'L1-2', 'V L2-3', 'KW Sum', and 'KVA Sum'. A red arrow points to a button in the top toolbar, with the text 'Right Click or select the circled button.' below it. The status bar at the bottom shows 'No Port Open' and 'NUM'.

Once connected, you should have the following

The screenshot displays the 'NewLog - Multilog' software interface. It features three data plots (labeled 1, 2, and 3) and a 'Port Settings' dialog box.

Plot 1: Shows voltage levels VL1-2, VL2-3, and VL3-1. The y-axis ranges from 0% to 120%.

Plot 2: Shows Hz, W/F Sum, and kVA Sum. The y-axis ranges from 0% to 120%.

Plot 3: Shows voltage levels V 1, V 2, and V 3. The y-axis ranges from 0% to 120%.

Port Settings Dialog Box:

- Comms
- Node Number: 1
- Port: COM4
- Baud Rate: 38400
- Parity: EVEN
- Stop Bits: 1
- Latency (ms): 200
- Float = Big Endian (Word Swap)
- Connect button
- OK, Cancel, Help buttons

Device Information (from dialog box):

- Model Number: 850
- Version: 2.011
- Compile Date: 021415
- Serial #: 1503130554
- Comms Lock: OFF
- System Type: 3ph3w
- System Voltage: 280.00V
- VT Primary: 280.000
- VT Secondary: 280.000
- System Current: 1200.000

Status Bar:

- Project Name: Put the Project Name here
- Project Description: Put a BRIEF Project Description here (is displayed)
- Project Start Date: 29/10/2015
- Project End Date: 29/10/2015
- Logging Started: Not Active
- Logging Time: Duration: 1000(s) Sampling 1(s)
- No Port Open
- NUM

Graph Settings

- Right click, select Graph Settings to access the graph preferences. The next page shows typical “Real Time” settings to display available load test data. This screen settings are user friendly and can be changed to operator preference.
- The time base unit is the total length of the X axis. I.E. to see one hour in 1 second log intervals, enter 3600.
- The X divisor is the Graph display interval (not the logging interval). If $X = 20$, a point will display every 20 log intervals.
- Double click any graph to maximize it on the screen

Graph Settings

The screenshot shows the 'NewLog - Multilog' application window. On the left, there are two graph panels. The top panel shows a grid with traces labeled 'V L1-2' and 'V L2-3'. A context menu is open over this panel, with 'Graph Settings' circled in red. A red arrow points from this menu item to the 'Graph Settings' dialog box on the right. The dialog box has tabs for 'Graphs 1 - 4', 'Graphs 5 - 8', and 'Graphs 9 - 12'. It contains four columns, one for each graph, with settings for Trace 1, Trace 2, and Trace 3. Each trace has a dropdown for the variable (e.g., V L1-2, V L2-3, V L3-1), a color dropdown, and checkboxes for 'Grid On', 'Centre Zero', and 'Relative Scale'. There are also settings for 'Y Scale', 'X Axis', 'Mode' (Real Time, Log Mode, Graph, Text), and 'X Divisor'. At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons.



Data Logging

- Right click on screen to pull up menu
- Click on Start Data retrieval
- Click on Enable Logging

The screenshot displays the NewLog - Multilog software interface. The window title is "NewLog - Multilog". The menu bar includes File, Edit, View, Settings, and Help. The toolbar contains icons for file operations and data logging. A red arrow points to the "Stop Logging & Data Retrieval" icon, and a green arrow points to the "Start Logging Data" icon. A red arrow also points to the "Start Date Retrieval" icon. A right-click context menu is open over the first graph, showing options: Project Settings, Graph Settings, Communications, Hide Project Details, Maximize Graph, Absolute Y Scale, Log View, Data View, Start Data Retrieval (highlighted), Enable Logging, Print..., and Print Preview. The interface features four graphs (1, 2, 3, 4) showing data over time (Oct 29 2015, 16:27:48). Graph 1 shows a 70% scale. Graph 2 shows 120% scale with labels for Hz, kW Sum, and kVA Sum. Graph 3 shows 120% scale with a label for V3. Graph 4 shows 120% scale with labels for I1, I2, and I3. The bottom status bar includes project information, logging status, and a "No Port Open" indicator.

Start Date Retrieval

Stop Logging & Data Retrieval

Start Logging Data

Right click, or use the above shortcut buttons

Project Name:
Put the Project Name here

Project Description:
Put a BRIEF Project Description here (is displayed)

Project Start Date:
29/10/2015

Project End Date:
29/10/2015

Logging Started:
Not Active

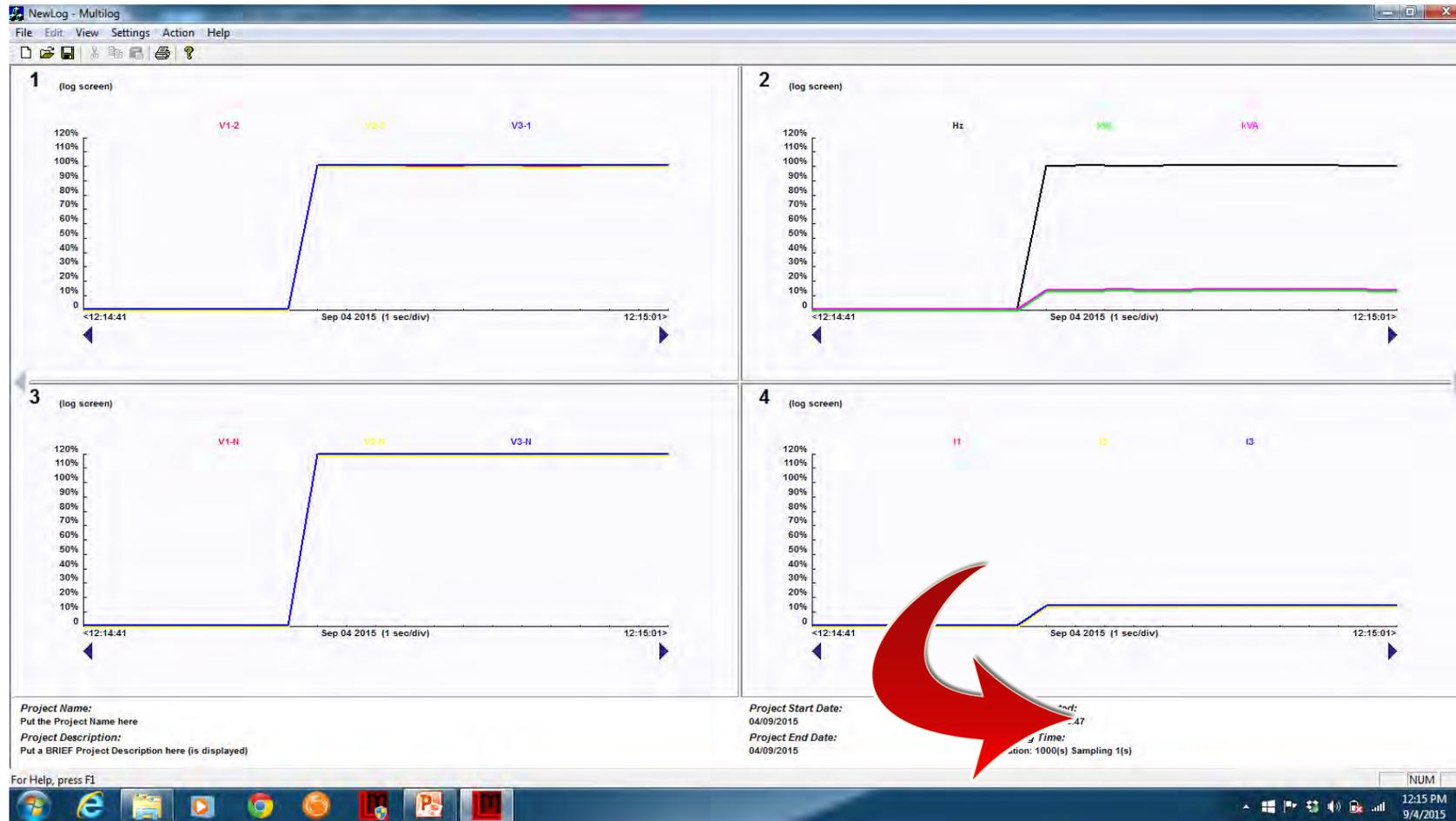
Logging Time:
Duration: 1000(s) Sampling 1(s)

For Help, press F1

No Port Open

NUM

Screen should indicate logging started



End Data Logging

Click on Stop Data Retrieval
Click Yes

The screenshot displays the 'NewLog - Multilog' software interface. It features four data logging graphs arranged in a 2x2 grid, labeled 1, 2, 3, and 4. Each graph shows a percentage scale from 0% to 120% on the y-axis and a time scale from 12:15:25 to 12:16:45 on the x-axis. The graphs show various data series: V1-2, V2-3, V3-1 in graph 1; Hz, kW, kVA in graph 2; V1-N, V2-N, V3-N in graph 3; and I2, I3 in graph 4. A 'Project Warning' dialog box is overlaid in the center, with the text: 'The project is locked. If you stop logging now you won't be able to restart it. Do you want to continue and end logging?' and 'Yes' and 'No' buttons.

At the bottom of the interface, there is a status bar with the following information:

- Project Name: Put the Project Name here
- Project Description: Put a BRIEF Project Description here (is displayed)
- Project Start Date: 04/09/2015
- Project End Date: 04/09/2015
- Logging Started: 04/09/2015 12:14:47
- Logging Time: Duration: 1000(s) Sampling 1(s)

The Windows taskbar at the bottom shows the system clock at 12:15 PM on 9/4/2015.

Export Data to CSV File

The screenshot displays the 'NewLog - Multilog' application window. The 'File' menu is open, showing options such as 'New', 'Open...', 'Save', 'Save As...', 'Export as a CSV file', 'Print...', 'Print Preview', 'Print Setup...', 'Send...', 'Recent File', and 'Exit'. The 'Export as a CSV file' option is highlighted. The main workspace contains four plots:

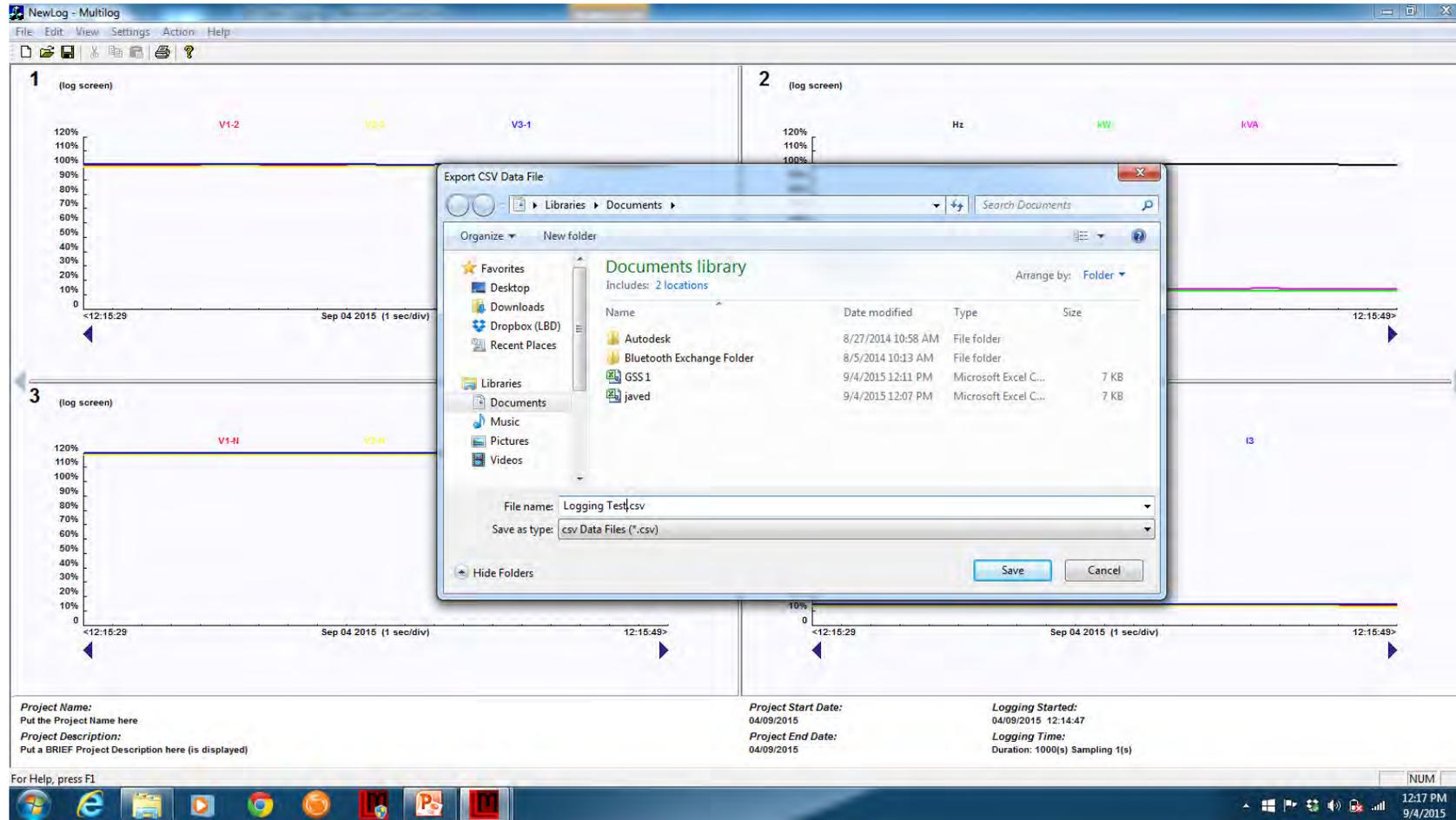
- Plot 1:** Shows voltage levels for V1-2 (red), V2-3 (yellow), and V3-1 (blue) over time. The y-axis ranges from 0 to 120%.
- Plot 2:** Shows frequency (Hz), power (kW), and power factor (kVA) over time. The y-axis ranges from 0 to 120%.
- Plot 3:** Shows voltage levels for V1-N (red), V2-N (yellow), and V3-N (blue) over time. The y-axis ranges from 0 to 120%.
- Plot 4:** Shows current levels for I1 (red), I2 (yellow), and I3 (blue) over time. The y-axis ranges from 0 to 120%.

At the bottom of the window, there is a status bar with the following information:

- Project Name:** Put the Project Name here
- Project Description:** Put a BRIEF Project Description here (is displayed)
- Project Start Date:** 04/09/2015
- Project End Date:** 04/09/2015
- Logging Started:** 04/09/2015 12:14:47
- Logging Time:** Duration: 1000(s) Sampling 1(s)

The Windows taskbar at the bottom shows the system clock as 12:16 PM on 9/4/2015.

Save file as CSV



Open File

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
13	Sep 04 201	483.8	483.5	483.5	483.8	483.5	483.5	160.3	160.8	161.4	134.6	134.7	3.41	1	79	2	60.23	134.5	134.6	482.1	0	180.4	180.4	1302
14	Sep 04 201	483.7	483.6	483.5	483.7	483.6	483.5	160.2	160.9	161.1	134.6	134.6	3.406	1	79	2	60.2	134.5	134.6	482.1	0	180.4	180.4	1302
15	Sep 04 201	483.8	483.6	483.6	483.8	483.6	483.6	160.1	160.8	161.2	134.5	134.5	0	1	79	2	60.24	134.5	134.6	482.1	0	180.4	180.4	1302
16	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160.4	161.1	160.9	134.6	134.6	0	1	79	2	60.24	134.5	134.6	482.1	0	180.4	180.4	1302
17	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160.6	160.7	161.2	134.7	134.8	0	1	79	2	60.23	134.5	134.6	482.1	0	180.4	180.4	1302
18	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160.2	161.2	161.2	134.6	134.7	0	1	79	2	60.21	134.5	134.6	482.1	0	180.4	180.4	1302
19	Sep 04 201	483.7	483.6	483.5	483.7	483.6	483.5	160.1	161.1	161.3	134.6	134.6	3.463	1	79	2	60.19	134.5	134.6	482.1	0	180.4	180.4	1302
20	Sep 04 201	483.7	483.5	483.5	483.7	483.5	483.5	160.1	160.6	160.8	134.3	134.4	3.407	1	79	2	60.19	134.5	134.6	482.1	0	180.4	180.4	1302
21	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160.3	160.9	161.2	134.6	134.6	0	1	79	2	60.22	134.5	134.6	482.1	0	180.4	180.4	1302
22	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160.3	160.9	161.2	134.6	134.6	0	1	79	2	60.22	134.5	134.6	482.1	0	180.4	180.4	1302
23	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160	160.4	160.6	134.1	134.2	0	1	79	2	60.24	134.5	134.6	482.1	0	180.4	180.4	1302
24	Sep 04 201	483.8	483.5	483.5	483.8	483.5	483.5	160	160.7	161	134.4	134.5	3.394	1	79	2	60.19	134.5	134.6	482.1	0	180.4	180.4	1302
25	Sep 04 201	483.8	483.6	483.5	483.8	483.6	483.5	160.2	161	161.1	134.5	134.6	0	1	79	2	60.22	134.5	134.6	482.1	0	180.4	180.4	1302
26	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160.3	160.4	161	134.4	134.4	0	1	79	2	60.24	134.5	134.6	482.1	0	180.4	180.4	1302
27	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160	160.1	161.3	134.2	134.3	3.432	1	79	2	60.26	134.5	134.6	482.1	0	180.4	180.4	1302
28	Sep 04 201	483.8	483.5	483.5	483.8	483.5	483.5	160.1	160.7	161.3	134.5	134.6	3.477	1	79	2	60.21	134.5	134.6	482.1	0	180.4	180.4	1302
29	Sep 04 201	483.7	483.5	483.5	483.7	483.5	483.5	160.2	161.2	161.8	134.9	134.9	3.699	1	80	2	60.21	134.5	134.6	482.1	0	180.4	180.4	1302
30	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160	160.4	161	134.3	134.3	3.371	1	80	2	60.2	134.5	134.6	482.1	0	180.4	180.4	1302
31	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160.1	160.3	161.1	134.3	134.3	0	1	80	2	60.2	134.5	134.6	482.1	0	180.4	180.4	1302
32	Sep 04 201	483.8	483.6	483.5	483.8	483.6	483.5	160	161	161.3	134.6	134.6	0	1	80	2	60.2	134.5	134.6	482.1	0	180.4	180.4	1302
33	Sep 04 201	483.7	483.5	483.5	483.7	483.5	483.5	160.2	161.1	161.7	134.8	134.9	3.656	1	80	2	60.19	134.5	134.6	482.1	0	180.4	180.4	1302
34	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160.2	161.3	161.2	134.8	134.8	0	1	80	2	60.23	134.5	134.6	482.1	0	180.4	180.4	1302
35	Sep 04 201	483.8	483.6	483.6	483.8	483.6	483.6	160.1	160.6	161.1	134.5	134.5	3.484	1	80	2	60.2	134.5	134.6	482.1	0	180.4	180.4	1302
36	Sep 04 201	483.8	483.5	483.6	483.8	483.5	483.6	160	160.6	161.1	134.4	134.5	0	1	80	2	60.24	134.5	134.6	482.1	0	180.4	180.4	1302
37	Sep 04 201	483.8	483.4	483.6	483.8	483.4	483.6	160.3	159.9	160.8	134.1	134.2	0	1	80	2	60.26	134.5	134.6	482.1	0	180.4	180.4	1302
38	Sep 04 201	483.7	483.5	483.5	483.7	483.5	483.5	160.3	161.1	161.2	134.6	134.7	0	1	80	2	60.22	134.5	134.6	482.1	0	180.4	180.4	1302
39	Sep 04 201	483.7	483.4	483.5	483.7	483.4	483.5	160	160.4	161.1	134.3	134.4	3.528	1	80	2	60.22	134.5	134.6	482.1	0	180.4	180.4	1302
40	Sep 04 201	483.9	483.5	483.6	483.9	483.5	483.6	160.3	161.1	161.3	134.7	134.8	0	1	80	2	60.25	134.5	134.6	482.1	0	180.4	180.4	1302
41	Sep 04 201	483.7	483.5	483.5	483.7	483.5	483.5	160.2	160.5	161	134.4	134.4	3.393	1	80	2	60.21	134.5	134.6	482.1	0	180.4	180.4	1302
42	Sep 04 201	483.8	483.6	483.5	483.8	483.6	483.5	160.2	160.7	160.8	134.4	134.5	3.387	1	80	2	60.2	134.5	134.6	482.1	0	180.4	180.4	1302
43	Sep 04 201	483.8	483.6	483.5	483.8	483.6	483.5	160.2	160.7	160.8	134.4	134.5	3.387	1	80	2	60.2	134.5	134.6	482.1	0	180.4	180.4	1302
44	Sep 04 201	483.8	483.4	483.5	483.8	483.4	483.5	160	161.1	161.5	134.7	134.7	0	1	80	2	60.19	134.5	134.6	482.1	0	180.4	180.4	1302

