ELECTRIMATE ELECTRICAL ESTIMATING SOFTWARE

TUTORIAL

Electrimate is a powerful, yet easy to use spreadsheet for electrical estimating. It is designed for use with Microsoft™ Excel™ 97 or 2000.

Disclaimer

It is not the purpose of Electrimate or this tutorial to teach anyone how to estimate. It is assumed that the user of Electrimate is a professional electrical estimator. Electrimate does not warrant the profitability or accuracy of any estimate prepared with Electrimate.

Installing Electrimate

Copy the Electrimate files to your My Documents folder on your computer. An alternate location could be your Desktop or a new directory anywhere on your hard drive. Hard drives do fail sooner or later, so keeping a backup on a CD, portable hard drive, or a USB drive is highly recommended.
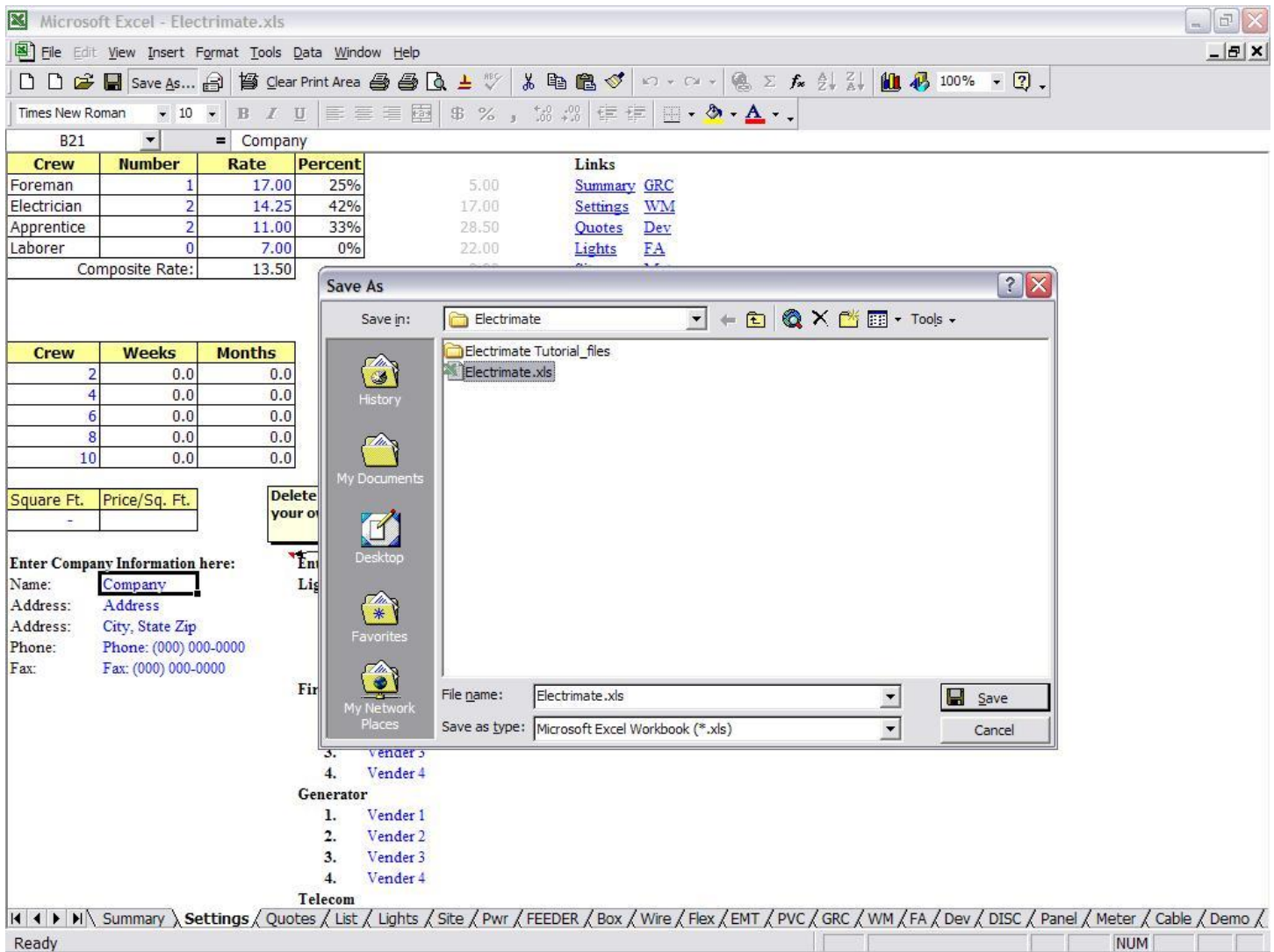
Using Electrimate

Select the Electrimate template for the version of Excel or Open Office Calc that you use. Or you can start Excel or Calc and then open Electrimate.

Customizing your Electrimate spreadsheet

The first step in customizing Electrimate is to enter your company information. This is done on the settings page. Note that all items in blue font can be changed. You can enter your default labor rates on this page also. These can always be modified on any bid at any time. If you wish to use your company letterhead on RFQ's and Bids, delete the fields as needed. After entering your company information, select File, Save As and browse to C:\Program Files\Electrimate and replace Electrimate.xls. Do this at any time that you want to modify your master spreadsheet.

You should check your pricing level and labor units for all items in Electrimate. Update and change them as needed, then save the master spreadsheet.

Microsoft Excel - Electrimate.xls

File Edit View Insert Format Tools Data Window Help

Times New Roman   10   B I U $ % ,   100%

B21   =   Company

Crew	Number	Rate	Percent			Links	
Foreman	1	17.00	25%		5.00	Summary	GRC
Electrician	2	14.25	42%		17.00	Settings	WM
Apprentice	2	11.00	33%		28.50	Quotes	Dev
Laborer	0	7.00	0%		22.00	Lights	FA
Composite Rate:		13.50					

Crew	Weeks	Months
2	0.0	0.0
4	0.0	0.0
6	0.0	0.0
8	0.0	0.0
10	0.0	0.0

Square Ft.	Price/Sq. Ft.
-	

Enter Company Information here:
Name: Company
Address: Address
Address: City, State Zip
Phone: Phone: (000) 000-0000
Fax: Fax: (000) 000-0000

Save As

Save in: Electrimate

Electrimate Tutorial_files
Electrimate.xls

History
My Documents
Desktop
Favorites
My Network Places

File name: Electrimate.xls
Save as type: Microsoft Excel Workbook (*.xls)

Save   Cancel

3.   Vender 3
4.   Vender 4
Generator
1.   Vender 1
2.   Vender 2
3.   Vender 3
4.   Vender 4
Telecom

Summary \ Settings \ Quotes \ List \ Lights \ Site \ Pwr \ FEEDER \ Box \ Wire \ Flex \ EMT \ PVC \ GRC \ WM \ FA \ Dev \ DISC \ Panel \ Meter \ Cable \ Demo

Ready   NUM

Estimating a new job

Please note that as this point we will be skipping around the spreadsheet in order to detail the process of creating a bid.

Open Electrimate from the start menu or desktop. Enter the Estimate # (if desired) and job name, notes, and bid date. Any of the items in blue can be edited to suit. Go to File, Save As and save your new estimate to whatever folder you want to use. I save mine to My Documents\Bids. Give the file a name that lets you know what job it is for. Such as: New Building for Entergy.xls. Now you are ready to start your estimate.

Note that in Excel the F2 key allows you to edit any field. In Electrimate Transition Formula Evaluation is turned on in the Tools, Options menu. This allows you to hit F2 then use +, -, *, / to modify the contents of a cell with out putting = in front of it. So rather than having to totally change a cell to add to it you can use F2, + to add to it. This lets you see each quantity entered from different take-off sections.

Note that bid items and added on the fly in any of the blank cells at the bottom of each sheet. Enter Qty, Cost, Labor and the cost and labor will be extended and entered into the estimate automatically. As you use Electrimate more, you will see that some items need to added permanently. To do this start a new estimate, enter the items, then Save As a Template and replace your Master Template. Backup this template often. I use a Zip disk for this. The Electrimate template will compress to about .5 meg if you wish to pkzip it and back it up to floppy disk.

A note about Protection:

All of the sheets in the template are protected to insure against casual mistakes. Protection can be turned off in the Tools, Protection menu. There are no passwords on any of the sheets. Care should be taken once Protection is turned off. It can be turned back on just as easily after making modifications.

Once you have modified all the items necessary, SAVE your estimate! Give it a unique name or number and save it. I save all my estimates to My Documents\Bids. Use whatever works best for you. SAVE YOUR ESTIMATE OFTEN when taking off the job. I cannot stress this enough. A power outage can ruin your day!

Summary Sheet

The Summary sheet shows the totals of all the items in your bid. All the fields in blue can be changed as needed at any time during the bid process. The quoted price field is taken from the Quotes sheet. Changing the Labor Rate must be done on the Settings page. All information needed in the RFQ sheets comes from the Summary sheet.

Settings Sheet

Change the labor makeup and rates as needed. The Crew makeup section is for evaluating the job after completing the estimate. The square foot section is also for use after completing the estimate. If you did not use the square foot formulas in the Pwr page, enter the square footage of the building for comparison purposes. Clicking the Links field on any page of the estimate will bring you back to this page. Then you can click any of the page names in blue to be taken directly to that page. Clicking the page tabs at the bottom of the screen do that as well. You can also use Control-Page Up and Control-Page Down to move around the pages.

Bid Take-Off

It is important to send out a list of quoted items to suppliers as early in the bid process as possible. This gives them time to get the best prices. I start by taking off the lights. Change the names of the lights as needed and change the number of boxes, whips, and labor as needed. All items from the Lighting sheet will be available on the Lighting RFQ sheet for printing out and sending to the suppliers.

Lighting Items	Lay in	Surface	Downlight	Exit Emergency	Wall Pack	High Bay, Fan, Chand.	Track Live End Feed	4' Track	8' Track	Track Heads	Pole Light	Box each	Fixture Whip each	Cost	Labor	Total Cost	Total Labor	Links	Total Boxes	Total Whips
A	210											0.5	1	0.00	1.20	0	252		105	210
AX (battery ballast)	58											0.5	1	0.00	1.20	0	69.6		29	58
B	42											0.5	1	0.00	1.20	0	50.4		21	42
BX (battery ballast)	17											0.5	1	0.00	1.20	0	20.4		9	17
C		12										1.0	0	0.00	1.00	0	12		12	0
D			48									1.0	1	0.00	1.00	0	48		48	48
E single face exit				10								2.0	1	2.70	2.00	27	20		20	10
E double face exit				6								2.0	1	2.70	2.00	16.2	12		12	6
F		14										1.0	0	0.00	1.00	0	14		14	0
G			15									1.0	1	0.00	1.00	0	15		15	15
H					12							2.0	0	0.00	2.00	0	24		24	0
J			6									1.0	1	0.00	1.00	0	6		6	6
K							4		4	32		1.0	1	0.00	1.65	0	66		4	4
L							2	2		16		1.0	1	0.00	1.50	0	30		2	2
M		4										1.0	0	0.00	1.00	0	4		4	0
N		3										1.0	0	0.00	1.00	0	3		3	0
P single head pole											4	0.0	0	0.00	0.00	0	0		0	0
P double head pole											6	0.0	0	0.00	0.00	0	0		0	0
P quad head pole											2	0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0
												0.0	0	0.00	0.00	0	0		0	0

Sheet tabs: Summary / Settings / Quotes / List / **Lights** / Site / Pwr / Box / Wire / FEEDER / Flex / EMT / PVC / GRC / WM / Dev / FA / Meter / DISC / Panel / Cable / Demo / Lug / RFQ Light

Follow the directions on the RFQ Lighting sheet and then print and fax to suppliers as needed. Change the Page 1 of 1 as needed to add schedules, specifications, etc.

Microsoft Excel - Sample Bid

File Edit View Insert Format Tools Data Window Help

RFQ_Lights   = GE Supply

My Electric Company   Request for Quotation

Address   Phone: (000) 000-0000
City, State, Zip   Fax: (000) 000-0000

                                                July 22, 2001
To: GE Supply   Page 1 of 1

Job: Sample Bid
Bid date: 7/27/01 at 2 p.m.

> Click down-arrow, then choose Custom - is greater than 0.
> Then enter other items as needed.

Lights:

Qty	Item
210	A
58	AX (battery ballast)
42	B
17	BX (battery ballast)
12	C
48	D
10	E single face exit
6	E double face exit
14	F
15	G
12	H

Settings / Quotes / List / Lights / Site / Pwr / Box / Wire / FEEDER / Flex / EMT / PVC / GRC / WM / Dev / FA / Meter / DISC / Panel / Cable / Demo / Lug / **RFQ Lights** / RFQ Gea

Filter Mode   NUM

Gear Take-off

Next I take off all the gear that needs to be quoted. Do this on the DISC sheet. Note that all fields in yellow will be automatically entered into the RFQ Gear sheet. Any items not in yellow will still be entered into the RFQ Gear sheet, but must be manually added to the Panel or other sheets.

Microsoft Excel - Sample Bid

File Edit View Insert Format Tools Data Window Help

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Disconnects

Qty					
	30A				
	60A				GD NF
	100A				HD NF
	200A				GD Fused
	400A				HD Fused
	600A	1P			GD SN NF
	800A	2P		N1	HD SN NF
	1200A	3P	250V	3R	GD SN Fused
Qty	2000A	4P	600V	4X	HD SN Fused
2	30A	3P	600V	3R	HD Fused
6	30A	2P	250V	N1	GD SN Fused
5	100A	3P	250V	N1	GD NF

Panel / Swbd

Qty	Name		Notes
		100A Panel	
		150A Panel	
		200APanel	
		225A Panel	
		300A Panel	
		400A Panel	
		600A Panel	
		800A Panel	
		1000A Panel	
		1200A Panel	
		1600A Swbd	
		2000A Swbd	
		3000A Swbd	
Qty	Name	4000A Swbd	Notes
1	A	1200A Panel	Nema 3R
1	B	400A Panel	
1	C	225A Panel	
1	D	225A Panel	

Transformer, Etc.

Qty	Name		Notes
		15 KVA	
		30 KVA	
		45 KVA	
		75 KVA	
		112.5 KVA	
		150 KVA	
		225 KVA	
		300 KVA	
		500 KVA	
		750 KVA	
		1000 KVA	480D-208Y/12
		2000 KVA	480D-208Y/12
		Time Clock	
Qty	Name	Lgt. Contactor	No(tes)
1	LC-1	Lgt. Contactor	10 pole 120v coil
1	TC	Time Clock	7 day 24 hour
1	T-1	75 KVA	480D-208Y/120V
1	T-2	45 KVA	480D-208Y/120V

Notes (column A): Turn Caps Lock ON Links. Items in yellow on this page will be entered into the Panels page. Any others must be entered manually. All items on this page will be entered into the RFQ Gear page.

Sheet tabs: List / Lights / Site / Pwr / Box / Wire / FEEDER / Flex / EMT / PVC / GRC / WM / Dev / FA / Meter / **DISC** / Panel / Cable / Demo / Lug / RFQ Lights / RFQ Gear / RFQ Misc / Quote

Ready   CAPS NUM

Follow the directions on the RFQ Gear sheet and then print and fax to suppliers as needed. Change the Page 1 of 1 as needed to add schedules, specifications, etc.

Screenshot of Microsoft Excel – Sample Bid showing a Request for Quotation form:

My Electric Company   **Request for Quotation**

Address   Phone: (000) 000-0000
City, State, Zip   Fax: (000) 000-0000

                                           July 22, 2001
To: GE Supply   Page 1 of 3

Job: Sample Bid
Bid date: 7/27/01 at 2 p.m.

Callout box: Click down-arrow, then choose Custom - is greater than 0. Then enter other items as needed.

Gear:

Qty	Item					
2	30A	3P 600V 3R HD Fused				
6	30A	2P 250V N1 GD SN Fused				
5	100A	3P 250V N1 GD NF				
1	A	1200A Panel	Nema 3R			
1	B	400A Panel				
1	C	225A Panel				
1	D	225A Panel				
1	LC-1	Lgt. Contactor	10 pole 120v coil			
1	TC	Time Clock	7 day 24 hour			
1	T-1	75 KVA	480D-208Y/120V 3P N1 XFMR			
1	T-2	45 KVA	480D-208Y/120V 3P N1 XFMR			

Sheet tabs: List / Lights / Site / Pwr / Box / Wire / FEEDER / Flex / EMT / PVC / GRC / WM / Dev / FA / Meter / DISC / Panel / Cable / Demo / Lug / RFQ Lights \ **RFQ Gear** / RFQ Misc \ Quote

Filter Mode   NUM

Miscellaneous Take-off

Enter devices and miscellaneous items as needed throughout the estimate. Enter quantity in the Qty cell. Change Cost and Labor cells as needed. Do not change any of the Total or From cells. These cells are protected so that casual changes are not allowed. Look at the sheets in the sample bid to see how items are entered.

	A	B	C	D	E	F	G
1	Device Items	Qty	Cost	Labor	Total Cost	Total Labor	Links
2	Rect residential		1	0.25	0	0	
3	Rect 1221		3	0.25	0	0	
4	Rect 5262		4.7	0.25	0	0	
5	Rect 5362	250	5.5	0.25	1375	62.5	
6	Rect IG	38	6.5	0.25	247	9.5	
7	Rect 30 Amp 250v	10	10	0.5	100	5	
8	Rect 50 Amp 250v	2	10	0.8	20	1.6	
9	GFI		10	0.4	0	0	
10	GFI 5362	18	15	0.4	270	7.2	
11	Sw res. Grade		1	0.25	0	0	
12	Sw 1201		2.1	0.25	0	0	
13	Sw 1221	39	5.5	0.25	214.5	9.75	
14	3 Way res. grade		1.5	0.3	0	0	
15	3 Way 1203		4	0.3	0	0	
16	3 Way 1223	8	7.5	0.3	60	2.4	
17	2 pole switch	2	10.2	0.3	20.4	0.6	
18	Motor rated sw	5	17	0.5	85	2.5	
19	Dimmer 600w		12	0.5	0	0	
20	Dimmer 1000w	2	50	0.5	100	1	
21	Dimmer 1500w		80	0.5	0	0	
22	Dimmer 2000w		110	0.5	0	0	
23	Key switch		9.1	0.3	0	0	
24	Photocell	2	12	1	24	2	
25	Power Pole	6		2.5	0	15	
26	Plugmold 6ft - 12" c		27	1	0	0	
27	Plugmold 6" center		35	1	0	0	
28	Plugmold 3'		20.4	1	0	0	
29	Taymac cover	4	12.5	0.1	50	0.4	
30	WT Cover	2	6	0.1	12	0.2	
31					0	0	
32					0	0	
33					0	0	
34					0	0	

Pwr Sheet

The Pwr sheet contains a square foot calculator that will figure all branch circuits for an AVERAGE office building. By this I mean an office building that is all normal sized offices. The square footage of any open areas should not be figured when calculating square footage. Lighting branch circuits are figured by dividing the building square footage by 4.5 to get pipe footage and then multiplying by 4 for #12 wire. Receptacle branch circuits are figured by dividing by 4. Entering the square footage on the Pwr sheet is all that is needed to enter all the pipe and wire into the estimate. I caution you to only use this if you absolutely sure it will work in your particular estimate. Use your normal method of taking off branch circuits as needed.

FEEDER Sheet

Branch and any other circuits can be entered into the FEEDER sheet. All quantities of conduit, wire, boxes, etc. are automatically entered into the appropriate sheets from the Feeder Worksheet which is a hidden sheet that sums the items entered on the FEEDER sheet. Any of the yellow field at the top with a red top right corner have comments that detail how to use the sheet. Note that as in the DISC sheet, only items in the yellow field can be used on the FEEDER sheet. Any other items must be entered into the appropriate sheets manually.

Cell reference: B17

Feed #	From	To	Type (EMT PVC GRC)	Size	# of Runs	Run Length	Total Length	Elbow #	Elbow (EMT PVC GRC PVCLR GRCLR)	Add Elbow #	Add Elbow (EMT PVC GRC PVCLR GRCLR)	Greenfield	Sealtite	Straight Conn.	90 Conn.	GRC nipple	LB	4" Box	6" Box	12" Box	Equipment	# of Runs	#	Phase	#
	ENTERGY XFMR	MDP	PVC	4.00	3	60	180	4	PVCLR	4	GRC					4						3	4	500	
	MDP	A	PVC	4.00	1	20	20	2	GRC							2						1	4	500	
	MDP	B	PVC	2.50	1	70	70	2	GRC							2						1	4	4/0	
	MDP	C	PVC	2.50	1	110	110	2	GRC							2						1	4	4/0	
	A	AHU-1	EMT	1.50	1	120	120	2	EMT			3		2						1		1	3	1/0	
	A	AHU-2	EMT	1.50	1	80	80	2	EMT			3		2							1	1	3	1/0	
	A	CU-1	PVC	0.75	1	35	35	2	GRC			3		1	1						1	1	3	10	
	A	CU-2	PVC	0.75	1	25	25	2	GRC			3		1	1						1	1	3	10	
	B	WTR HT	EMT	0.75	1	30	30					3		2					1			1	2	8	

Sheet tabs: List / Lights / Site / Pwr / Box / Wire / **FEEDER** / Flex / EMT / PVC / GRC / WM / Dev / FA / Meter / DISC / Panel / Cable / Demo / Lug / RFQ Lights / RFQ Gear / RFQ Misc / Quote

Ready — CAPS NUM

Site Sheet

The Site sheet is for entering quantities and amounts for costs related to site work, etc. Add or modify items as needed.

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Site Items	Qty	Cost	Labor	Total Cost	Total Labor	Links				From Feeder				
2	Temporary Power	1	200	16	200	16	Total:	606							
3	Permit	1	400		400	0									
4	Storage	8	125		1000	0									
5	Hand Trench per hr	10		1	0	10									
6	Trench per ft		1	0.05	260	13					260				
7	Backhoe per hr		50		250	0					5				
8	Remove dirt sq. yd.		7.5		52.5	0					7				
9	Red concrete per yd.		75	0.2	0	0					0				
10	Pipe Chairs		1	0.1	0	0					0				
11	Bore poles per hr	12	50	1	600	12	Poles:	5519.04	2400.00	162.00					
12	Set poles per hr	12	50	1	600	12			216.00	2268.00					
13	Pole light bases	12	150	12.5	1800	150			2616.00	635.04					
14	Phone Board		50	1.5	0	0									
15	Core drill per day	2	300		600	0			2903.04						
16	Scissor lift per month	4	400		1600	0									
17	Crane per hour	10	80		800	0									
18	Jack hammer per day		110	8	0	0									
19					0	0									
20	XFMR pad	1	750	8	750	8									
21	Generator pad	1	350	8	350	8									
22					0	0									
23					0	0									
24					0	0									
25					0	0									
26					0	0									
27					0	0									
28					0	0									
29					0	0									
30					0	0									
31					0	0									
32					0	0									
33					0	0									
34					0	0									

Summary / Settings / Quotes / List / Lights \ Site / Pwr / Box / Wire / FEEDER / Flex / EMT / PVC / GRC / WM / Dev / FA / Meter / DISC / Panel / Cable / Demo / Lug / RFQ Light

Ready   NUM

Finishing your estimate

After entering all the take-off items into your estimate, enter the quotes from your suppliers in the Quotes sheet. Modify items as needed in the Summary sheet and enter the Quoted price in the field at the bottom. This amount is transferred to the Quote sheet.

File Edit View Insert Format Tools Data Window Help

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D32   =

Links

Estimate Information
Estimate Number: 2001
Labor Rate: 14.00
Total Manhours: 1,685

Burdens Applied
Material Taxes: 9%
Labor Taxes: 28%
Quotes Taxes: 9%

Cost Amounts
Material With Taxes: 23,671
Quotes With Taxes: 26,901
Labor With Taxes: 30,201

Total Cost: **80,773**

Cost Markups
Gross Markup: 20%
Bond: 0%
Supervision: 1%

Markup Amounts
Gross Markup: 16,155
Bond: 0
Supervision: 969

Grand Total Estimate: **97,897**

Quoted Price: **98,000**

Profit Margin: **18%**

Project Title: Sample Bid
Note: Note(s)
Bid Date: 7/27/01 at 2 p.m.

Cost Analysis

Category	Value
Misc. Material	3,066
Site	10,096
Feeders	4,809
Branch	77
Conduit/Box	5,576
Quotes	26,901
Labor	30,201

Value Axis

Summary / Settings / Quotes / List / Lights / Site / Pwr / Box / Wire / FEEDER / Flex / EMT / PVC / GRC / WM / Dev / FA / Meter / DISC / Panel / Cable / Demo / Lug / RFQ Light

Ready   NUM

Quote Sheet

Enter inclusions and exclusions as needed and print the sheet for faxing your bid.
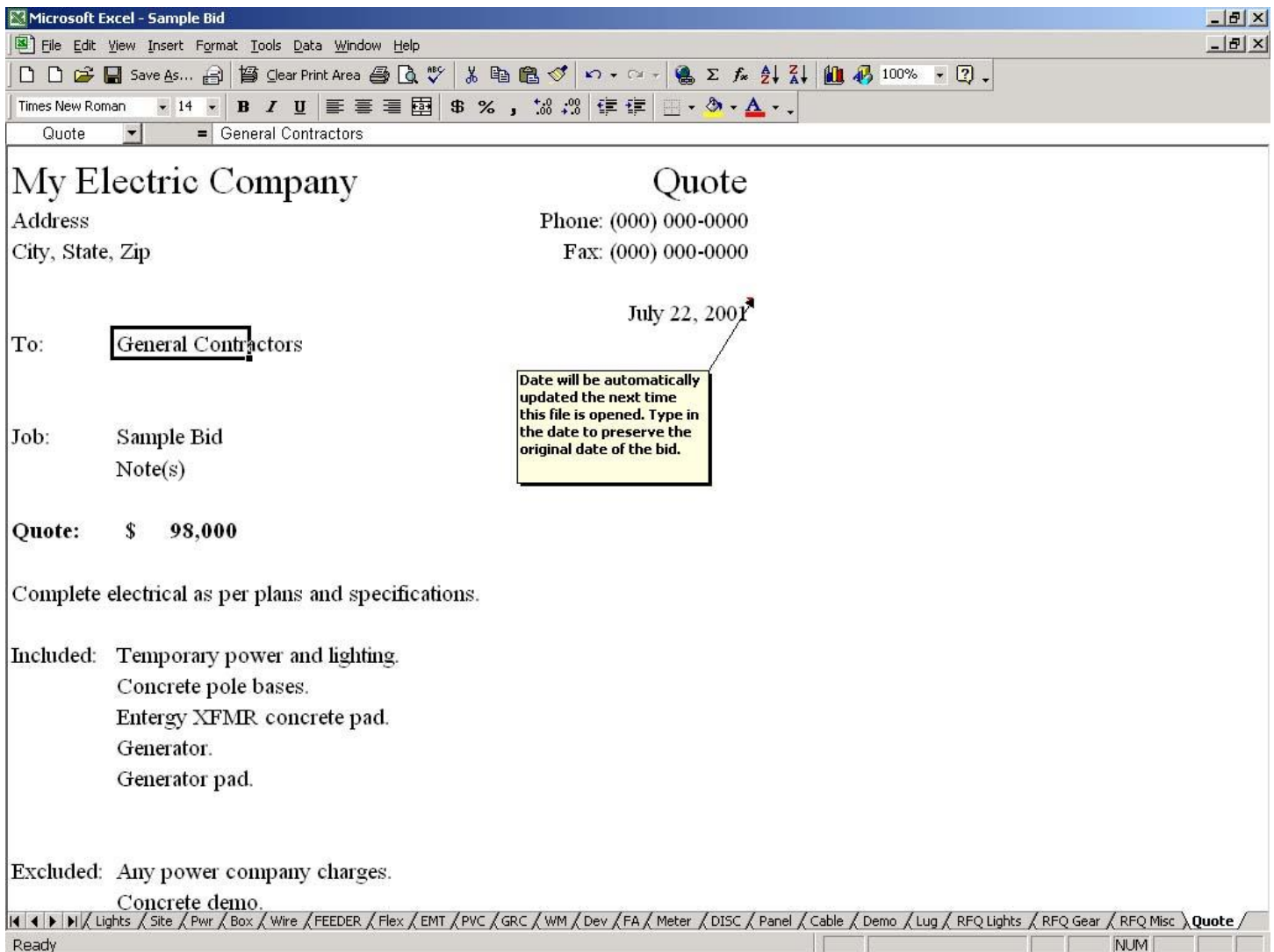
Additional Information

The method of updating prices for conduit, wire, and other common commodities, has been revised. Instead of having to determine the unit prices, you can enter the price per each, 100, or 1000 in the columns at the right. This is how supply houses usually provide pricing and it will work with services such as Trade Service, but not automatically - you will have to cut and paste from their system. You can also use retail pricing and set the markup factor according to your discount level.

The additional database that is provided is very out of date. The labor units should be ok, but the prices are not at all current. A cut-and-paste interface is provided. Just make sure you are pasting to a blank line at the bottom of the pages. Follow the on screen prompts; it does work very well if you do exactly as instructed.

All prices should be updated often. I have no way to know what you actually pay for materials. Each supply house sets it's own pricing per customer. Get with your supply houses' outside salesmen and they will provide you with current pricing. That is an ongoing process and you will have to keep up with it in order to stay up to date.

A couple of links that will help with pricing are:

http://www.southwire.com   they have current retail pricing of wire online. Your wholesale pricing with be different, so set the markup factors accordingly.

http://dale-electric.com   they have an online catalog and are a full line electrical distributor with very good prices. I highly recommend them.

Contact Information

If you have any questions regarding Electrimate send email to support@electrimate.com

Good luck and I hope Electrimate fills your estimating needs.