

# 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™ or any spreadsheet program that will open Excel™ files .

### 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.

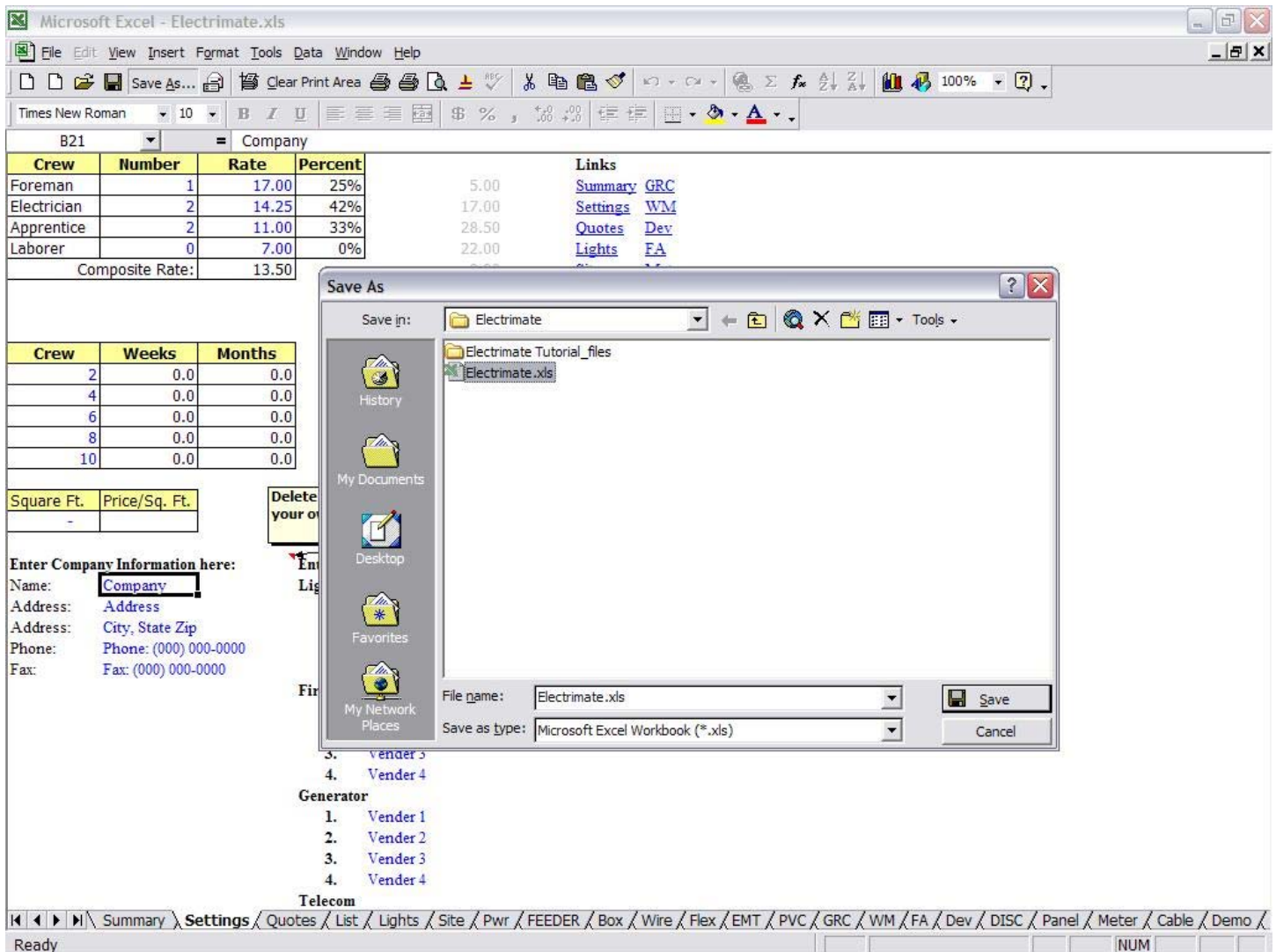
### Using Electrimate

Select the Electrimate template and open it. 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.



## 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 Energy.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.

Microsoft Excel - Sample Bid

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Summary = 2001

**Estimate Information**

Estimate Number:	2001
Labor Rate:	14.00
Total Manhours:	1,012

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

**Burdens Applied**

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

**Cost Analysis**

Misc. Material	0
Site	3,270
Feeders	0
Branch	0
Conduit/Box	2,210
Quotes	0
Labor	18,136

**Cost Amounts**

Material With Taxes:	5,527
Quotes With Taxes:	0
Labor With Taxes:	18,136
<b>Total Cost:</b>	<b>23,663</b>

**Cost Markups**

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

**Markup Amounts**

Gross Markup:	4,733
Bond:	0
Supervision:	284

**Grand Total Estimate:** 28,680

**Quoted Price:** 28,680

**Profit Margin:** 17%

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

## 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.

The screenshot displays the Microsoft Excel interface for the 'Electimate.xls' workbook. The main window shows the 'Settings' sheet with the following data:

Crew	Number	Rate	Percent
Foreman	1	17.00	25%
Electrician	2	14.25	42%
Apprentice	2	11.00	33%
Laborer	0	7.00	0%
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.
-	

Below the tables, there is a section for 'Enter Company Information here:' with fields for Name (Company), Address (Address), City, State Zip, Phone (Phone: (000) 000-0000), and Fax (Fax: (000) 000-0000). A 'Delete your o' button is also visible.

The 'Save As' dialog box is open, showing the file 'Electimate.xls' in the 'Electimate' folder. The file name is 'Electimate.xls' and the save type is 'Microsoft Excel Workbook (\*.xls)'. The status bar at the bottom shows the current page is 'Settings'.

## 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.

Microsoft Excel - Sample Bid																											
File Edit View Insert Format Tools Data Window Help																											
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L21 =																											
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
	Lighting Items	Lay in	Surface	Downlight	Exit Emergency	Wall Pack	High Bay, Fan, Chandel.	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						
1																											
2	A	210											0.5	1	0.00	1.20	0	252			105	210					
3	AX (battery ballast)	58											0.5	1	0.00	1.20	0	69.6			29	58					
4	B	42											0.5	1	0.00	1.20	0	50.4			21	42					
5	BX (battery ballast)	17											0.5	1	0.00	1.20	0	20.4			9	17					
6	C		12										1.0	0	0.00	1.00	0	12			12	0					
7	D			48									1.0	1	0.00	1.00	0	48			48	48					
8	E single face exit				10								2.0	1	2.70	2.00	27	20			20	10					
9	E double face exit				6								2.0	1	2.70	2.00	16.2	12			12	6					
10	F		14										1.0	0	0.00	1.00	0	14			14	0					
11	G			15									1.0	1	0.00	1.00	0	15			15	15					
12	H					12							2.0	0	0.00	2.00	0	24			24	0					
13	J			6									1.0	1	0.00	1.00	0	6			6	6					
14	K							4		4	32		1.0	1	0.00	1.65	0	66			4	4					
15	L							2	2		16		1.0	1	0.00	1.50	0	30			2	2					
16	M		4										1.0	0	0.00	1.00	0	4			4	0					
17	N		3										1.0	0	0.00	1.00	0	3			3	0					
18	P single head pole											4	0.0	0	0.00	0.00	0	0			0	0					
19	P double head pole											6	0.0	0	0.00	0.00	0	0			0	0					
20	P quad head pole											2	0.0	0	0.00	0.00	0	0			0	0					
21													0.0	0	0.00	0.00	0	0			0	0					
22													0.0	0	0.00	0.00	0	0			0	0					
23													0.0	0	0.00	0.00	0	0			0	0					
24													0.0	0	0.00	0.00	0	0			0	0					
25													0.0	0	0.00	0.00	0	0			0	0					
26													0.0	0	0.00	0.00	0	0			0	0					
27													0.0	0	0.00	0.00	0	0			0	0					
28													0.0	0	0.00	0.00	0	0			0	0					
29													0.0	0	0.00	0.00	0	0			0	0					
30													0.0	0	0.00	0.00	0	0			0	0					
31													0.0	0	0.00	0.00	0	0			0	0					
32													0.0	0	0.00	0.00	0	0			0	0					

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

Save As... Clear Print Area 100%

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  
 Page 1 of 1

To: **GE Supply**

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

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

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

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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H20

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
1	Turn Caps Lock ON <a href="#">Links</a>							Panel / Swbd				Transformer, Etc.					
2	Items in yellow on this page will be entered into the									100A Panel						15 KVA	
3	Panels page. Any others must be entered manually.									150A Panel						30 KVA	
4	All items on this page will be entered into the									200A Panel						45 KVA	
5	RFQ Gear page.									225A Panel						75 KVA	
6	Disconnects									300A Panel						112.5 KVA	
7		30A						400A Panel							150 KVA		
8		60A						600A Panel							225 KVA		
9		100A						800A Panel							300 KVA		
10		200A						1000A Panel							500 KVA		
11		400A						1200A Panel							750 KVA		
12		600A	1P					1600A Swbd							1000 KVA	480D-208Y/12	
13		800A	2P		N1			2000A Swbd							2000 KVA	480D-208Y/12	
14		1200A	3P	250V	3R			3000A Swbd							Time Clock		
15	Qty	2000A	4P	600V	4X			4000A Swbd		Notes							
16	2	30A	3P	600V	3R			1	A	1200A Panel	Nema 3R		1	LC-1	Lgt. Contactor	10 pole 120v coil	
17	6	30A	2P	250V	N1			1	B	400A Panel			1	TC	Time Clock	7 day 24 hour	
18	5	100A	3P	250V	N1			1	C	225A Panel			1	T-1	75 KVA	480D-208Y/120V	
19								1	D	225A Panel			1	T-2	45 KVA	480D-208Y/120V	
20																	
21																	
22																	
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35																	
36																	

Ready

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

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.

Microsoft Excel - Sample Bid

File Edit View Insert Format Tools Data Window Help

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RFQ\_Gear = Qty

# My Electric Company Request for Quotation

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

July 22, 2001  
 Page 1 of 3

To: GE Supply

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

Gear:

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

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

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	H	I	J	K	L	M	N
1	Device Items	Qty	Cost	Labor	Total Cost	Total Labor	<a href="#">Links</a>							
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.

Microsoft Excel - Sample Bid

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B17 =

Description			Conduit														Wires per								
			Type	Size	# of Runs	Run Length	Total Length	Elbow	Add Elbow	Flex			Fitting							# of	#	Phase	#		
Feed #	From	To	EMT PVC GRC					EMT PVC GRC PVCLR	#	EMT PVC GRC PVCLR	#	Greenfield	Sealtite	Straight Conn.	90 Conn.	GRC nipple	LB	4" Box	6" Box	12" Box	Equipment	Runs			
	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	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	

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.

Microsoft Excel - Sample Bid

File Edit View Insert Format Tools Data Window Help

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A22 =

	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										
7	Backhoe per hr		50		250	0										
8	Remove dirt sq. yd.		7.5		52.5	0										
9	Red concrete per yd.		75	0.2	0	0										
10	Pipe Chairs		1	0.1	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.

Microsoft Excel - Sample Bid

File Edit View Insert Format Tools Data Window Help

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D32 =

**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%**

**Links**

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

**Cost Analysis**

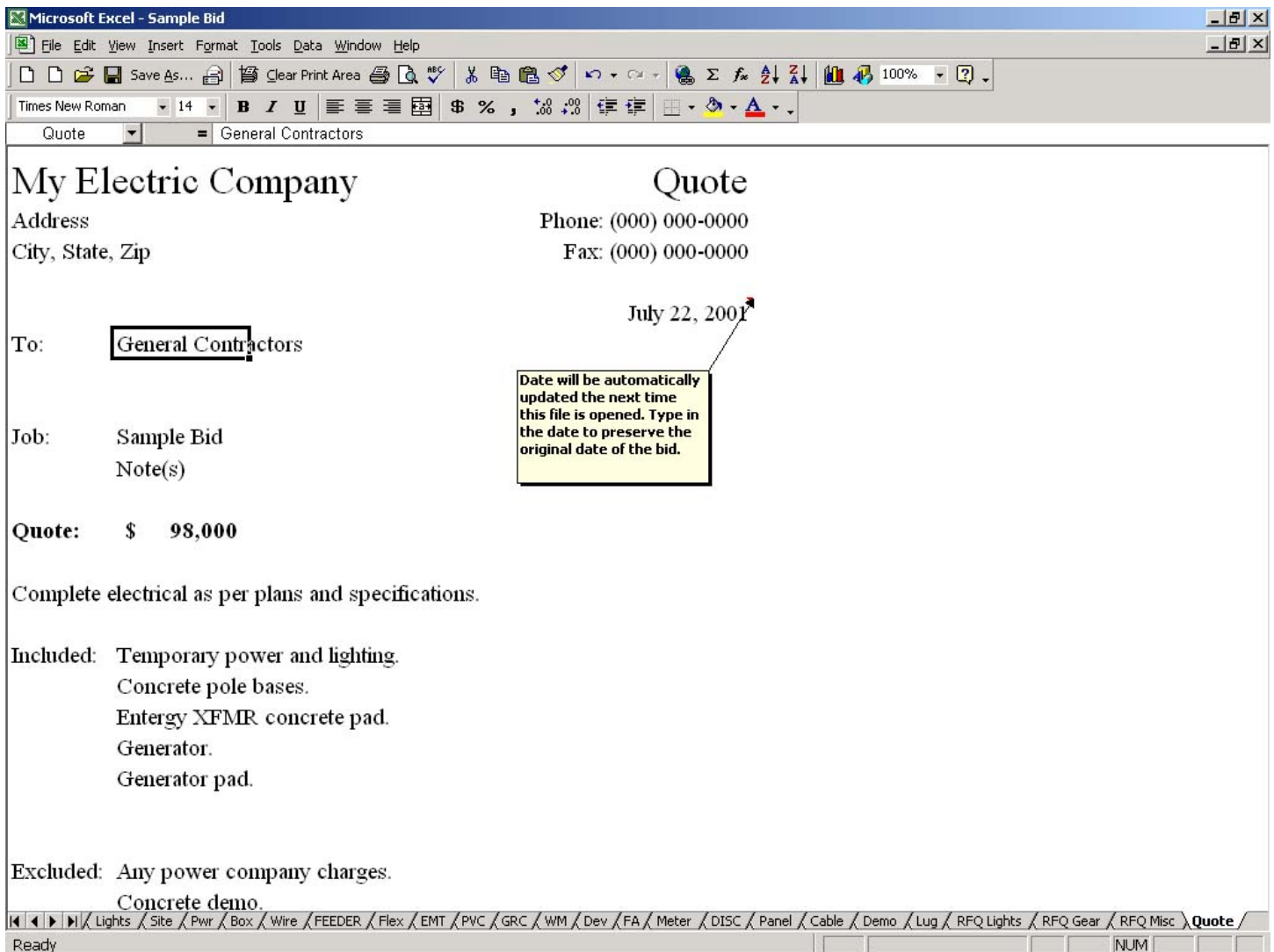
Category	Value
Misc. Material	3,066
Site	10,096
Feeders	4,809
Branch	77
Conduit/Box	5,576
Quotes	26,901
Labor	30,201

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 will 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](mailto:support@electrimate.com)

Good luck and I hope Electrimate fills your estimating needs.