

2001 Housing Characteristics Tables

Air Conditioning Tables

(Million U.S. Households; 24 pages, 138 kb)

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These data are from the 2001 Residential Energy Consumption Survey (RECS) which provides information on the use of energy in residential housing units in the United States. The RECS is a national statistical survey that collects energy-related data for occupied primary housing units. RECS was first conducted in 1978; the eleventh and most recent survey was conducted in 2001. In the 2001 RECS, data were collected from a sample of 4,822 households in housing units statistically selected to represent the 107.0 million housing units in the United States. The RECS data are available for the four Census regions, the nine Census divisions, and for the four most populous States--California, Florida, New York, and Texas.

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World Wide Web: <http://www.eia.doe.gov/emeu/consumption>

**Table HC4-1a. Air Conditioning by Climate Zone,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total	Climate Zone ¹					RSE Row Factors
		Fewer than 2,000 CDD and --				2,000 CDD or More and Fewer than 4,000 HDD	
		More than 7,000 HDD	5,500 to 7,000 HDD	4,000 to 5,499 HDD	Fewer than 4,000 HDD		
RSE Column Factor:	0.4	2.1	1.0	0.9	1.5	1.0	
Total Households With							
Air-Conditioning	82.9	5.4	20.9	20.2	14.2	22.1	8.1
Air Conditioners Not Used	2.1	Q	0.4	0.3	0.8	0.4	23.2
Households Using Electric Air-Conditioning²	80.8	5.3	20.5	19.9	13.4	21.8	8.2
Type of Electric Air-Conditioning Used							
Central Air-Conditioning ³	57.5	3.1	12.9	12.7	10.5	18.2	9.2
Without a Heat Pump	46.2	3.0	12.1	9.8	7.0	14.3	10.7
With a Heat Pump	11.3	Q	0.9	2.9	3.5	3.9	19.5
Room Air-Conditioning	23.3	2.2	7.6	7.2	2.9	3.6	11.3
1 Unit	12.8	1.4	4.5	3.4	1.9	1.5	13.5
2 Units	7.5	0.5	2.2	2.5	0.8	1.4	13.8
3 or More Units	3.0	0.2	0.8	1.2	0.2	0.7	20.1
Number of Rooms Air-Conditioned in Summer 2001							
One or Two	12.3	0.8	4.4	3.6	1.8	1.8	12.1
Three	9.2	0.9	2.2	2.2	1.6	2.4	16.5
Four	12.0	0.8	2.6	3.1	1.7	3.8	14.4
Five or More	47.3	2.8	11.3	11.0	8.4	13.8	9.6
Percentage of Rooms Air-Conditioned							
100%	58.8	3.3	13.5	13.7	10.3	18.0	9.4
50% to 99%	12.1	1.1	3.2	3.2	1.7	2.8	13.0
25% to 49%	6.4	0.5	2.3	2.1	0.8	0.7	15.0
1% to 24%	3.5	0.3	1.5	0.8	0.5	0.3	18.9
Large Tree(s) that Shade the Home							
Yes	41.5	2.6	10.0	9.5	6.9	12.5	10.5
No	39.3	2.6	10.5	10.4	6.4	9.3	10.1
Central Air-Conditioner Age (excludes systems for more than one housing unit)							
Less than 2 Years	6.1	0.4	1.1	1.4	1.2	1.9	17.0
2 to 4 Years	10.1	0.5	2.6	2.2	2.0	2.9	15.5
5 to 9 Years	15.4	0.9	3.2	3.3	3.0	5.0	13.1
10 to 19 Years	15.0	0.8	3.7	3.1	2.8	4.6	14.1
20 Years or More	5.7	0.5	1.4	1.1	1.0	1.7	17.9
Don't Know	3.7	Q	0.6	1.0	0.4	1.7	23.3
Central Air-Conditioning Use							
Only a Few Times	16.8	1.8	5.9	4.2	2.9	1.9	12.5
Quite a Bit	12.1	0.5	3.4	3.2	1.6	3.4	13.6
All Summer	28.4	0.7	3.6	5.3	6.0	12.8	12.2

See footnotes at end of table.

**Table HC4-1a. Air Conditioning by Climate Zone,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total	Climate Zone ¹					RSE Row Factors
		Fewer than 2,000 CDD and --				2,000 CDD or More and Fewer than 4,000 HDD	
		More than 7,000 HDD	5,500 to 7,000 HDD	4,000 to 5,499 HDD	Fewer than 4,000 HDD		
RSE Column Factor:	0.4	2.1	1.0	0.9	1.5	1.0	
Pays for Electricity for Central Air-Conditioning							
Yes	55.5	3.1	12.5	12.1	10.3	17.4	9.4
No	2.0	Q	0.4	0.6	Q	0.8	30.6
Age of Most-Used Room Air Conditioner							
Less than 2 Years	3.1	0.3	1.1	0.9	0.4	0.4	21.1
2 to 4 Years	5.3	0.3	1.5	2.0	0.5	1.0	15.4
5 to 9 Years	6.4	0.7	1.8	1.9	0.8	1.2	15.4
10 or 19 Years	4.3	0.5	1.5	1.2	0.5	0.5	19.1
20 or More Years	2.0	0.2	0.7	0.6	Q	0.3	28.5
Don't Know	2.2	0.2	0.9	0.5	0.4	Q	25.9
Room Air-Conditioning Use							
Only a Few Times	13.6	1.4	5.3	4.0	1.4	1.4	12.4
Quite a Bit	5.0	0.5	1.3	1.7	0.7	0.8	19.9
All Summer	4.7	0.2	1.0	1.4	0.8	1.3	21.0
Pays for Electricity for Room Air-Conditioning							
Yes	21.9	2.1	7.1	6.7	2.7	3.3	11.4
No	1.5	Q	0.5	0.5	Q	Q	40.3

¹ One of five climatically distinct areas, determined according to the 30-year average (1961-1990) of the annual heating and cooling degree-days. For this report, the heating or cooling degree-days are a measure of how cold or how hot a location is over a period of one year, relative to a base temperature of 65 degrees Fahrenheit. A household is assigned to a climate zone according to the 30-year average annual degree-days for an appropriate nearby weather station.

² The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

³ The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-2a. Air Conditioning by Year of Construction,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total	Year of Construction						RSE Row Factors
		1990 to 2001 ¹	1980 to 1989	1970 to 1979	1960 to 1969	1950 to 1959	1949 or Before	
RSE Column Factor:	0.4	1.6	1.2	1.1	1.2	1.1	0.9	
Households With Electric Air-Conditioning Equipment								
Air-Conditioning Equipment	82.9	13.6	16.0	14.7	10.4	10.5	17.6	4.7
Air Conditioners Not Used	2.1	Q	0.3	0.5	0.3	0.4	0.5	27.2
Households Using Electric Air-Conditioning²								
Air-Conditioning ²	80.8	13.4	15.8	14.2	10.1	10.2	17.1	4.7
Type of Electric Air-Conditioning Used								
Central Air-Conditioning ³	57.5	12.6	13.7	11.0	7.1	6.6	6.4	5.9
Without a Heat Pump	46.2	10.1	10.4	8.0	6.1	5.9	5.7	7.0
With a Heat Pump	11.3	2.5	3.3	3.0	1.0	0.8	0.6	15.2
Room Air-Conditioning	23.3	0.8	2.1	3.1	3.1	3.5	10.8	8.7
1 Unit	12.8	0.5	1.2	2.0	1.7	1.7	5.7	11.4
2 Units	7.5	0.2	0.8	1.0	0.8	1.3	3.3	13.8
3 or More Units	3.0	Q	Q	0.2	0.5	0.5	1.7	20.9
Number of Rooms Air-Conditioned in Summer 2001								
One or Two	12.3	0.4	1.4	2.1	1.5	1.7	5.2	11.6
Three	9.2	0.8	1.7	1.9	1.7	0.9	2.2	14.3
Four	12.0	1.7	2.9	2.4	1.1	1.3	2.6	11.2
Five or More	47.3	10.4	9.8	7.9	5.9	6.2	7.1	6.5
Percentage of Rooms Air-Conditioned								
100%	58.8	11.5	13.3	11.0	7.4	6.7	8.9	5.6
50% to 99%	12.1	1.6	1.6	2.1	1.6	1.9	3.2	11.3
25% to 49%	6.4	Q	0.7	0.7	0.8	0.9	3.1	14.6
1% to 24%	3.5	Q	0.2	0.3	0.3	0.6	1.9	20.0
Large Tree(s) that Shade the Home								
Yes	41.5	4.6	7.5	8.2	6.2	6.0	9.1	6.5
No	39.3	8.8	8.3	6.0	4.0	4.1	8.1	6.9
Central Air-Conditioner Age (excludes systems for more than one housing unit)								
Less than 2 Years	6.1	1.7	1.2	1.1	0.8	0.7	0.6	15.8
2 to 4 Years	10.1	3.5	1.3	1.7	1.2	1.2	1.3	13.5
5 to 9 Years	15.4	6.0	1.8	2.3	1.8	1.7	1.8	11.1
10 to 19 Years	15.0	1.3	7.3	1.9	1.7	1.5	1.4	11.4
20 Years or More	5.7	Q	0.8	2.5	0.9	0.8	0.6	17.5
Don't Know	3.7	Q	1.0	1.2	0.4	0.6	0.5	19.2
Central Air-Conditioning Use								
Only a Few Times	16.8	3.5	3.5	3.0	2.1	2.5	2.2	10.0
Quite a Bit	12.1	2.8	2.7	2.2	1.6	1.4	1.5	11.4
All Summer	28.4	6.3	7.5	5.8	3.3	2.8	2.7	8.3

See footnotes at end of table.

**Table HC4-2a. Air Conditioning by Year of Construction,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total	Year of Construction						RSE Row Factors
		1990 to 2001 ¹	1980 to 1989	1970 to 1979	1960 to 1969	1950 to 1959	1949 or Before	
RSE Column Factor:	0.4	1.6	1.2	1.1	1.2	1.1	0.9	
Pays for Electricity for Central Air-Conditioning								
Yes	55.5	12.5	13.2	10.5	6.8	6.4	6.2	6.1
No	2.0	Q	0.5	0.6	0.3	Q	Q	26.3
Age of Most-Used Room Air Conditioner								
Less than 2 Years	3.1	0.2	0.2	0.4	0.3	0.5	1.5	22.3
2 to 4 Years	5.3	Q	0.4	0.6	0.6	0.9	2.6	15.2
5 to 9 Years	6.4	0.3	0.5	0.7	0.9	1.0	3.0	16.5
10 or 19 Years	4.3	Q	0.5	0.5	0.5	0.7	2.0	17.8
20 or More Years	2.0	Q	Q	0.4	0.4	0.3	0.7	24.7
Don't Know	2.2	Q	0.3	0.5	0.4	Q	0.8	24.2
Room Air-Conditioning Use								
Only a Few Times	13.6	0.4	1.2	1.7	1.7	2.3	6.3	10.7
Quite a Bit	5.0	Q	0.4	0.7	0.7	0.6	2.4	18.0
All Summer	4.7	0.2	0.4	0.7	0.7	0.7	2.1	19.3
Pays for Electricity for Room Air-Conditioning								
Yes	21.9	0.8	1.9	2.8	2.8	3.2	10.4	8.8
No	1.5	Q	Q	0.3	0.3	0.3	0.4	30.1

¹ New construction for 2001 includes only those housing units built and occupied between January and the April-August period when the household interviews were conducted.

² The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

³ The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-3a. Air Conditioning by Household Income,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total	2001 Household Income				Below Poverty Line	Eligible for Federal Assistance ¹	RSE Row Factors
		Less than \$14,999	\$15,000 to \$29,999	\$30,000 to \$49,999	\$50,000 or More			
RSE Column Factor:	0.5	1.4	1.1	1.0	0.9	1.5	0.9	
Households With Electric Air-Conditioning Equipment								
Air-Conditioning Equipment	82.9	12.3	17.4	21.5	31.7	9.6	23.4	3.9
Air Conditioners Not Used	2.1	0.4	0.7	0.5	0.5	0.4	0.9	20.8
Households Using Electric Air-Conditioning²								
Air-Conditioning ²	80.8	11.9	16.7	21.0	31.2	9.1	22.6	3.9
Type of Electric Air-Conditioning Used								
Central Air-Conditioning ³	57.5	6.2	10.7	15.2	25.3	4.5	12.4	5.3
Without a Heat Pump	46.2	4.9	9.1	12.1	20.1	3.6	10.4	6.1
With a Heat Pump	11.3	1.3	1.6	3.2	5.2	0.8	2.0	17.0
Room Air-Conditioning	23.3	5.7	6.0	5.8	5.9	4.7	10.1	6.1
1 Unit	12.8	4.0	3.4	2.9	2.5	3.3	6.3	8.1
2 Units	7.5	1.4	1.9	2.2	2.0	1.1	3.1	10.2
3 or More Units	3.0	0.3	0.7	0.7	1.3	0.3	0.8	20.0
Number of Rooms Air-Conditioned in Summer 2001								
One or Two	12.3	3.1	3.4	2.7	3.1	2.4	5.4	8.2
Three	9.2	2.7	2.7	2.1	1.7	1.9	4.1	11.4
Four	12.0	2.4	2.8	4.3	2.5	1.6	3.8	9.4
Five or More	47.3	3.7	7.9	11.9	23.8	3.2	9.3	5.7
Percentage of Rooms Air-Conditioned								
100%	58.8	8.0	11.6	15.0	24.2	6.2	15.2	4.8
50% to 99%	12.1	1.7	3.0	3.5	3.8	1.3	3.5	8.9
25% to 49%	6.4	1.5	1.4	1.7	1.8	1.2	2.7	10.6
1% to 24%	3.5	0.6	0.7	0.9	1.3	0.5	1.2	16.1
Large Tree(s) that Shade the Home								
Yes	41.5	5.0	8.5	11.2	16.8	3.9	10.4	5.9
No	39.3	6.9	8.2	9.8	14.3	5.2	12.2	5.5
Central Air-Conditioner Age (excludes systems for more than one housing unit)								
Less than 2 Years	6.1	0.7	1.1	1.0	3.2	0.7	1.3	13.7
2 to 4 Years	10.1	1.0	2.0	2.6	4.6	0.7	2.2	11.2
5 to 9 Years	15.4	1.2	2.5	3.9	7.8	0.9	2.9	10.4
10 to 19 Years	15.0	1.5	2.3	4.5	6.8	0.8	2.7	11.7
20 Years or More	5.7	0.8	1.4	1.5	2.0	0.6	1.5	15.0
Don't Know	3.7	0.5	1.3	1.2	0.8	0.3	1.3	16.7
Central Air-Conditioning Use								
Only a Few Times	16.8	1.7	3.6	4.5	6.8	1.2	3.8	9.1
Quite a Bit	12.1	1.2	2.1	3.1	5.7	0.7	2.6	10.6
All Summer	28.4	3.1	5.0	7.5	12.8	2.5	5.9	8.0

See footnotes at end of table.

**Table HC4-3a. Air Conditioning by Household Income,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total	2001 Household Income				Below Poverty Line	Eligible for Federal Assistance ¹	RSE Row Factors
		Less than \$14,999	\$15,000 to \$29,999	\$30,000 to \$49,999	\$50,000 or More			
RSE Column Factor:	0.5	1.4	1.1	1.0	0.9	1.5	0.9	
Pays for Electricity for Central Air-Conditioning								
Yes	55.5	5.5	10.3	14.6	25.1	4.0	11.5	5.5
No	2.0	0.6	0.5	0.6	Q	0.5	0.9	20.0
Age of Most-Used Room Air Conditioner								
Less than 2 Years	3.1	0.7	0.6	0.9	0.8	0.6	1.1	16.0
2 to 4 Years	5.3	1.2	1.5	1.2	1.5	0.9	2.5	11.6
5 to 9 Years	6.4	1.4	1.5	1.6	1.9	1.1	2.4	12.1
10 or 19 Years	4.3	1.0	1.1	1.2	0.9	0.7	1.8	12.5
20 or More Years	2.0	0.6	0.6	0.4	0.4	0.6	1.0	19.3
Don't Know	2.2	0.8	0.6	0.5	0.3	0.8	1.3	21.5
Room Air-Conditioning Use								
Only a Few Times	13.6	3.2	3.5	3.3	3.5	2.6	5.8	7.4
Quite a Bit	5.0	1.0	1.3	1.6	1.1	0.7	1.8	13.6
All Summer	4.7	1.5	1.2	0.8	1.2	1.3	2.5	13.4
Pays for Electricity for Room Air-Conditioning								
Yes	21.9	5.0	5.6	5.4	5.8	4.0	9.1	6.1
No	1.5	0.7	0.3	0.3	Q	0.6	1.0	25.3

¹ Below 150 percent of poverty line or 60 percent of median State income.

² The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

³ The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-4a. Air Conditioning by Type of Housing Unit,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Type of Housing Unit					RSE Row Factors
	Total	Single-Family	Apartments in Buildings With		Mobile Home	
			Two to Four Units	Five or More Units		
RSE Column Factor:	0.4	0.6	1.5	1.4	1.8	
Households With Electric Air-Conditioning Equipment	82.9	58.7	6.5	12.4	5.3	4.9
Air Conditioners Not Used	2.1	1.1	Q	0.6	Q	21.8
Households Using Electric Air-Conditioning¹	80.8	57.6	6.3	11.8	5.1	4.9
Type of Electric Air-Conditioning Used						
Central Air-Conditioning ²	57.5	43.6	3.2	7.1	3.5	6.7
Without a Heat Pump	46.2	35.0	2.4	6.1	2.7	7.7
With a Heat Pump	11.3	8.6	0.8	1.0	0.8	19.7
Room Air-Conditioning	23.3	13.9	3.1	4.7	1.6	7.7
1 Unit	12.8	6.7	1.9	3.3	0.9	9.2
2 Units	7.5	4.9	0.9	1.0	0.7	12.0
3 or More Units	3.0	2.3	0.3	0.3	Q	21.8
Number of Rooms Air-Conditioned in Summer 2001						
One or Two	12.3	6.3	2.2	3.0	0.8	9.3
Three	9.2	3.7	1.0	3.6	0.8	13.1
Four	12.0	5.8	1.8	3.1	1.3	10.8
Five or More	47.3	41.7	1.3	2.0	2.2	8.5
Percentage of Rooms Air-Conditioned						
100%	58.8	42.0	3.9	9.1	3.8	6.3
50% to 99%	12.1	8.6	1.1	1.4	0.9	10.3
25% to 49%	6.4	4.2	0.9	0.9	0.3	13.0
1% to 24%	3.5	2.7	0.4	0.3	Q	16.0
Large Tree(s) that Shade the Home						
Yes	41.5	33.1	2.2	3.6	2.5	7.6
No	39.3	24.4	4.1	8.1	2.6	7.3
Central Air-Conditioner Age (excludes systems for more than one housing unit)						
Less than 2 Years	6.1	5.0	Q	0.4	0.5	16.3
2 to 4 Years	10.1	8.7	0.3	0.4	0.8	17.8
5 to 9 Years	15.4	12.8	0.4	1.2	1.0	13.0
10 to 19 Years	15.0	11.9	0.9	1.4	0.8	13.9
20 Years or More	5.7	3.9	0.7	0.9	0.2	16.2
Don't Know	3.7	1.3	0.6	1.7	Q	17.2
Central Air-Conditioning Use						
Only a Few Times	16.8	12.8	0.9	2.1	0.9	11.3
Quite a Bit	12.1	9.0	0.6	1.7	0.8	12.0
All Summer	28.4	21.8	1.7	3.2	1.7	9.6

See footnotes at end of table.

**Table HC4-4a. Air Conditioning by Type of Housing Unit,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total	Type of Housing Unit				RSE Row Factors
		Single-Family	Apartments in Buildings With		Mobile Home	
			Two to Four Units	Five or More Units		
RSE Column Factor:	0.4	0.6	1.5	1.4	1.8	
Pays for Electricity for Central Air-Conditioning						
Yes	55.5	43.2	3.0	5.9	3.4	7.0
No	2.0	0.4	Q	1.2	Q	33.7
Age of Most-Used Room Air Conditioner						
Less than 2 Years	3.1	1.7	0.5	0.5	0.3	18.6
2 to 4 Years	5.3	2.9	1.0	1.1	0.4	13.4
5 to 9 Years	6.4	4.3	0.8	0.9	0.3	14.2
10 or 19 Years	4.3	3.1	0.3	0.5	0.4	14.3
20 or More Years	2.0	1.3	Q	0.6	Q	25.1
Don't Know	2.2	0.6	0.3	1.1	Q	21.9
Room Air-Conditioning Use						
Only a Few Times	13.6	7.9	1.9	3.0	0.8	9.6
Quite a Bit	5.0	3.2	0.6	0.9	0.3	16.7
All Summer	4.7	2.9	0.6	0.7	0.5	15.1
Pays for Electricity for Room Air-Conditioning						
Yes	21.9	13.7	2.8	3.8	1.6	7.7
No	1.5	Q	0.3	0.9	Q	25.7

¹ The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

² The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

Table HC4-5a. Air Conditioning by Type of Owner-Occupied Housing Unit, Million U.S. Households, 2001

Air Conditioning Characteristics	Total Owner-Occupied Units	Type of Owner-Occupied Housing Unit				RSE Row Factors
		Single-Family	Apartments in Buildings With		Mobile Home	
			Two to Four Units	Five or More Units		
RSE Column Factor:	0.5	0.5	1.5	1.4	1.8	
Households With Electric Air-Conditioning Equipment	59.5	58.7	6.5	12.4	5.3	5.2
Air Conditioners Not Used	1.2	1.1	Q	0.6	Q	23.3
Households Using Electric Air-Conditioning¹	58.2	57.6	6.3	11.8	5.1	5.3
Type of Electric Air-Conditioning Used						
Central Air-Conditioning ²	44.7	43.6	3.2	7.1	3.5	7.0
Without a Heat Pump	35.6	35.0	2.4	6.1	2.7	7.7
With a Heat Pump	9.1	8.6	0.8	1.0	0.8	19.9
Room Air-Conditioning	13.5	13.9	3.1	4.7	1.6	7.9
1 Unit	6.3	6.7	1.9	3.3	0.9	9.3
2 Units	4.8	4.9	0.9	1.0	0.7	12.5
3 or More Units	2.4	2.3	0.3	0.3	Q	22.5
Number of Rooms Air-Conditioned in Summer 2001						
One or Two	6.1	6.3	2.2	3.0	0.8	9.7
Three	3.9	3.7	1.0	3.6	0.8	13.8
Four	6.7	5.8	1.8	3.1	1.3	11.5
Five or More	41.5	41.7	1.3	2.0	2.2	8.7
Percentage of Rooms Air-Conditioned						
100%	43.0	42.0	3.9	9.1	3.8	6.7
50% to 99%	8.8	8.6	1.1	1.4	0.9	10.5
25% to 49%	3.9	4.2	0.9	0.9	0.3	13.6
1% to 24%	2.6	2.7	0.4	0.3	Q	16.2
Large Tree(s) that Shade the Home						
Yes	33.1	33.1	2.2	3.6	2.5	7.9
No	25.1	24.4	4.1	8.1	2.6	7.8
Central Air-Conditioner Age (excludes systems for more than one housing unit)						
Less than 2 Years	5.3	5.0	Q	0.4	0.5	16.2
2 to 4 Years	8.5	8.7	0.3	0.4	0.8	18.3
5 to 9 Years	13.1	12.8	0.4	1.2	1.0	13.4
10 to 19 Years	12.7	11.9	0.9	1.4	0.8	14.0
20 Years or More	4.0	3.9	0.7	0.9	0.2	16.5
Don't Know	1.0	1.3	0.6	1.7	Q	19.5
Central Air-Conditioning Use						
Only a Few Times	13.0	12.8	0.9	2.1	0.9	11.5
Quite a Bit	9.3	9.0	0.6	1.7	0.8	12.3
All Summer	22.3	21.8	1.7	3.2	1.7	10.0

See footnotes at end of table.

Table HC4-5a. Air Conditioning by Type of Owner-Occupied Housing Unit, Million U.S. Households, 2001 (Continued)

Air Conditioning Characteristics	Total Owner-Occupied Units	Type of Owner-Occupied Housing Unit				RSE Row Factors
		Single-Family	Apartments in Buildings With		Mobile Home	
			Two to Four Units	Five or More Units		
RSE Column Factor:	0.5	0.5	1.5	1.4	1.8	
Pays for Electricity for Central Air-Conditioning						
Yes	44.5	43.2	3.0	5.9	3.4	7.2
No	0.3	0.4	Q	1.2	Q	45.0
Age of Most-Used Room Air Conditioner						
Less than 2 Years	1.6	1.7	0.5	0.5	0.3	19.4
2 to 4 Years	3.0	2.9	1.0	1.1	0.4	14.5
5 to 9 Years	4.1	4.3	0.8	0.9	0.3	14.9
10 or 19 Years	3.1	3.1	0.3	0.5	0.4	15.0
20 or More Years	1.3	1.3	Q	0.6	Q	26.3
Don't Know	0.4	0.6	0.3	1.1	Q	25.4
Room Air-Conditioning Use						
Only a Few Times	8.0	7.9	1.9	3.0	0.8	9.8
Quite a Bit	3.0	3.2	0.6	0.9	0.3	17.2
All Summer	2.5	2.9	0.6	0.7	0.5	15.8
Pays for Electricity for Room Air-Conditioning						
Yes	13.4	13.7	2.8	3.8	1.6	8.0
No	Q	Q	0.3	0.9	Q	20.7

¹ The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

² The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals.

• See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-6a. Air Conditioning by Type of Rented Housing Unit,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total Rented Units	Type of Rented Housing Unit				RSE Row Factors
		Single-Family	Apartments in Buildings With		Mobile Home	
			Two to Four Units	Five or More Units		
RSE Column Factor:	0.8	0.5	1.4	1.2	1.6	
Households With Electric Air-Conditioning Equipment	23.4	58.7	6.5	12.4	5.3	6.1
Air Conditioners Not Used	0.9	1.1	Q	0.6	Q	23.0
Households Using Electric Air-Conditioning¹	22.5	57.6	6.3	11.8	5.1	6.2
Type of Electric Air-Conditioning Used						
Central Air-Conditioning ²	12.7	43.6	3.2	7.1	3.5	8.5
Without a Heat Pump	10.6	35.0	2.4	6.1	2.7	9.3
With a Heat Pump	2.2	8.6	0.8	1.0	0.8	21.7
Room Air-Conditioning	9.8	13.9	3.1	4.7	1.6	8.8
1 Unit	6.5	6.7	1.9	3.3	0.9	10.5
2 Units	2.7	4.9	0.9	1.0	0.7	13.4
3 or More Units	0.6	2.3	0.3	0.3	Q	25.7
Number of Rooms Air-Conditioned in Summer 2001						
One or Two	6.1	6.3	2.2	3.0	0.8	10.0
Three	5.3	3.7	1.0	3.6	0.8	14.0
Four	5.3	5.8	1.8	3.1	1.3	12.0
Five or More	5.8	41.7	1.3	2.0	2.2	10.9
Percentage of Rooms Air-Conditioned						
100%	15.8	42.0	3.9	9.1	3.8	7.7
50% to 99%	3.3	8.6	1.1	1.4	0.9	11.5
25% to 49%	2.6	4.2	0.9	0.9	0.3	14.5
1% to 24%	0.9	2.7	0.4	0.3	Q	18.4
Large Tree(s) that Shade the Home						
Yes	8.4	33.1	2.2	3.6	2.5	9.3
No	14.2	24.4	4.1	8.1	2.6	8.1
Central Air-Conditioner Age (excludes systems for more than one housing unit)						
Less than 2 Years	0.8	5.0	Q	0.4	0.5	20.1
2 to 4 Years	1.6	8.7	0.3	0.4	0.8	21.4
5 to 9 Years	2.3	12.8	0.4	1.2	1.0	16.7
10 to 19 Years	2.3	11.9	0.9	1.4	0.8	17.0
20 Years or More	1.7	3.9	0.7	0.9	0.2	18.5
Don't Know	2.8	1.3	0.6	1.7	Q	17.4
Central Air-Conditioning Use						
Only a Few Times	3.8	12.8	0.9	2.1	0.9	13.3
Quite a Bit	2.8	9.0	0.6	1.7	0.8	13.8
All Summer	6.1	21.8	1.7	3.2	1.7	11.7

See footnotes at end of table.

**Table HC4-6a. Air Conditioning by Type of Rented Housing Unit,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total Rented Units	Type of Rented Housing Unit				RSE Row Factors
		Single-Family	Apartments in Buildings With		Mobile Home	
			Two to Four Units	Five or More Units		
RSE Column Factor:	0.8	0.5	1.4	1.2	1.6	
Pays for Electricity for Central Air-Conditioning						
Yes	11.0	43.2	3.0	5.9	3.4	9.0
No	1.7	0.4	Q	1.2	Q	31.1
Age of Most-Used Room Air Conditioner						
Less than 2 Years	1.5	1.7	0.5	0.5	0.3	20.0
2 to 4 Years	2.4	2.9	1.0	1.1	0.4	14.4
5 to 9 Years	2.3	4.3	0.8	0.9	0.3	15.9
10 or 19 Years	1.1	3.1	0.3	0.5	0.4	16.0
20 or More Years	0.8	1.3	Q	0.6	Q	28.4
Don't Know	1.8	0.6	0.3	1.1	Q	22.4
Room Air-Conditioning Use						
Only a Few Times	5.6	7.9	1.9	3.0	0.8	10.9
Quite a Bit	2.0	3.2	0.6	0.9	0.3	18.0
All Summer	2.2	2.9	0.6	0.7	0.5	15.8
Pays for Electricity for Room Air-Conditioning						
Yes	8.5	13.7	2.8	3.8	1.6	8.9
No	1.4	Q	0.3	0.9	Q	23.8

¹ The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

² The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals.

• See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-7a. Air Conditioning by Four Most Populated States,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Four Most Populated States					RSE Row Factors
	Total U.S.	New York	California	Texas	Florida	
Households With Electric Air-Conditioning Equipment	82.9	4.9	6.0	7.4	6.2	2.4
Air Conditioners Not Used	2.1	0.1	0.8	Q	0.1	23.2
Households Using Electric Air-Conditioning¹	80.8	4.7	5.2	7.4	6.1	2.6
Type of Electric Air-Conditioning Used						
Central Air-Conditioning ²	57.5	1.3	3.9	6.2	5.7	6.7
Without a Heat Pump	46.2	1.2	3.2	5.5	3.8	8.1
With a Heat Pump	11.3	Q	0.8	0.6	1.9	14.7
Room Air-Conditioning	23.3	3.4	1.2	1.2	0.3	13.6
1 Unit	12.8	1.6	1.0	0.5	Q	11.9
2 Units	7.5	1.2	0.1	0.4	0.1	17.9
3 or More Units	3.0	0.7	Q	Q	Q	17.9
Number of Rooms Air-Conditioned in Summer 2001						
One or Two	12.3	2.1	1.0	0.7	0.3	13.9
Three	9.2	0.8	1.0	1.0	0.3	19.2
Four	12.0	0.6	0.8	1.0	0.8	12.0
Five or More	47.3	1.2	2.3	4.7	4.6	6.3
Percentage of Rooms Air-Conditioned						
100%	58.8	1.9	3.5	6.2	5.4	4.7
50% to 99%	12.1	1.0	1.0	0.8	0.6	14.9
25% to 49%	6.4	1.2	0.4	0.2	Q	17.2
1% to 24%	3.5	0.7	0.3	Q	Q	17.0
Large Tree(s) that Shade the Home						
Yes	41.5	1.9	2.6	4.2	3.1	7.9
No	39.3	2.8	2.6	3.2	2.9	8.2
Central Air-Conditioner Age (excludes systems for more than one housing unit)						
Less than 2 Years	6.1	0.2	0.3	0.6	0.4	24.1
2 to 4 Years	10.1	0.2	0.6	0.9	1.0	16.9
5 to 9 Years	15.4	0.5	0.7	1.6	1.8	14.6
10 to 19 Years	15.0	Q	1.3	1.2	1.7	16.6
20 Years or More	5.7	0.2	0.6	0.6	0.4	24.2
Don't Know	3.7	Q	0.4	0.8	0.3	24.1
Central Air-Conditioning Use						
Only a Few Times	16.8	0.7	2.9	0.4	0.5	14.6
Quite a Bit	12.1	0.4	0.8	1.1	1.2	15.9
All Summer	28.4	0.2	0.3	4.7	3.9	9.1

See footnotes at end of table.

Table HC4-7a. Air Conditioning by Four Most Populated States, Million U.S. Households, 2001 (Continued)

Air Conditioning Characteristics	Total U.S.	Four Most Populated States				RSE Row Factors
		New York	California	Texas	Florida	
RSE Column Factor:	0.4	1.1	1.7	1.2	1.2	
Pays for Electricity for Central Air-Conditioning						
Yes	55.5	1.3	3.9	5.7	5.6	6.9
No	2.0	Q	Q	0.5	Q	30.9
Age of Most-Used Room Air Conditioner						
Less than 2 Years	3.1	0.4	0.2	0.2	Q	23.0
2 to 4 Years	5.3	1.1	0.3	0.4	Q	14.1
5 to 9 Years	6.4	1.2	0.2	0.4	0.1	17.1
10 or 19 Years	4.3	0.5	0.1	0.1	Q	23.1
20 or More Years	2.0	0.2	0.2	Q	Q	24.9
Don't Know	2.2	0.1	0.2	Q	Q	29.8
Room Air-Conditioning Use						
Only a Few Times	13.6	2.4	0.9	0.3	Q	10.8
Quite a Bit	5.0	0.5	0.2	0.2	Q	26.3
All Summer	4.7	0.4	0.1	0.7	Q	25.0
Pays for Electricity for Room Air-Conditioning						
Yes	21.9	3.2	1.2	1.1	Q	10.5
No	1.5	0.2	Q	0.1	Q	38.4

¹ The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

² The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals.

• See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-8a. Air Conditioning by Urban/Rural Location,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total	Urban/Rural Location ¹				RSE Row Factors
		City	Town	Suburbs	Rural	
RSE Column Factor:	0.5	0.8	1.4	1.3	1.4	
Households With Electric Air-Conditioning Equipment	82.9	36.8	13.6	18.9	13.6	4.3
Air Conditioners Not Used	2.1	1.2	0.2	0.4	0.3	21.4
Households Using Electric Air-Conditioning²	80.8	35.6	13.4	18.6	13.3	4.3
Type of Electric Air-Conditioning Used						
Central Air-Conditioning ³	57.5	23.6	8.6	15.8	9.4	5.1
Without a Heat Pump	46.2	19.3	7.4	13.1	6.4	6.3
With a Heat Pump	11.3	4.4	1.2	2.8	2.9	13.1
Room Air-Conditioning	23.3	12.0	4.8	2.7	3.9	7.4
1 Unit	12.8	6.8	2.6	1.3	2.1	9.9
2 Units	7.5	3.4	1.7	1.0	1.4	10.3
3 or More Units	3.0	1.7	0.5	0.4	0.4	16.8
Number of Rooms Air-Conditioned in Summer 2001						
One or Two	12.3	6.5	2.3	1.5	1.9	9.0
Three	9.2	5.1	1.6	1.5	1.0	12.9
Four	12.0	5.8	2.1	2.1	2.0	9.7
Five or More	47.3	18.2	7.3	13.5	8.3	5.8
Percentage of Rooms Air-Conditioned						
100%	58.8	25.7	9.2	14.8	9.2	5.2
50% to 99%	12.1	5.1	2.2	2.4	2.4	9.2
25% to 49%	6.4	3.0	1.6	0.8	1.0	12.0
1% to 24%	3.5	1.8	0.4	0.5	0.7	15.1
Large Tree(s) that Shade the Home						
Yes	41.5	16.7	6.8	9.9	8.0	5.8
No	39.3	18.8	6.6	8.6	5.2	6.7
Central Air-Conditioner Age (excludes systems for more than one housing unit)						
Less than 2 Years	6.1	1.9	1.1	1.5	1.5	13.4
2 to 4 Years	10.1	3.7	1.8	2.6	2.0	10.5
5 to 9 Years	15.4	6.1	1.7	4.9	2.7	9.6
10 to 19 Years	15.0	5.8	2.5	4.4	2.3	9.3
20 Years or More	5.7	2.8	0.9	1.4	0.5	14.2
Don't Know	3.7	2.1	0.5	0.9	0.3	19.9
Central Air-Conditioning Use						
Only a Few Times	16.8	7.2	3.1	4.1	2.4	9.0
Quite a Bit	12.1	4.5	1.7	3.9	1.9	9.1
All Summer	28.4	11.7	3.9	7.8	5.0	7.2

See footnotes at end of table.

**Table HC4-8a. Air Conditioning by Urban/Rural Location,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total	Urban/Rural Location ¹				RSE Row Factors
		City	Town	Suburbs	Rural	
RSE Column Factor:	0.5	0.8	1.4	1.3	1.4	
Pays for Electricity for Central Air-Conditioning						
Yes	55.5	22.2	8.4	15.6	9.2	5.3
No	2.0	1.4	0.2	0.3	0.1	31.0
Age of Most-Used Room Air Conditioner						
Less than 2 Years	3.1	1.6	0.6	0.4	0.5	17.7
2 to 4 Years	5.3	2.8	1.1	0.6	0.7	12.1
5 to 9 Years	6.4	3.1	1.2	0.8	1.3	12.6
10 or 19 Years	4.3	2.0	0.9	0.4	0.9	14.2
20 or More Years	2.0	0.9	0.5	0.4	0.3	22.2
Don't Know	2.2	1.5	0.4	0.2	0.1	23.9
Room Air-Conditioning Use						
Only a Few Times	13.6	6.8	2.9	1.8	2.1	8.6
Quite a Bit	5.0	2.7	0.8	0.6	1.0	15.1
All Summer	4.7	2.4	1.1	0.4	0.9	14.0
Pays for Electricity for Room Air-Conditioning						
Yes	21.9	11.2	4.5	2.4	3.8	7.2
No	1.5	0.8	0.3	Q	0.1	29.7

¹ Based on the household respondent's description rather than the Federal Government definition.

² The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

³ The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals.

• See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-9a. Air Conditioning by Northeast Census Region,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total U.S.	Northeast Census Region			RSE Row Factors
		Total	Census Division		
			Middle Atlantic	New England	
RSE Column Factor:	0.5	1.0	1.2	1.8	
Households With Electric Air-Conditioning Equipment	82.9	14.5	11.3	3.2	3.3
Air Conditioners Not Used	2.1	0.3	0.3	Q	28.3
Households Using Electric Air-Conditioning¹	80.8	14.2	11.1	3.2	3.4
Type of Electric Air-Conditioning Used					
Central Air-Conditioning ²	57.5	5.7	4.9	0.8	8.9
Without a Heat Pump	46.2	5.2	4.5	0.7	9.2
With a Heat Pump	11.3	0.4	0.4	Q	26.0
Room Air-Conditioning	23.3	8.5	6.1	2.4	5.6
1 Unit	12.8	4.4	2.9	1.4	8.5
2 Units	7.5	2.8	2.1	0.7	7.4
3 or More Units	3.0	1.3	1.1	0.3	13.2
Number of Rooms Air-Conditioned in Summer 2001					
One or Two	12.3	4.9	3.5	1.4	6.7
Three	9.2	2.0	1.5	0.5	11.4
Four	12.0	1.8	1.5	0.3	13.6
Five or More	47.3	5.5	4.6	0.9	8.2
Percentage of Rooms Air-Conditioned					
100%	58.8	7.1	6.1	1.0	7.1
50% to 99%	12.1	2.7	1.9	0.9	10.1
25% to 49%	6.4	2.7	2.2	0.6	10.6
1% to 24%	3.5	1.6	0.9	0.7	10.2
Large Tree(s) that Shade the Home					
Yes	41.5	6.2	4.6	1.6	6.5
No	39.3	8.0	6.4	1.6	4.9
Central Air-Conditioner Age (excludes systems for more than one housing unit)					
Less than 2 Years	6.1	0.6	0.6	Q	15.4
2 to 4 Years	10.1	0.7	0.6	Q	14.3
5 to 9 Years	15.4	1.6	1.4	0.2	16.5
10 to 19 Years	15.0	1.7	1.5	0.2	16.2
20 Years or More	5.7	0.6	0.5	Q	17.6
Don't Know	3.7	Q	Q	Q	22.0
Central Air-Conditioning Use					
Only a Few Times	16.8	2.8	2.4	0.4	11.7
Quite a Bit	12.1	1.3	1.2	Q	14.2
All Summer	28.4	1.6	1.4	0.2	15.0

See footnotes at end of table.

**Table HC4-9a. Air Conditioning by Northeast Census Region,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total U.S.	Northeast Census Region			RSE Row Factors
		Total	Census Division		
			Middle Atlantic	New England	
RSE Column Factor:	0.5	1.0	1.2	1.8	
Pays for Electricity for Central Air-Conditioning					
Yes	55.5	5.5	4.7	0.8	8.9
No	2.0	Q	Q	Q	30.9
Age of Most-Used Room Air Conditioner					
Less than 2 Years	3.1	1.1	0.7	0.3	17.5
2 to 4 Years	5.3	2.3	1.8	0.5	9.7
5 to 9 Years	6.4	2.7	1.9	0.8	11.1
10 or 19 Years	4.3	1.4	1.0	0.4	11.4
20 or More Years	2.0	0.4	0.3	Q	25.5
Don't Know	2.2	0.6	0.4	0.2	23.6
Room Air-Conditioning Use					
Only a Few Times	13.6	5.8	4.1	1.8	6.5
Quite a Bit	5.0	1.7	1.3	0.4	13.9
All Summer	4.7	1.0	0.8	0.2	18.5
Pays for Electricity for Room Air-Conditioning					
Yes	21.9	7.9	5.7	2.2	6.1
No	1.5	0.6	0.5	0.2	25.8

¹ The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

² The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-10a. Air Conditioning by Midwest Census Region,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total U.S.	Midwest Census Region			RSE Row Factors
		Total	Census Division		
			East North Central	West North Central	
RSE Column Factor:	0.5	1.0	1.2	1.4	
Households With Electric Air-Conditioning Equipment	82.9	20.5	13.6	6.8	2.2
Air Conditioners Not Used	2.1	0.3	Q	Q	27.5
Households Using Electric Air-Conditioning¹	80.8	20.2	13.4	6.7	2.3
Type of Electric Air-Conditioning Used					
Central Air-Conditioning ²	57.5	14.3	9.5	4.8	3.8
Without a Heat Pump	46.2	13.6	9.0	4.6	3.9
With a Heat Pump	11.3	0.7	0.5	0.2	22.7
Room Air-Conditioning	23.3	5.8	3.9	1.9	7.1
1 Unit	12.8	3.6	2.4	1.1	8.3
2 Units	7.5	1.7	1.1	0.6	10.4
3 or More Units	3.0	0.5	0.4	Q	16.3
Number of Rooms Air-Conditioned in Summer 2001					
One or Two	12.3	2.5	1.9	0.6	11.3
Three	9.2	2.2	1.5	0.6	14.5
Four	12.0	2.9	1.5	1.4	10.1
Five or More	47.3	12.6	8.5	4.1	4.2
Percentage of Rooms Air-Conditioned					
100%	58.8	15.0	10.0	5.0	3.1
50% to 99%	12.1	3.1	1.9	1.1	8.4
25% to 49%	6.4	1.4	0.9	0.5	12.2
1% to 24%	3.5	0.7	0.6	Q	16.6
Large Tree(s) that Shade the Home					
Yes	41.5	10.6	7.0	3.6	4.3
No	39.3	9.5	6.4	3.1	5.0
Central Air-Conditioner Age (excludes systems for more than one housing unit)					
Less than 2 Years	6.1	1.6	1.0	0.6	13.4
2 to 4 Years	10.1	2.4	1.8	0.6	9.7
5 to 9 Years	15.4	3.7	2.5	1.2	9.2
10 to 19 Years	15.0	4.1	2.8	1.3	9.6
20 Years or More	5.7	1.7	0.9	0.8	10.1
Don't Know	3.7	0.7	0.4	0.3	21.7
Central Air-Conditioning Use					
Only a Few Times	16.8	6.0	4.2	1.9	7.0
Quite a Bit	12.1	3.9	3.0	0.9	9.6
All Summer	28.4	4.4	2.4	2.0	9.4

See footnotes at end of table.

**Table HC4-10a. Air Conditioning by Midwest Census Region,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total U.S.	Midwest Census Region			RSE Row Factors
		Total	Census Division		
			East North Central	West North Central	
RSE Column Factor:	0.5	1.0	1.2	1.4	
Pays for Electricity for Central Air-Conditioning					
Yes	55.5	14.0	9.2	4.8	3.9
No	2.0	Q	Q	Q	26.6
Age of Most-Used Room Air Conditioner					
Less than 2 Years	3.1	0.8	0.6	0.2	22.0
2 to 4 Years	5.3	1.1	0.8	0.3	15.5
5 to 9 Years	6.4	1.2	0.8	0.4	12.8
10 or 19 Years	4.3	1.3	0.8	0.5	15.3
20 or More Years	2.0	0.7	0.5	0.2	19.2
Don't Know	2.2	0.7	0.5	0.2	17.8
Room Air-Conditioning Use					
Only a Few Times	13.6	3.7	2.6	1.1	8.1
Quite a Bit	5.0	1.1	0.8	0.3	17.4
All Summer	4.7	1.1	0.6	0.5	17.2
Pays for Electricity for Room Air-Conditioning					
Yes	21.9	5.5	3.6	1.9	6.2
No	1.5	Q	Q	Q	34.6

¹ The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

² The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-11a. Air Conditioning by South Census Region,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total U.S.	South Census Region				RSE Row Factors
		Total	Census Division			
			South Atlantic	East South Central	West South Central	
RSE Column Factor:	0.5	0.8	1.2	1.3	1.4	
Households With Electric Air-Conditioning Equipment	82.9	37.2	19.3	6.4	11.5	1.5
Air Conditioners Not Used	2.1	0.4	Q	Q	Q	28.2
Households Using Electric Air-Conditioning¹	80.8	36.9	19.0	6.4	11.5	1.6
Type of Electric Air-Conditioning Used						
Central Air-Conditioning ²	57.5	30.4	16.1	5.0	9.2	2.8
Without a Heat Pump	46.2	22.1	10.4	3.4	8.3	5.6
With a Heat Pump	11.3	8.3	5.7	1.6	0.9	14.6
Room Air-Conditioning	23.3	6.4	2.9	1.3	2.2	9.0
1 Unit	12.8	2.9	1.3	0.6	0.9	10.2
2 Units	7.5	2.6	1.3	0.5	0.8	12.0
3 or More Units	3.0	1.0	0.3	0.2	0.5	22.4
Number of Rooms Air-Conditioned in Summer 2001						
One or Two	12.3	3.0	1.6	0.5	0.8	15.8
Three	9.2	3.7	1.5	0.6	1.6	12.3
Four	12.0	5.6	2.9	1.0	1.7	9.4
Five or More	47.3	24.6	13.0	4.3	7.3	3.9
Percentage of Rooms Air-Conditioned						
100%	58.8	30.2	15.3	5.3	9.6	2.4
50% to 99%	12.1	4.5	2.6	0.6	1.3	9.9
25% to 49%	6.4	1.3	0.8	0.2	0.4	17.8
1% to 24%	3.5	0.7	0.4	0.2	Q	20.3
Large Tree(s) that Shade the Home						
Yes	41.5	20.1	9.7	3.6	6.8	5.0
No	39.3	16.8	9.3	2.8	4.7	6.5
Central Air-Conditioner Age (excludes systems for more than one housing unit)						
Less than 2 Years	6.1	3.2	1.5	0.7	1.0	12.4
2 to 4 Years	10.1	5.5	3.1	0.9	1.6	11.8
5 to 9 Years	15.4	8.9	5.0	1.5	2.4	7.1
10 to 19 Years	15.0	7.3	4.2	1.2	1.9	9.0
20 Years or More	5.7	2.4	1.1	0.3	1.0	15.5
Don't Know	3.7	2.2	0.9	0.3	1.1	19.4
Central Air-Conditioning Use						
Only a Few Times	16.8	4.1	2.8	0.7	0.6	11.0
Quite a Bit	12.1	5.5	3.0	0.8	1.7	8.7
All Summer	28.4	20.7	10.3	3.5	6.9	4.5

See footnotes at end of table.

**Table HC4-11a. Air Conditioning by South Census Region,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total U.S.	South Census Region				RSE Row Factors
		Total	Census Division			
			South Atlantic	East South Central	West South Central	
RSE Column Factor:	0.5	0.8	1.2	1.3	1.4	
Pays for Electricity for Central Air-Conditioning						
Yes	55.5	29.2	15.5	4.9	8.8	2.8
No	2.0	1.3	0.7	Q	0.5	20.7
Age of Most-Used Room Air Conditioner						
Less than 2 Years	3.1	0.8	0.5	Q	0.3	22.2
2 to 4 Years	5.3	1.4	0.6	0.2	0.5	13.4
5 to 9 Years	6.4	2.1	0.9	0.5	0.7	16.3
10 or 19 Years	4.3	1.1	0.5	0.3	0.3	16.7
20 or More Years	2.0	0.5	Q	Q	Q	28.5
Don't Know	2.2	0.5	Q	Q	0.3	31.3
Room Air-Conditioning Use						
Only a Few Times	13.6	2.3	1.2	0.4	0.6	15.1
Quite a Bit	5.0	1.7	0.9	0.3	0.6	17.5
All Summer	4.7	2.5	0.8	0.6	1.0	14.3
Pays for Electricity for Room Air-Conditioning						
Yes	21.9	6.0	2.6	1.3	2.1	8.6
No	1.5	0.4	Q	Q	Q	39.0

¹ The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

² The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.

**Table HC4-12a. Air Conditioning by West Census Region,
Million U.S. Households, 2001**

Air Conditioning Characteristics	Total U.S.	West Census Region			RSE Row Factors
		Total	Census Division		
			Mountain	Pacific	
RSE Column Factor:	0.4	1.2	1.7	1.4	
Households With Electric Air-Conditioning Equipment					
Households With Electric Air-Conditioning Equipment	82.9	10.7	3.4	7.2	7.1
Air Conditioners Not Used	2.1	1.1	0.2	0.9	15.5
Households Using Electric Air-Conditioning¹					
Households Using Electric Air-Conditioning ¹	80.8	9.6	3.2	6.3	7.2
Type of Electric Air-Conditioning Used					
Central Air-Conditioning ²	57.5	7.1	2.6	4.5	8.5
Without a Heat Pump	46.2	5.2	1.8	3.4	11.2
With a Heat Pump	11.3	1.8	0.7	1.1	10.9
Room Air-Conditioning	23.3	2.5	0.6	1.9	10.1
1 Unit	12.8	2.0	0.5	1.5	11.6
2 Units	7.5	0.4	Q	0.3	17.4
3 or More Units	3.0	Q	Q	Q	27.6
Number of Rooms Air-Conditioned in Summer 2001					
One or Two	12.3	1.9	0.5	1.4	11.2
Three	9.2	1.4	0.2	1.1	22.5
Four	12.0	1.8	0.8	1.0	15.9
Five or More	47.3	4.5	1.7	2.8	8.2
Percentage of Rooms Air-Conditioned					
100%	58.8	6.4	2.3	4.1	7.8
50% to 99%	12.1	1.7	0.5	1.3	18.6
25% to 49%	6.4	0.9	0.3	0.6	19.7
1% to 24%	3.5	0.5	Q	0.4	20.4
Large Tree(s) that Shade the Home					
Yes	41.5	4.6	1.4	3.2	7.4
No	39.3	5.0	1.8	3.1	11.2
Central Air-Conditioner Age (excludes systems for more than one housing unit)					
Less than 2 Years	6.1	0.6	0.3	0.3	16.8
2 to 4 Years	10.1	1.5	0.7	0.7	14.6
5 to 9 Years	15.4	1.3	0.5	0.8	14.0
10 to 19 Years	15.0	2.0	0.4	1.5	13.9
20 Years or More	5.7	0.9	0.3	0.6	23.1
Don't Know	3.7	0.6	0.2	0.4	22.9
Central Air-Conditioning Use					
Only a Few Times	16.8	3.9	0.7	3.2	14.1
Quite a Bit	12.1	1.4	0.6	0.8	15.7
All Summer	28.4	1.7	1.3	0.4	12.9

See footnotes at end of table.

**Table HC4-12a. Air Conditioning by West Census Region,
Million U.S. Households, 2001 (Continued)**

Air Conditioning Characteristics	Total U.S.	West Census Region			RSE Row Factors
		Total	Census Division		
			Mountain	Pacific	
RSE Column Factor:	0.4	1.2	1.7	1.4	
Pays for Electricity for Central Air-Conditioning					
Yes	55.5	6.8	2.4	4.4	8.3
No	2.0	0.2	0.2	Q	33.9
Age of Most-Used Room Air Conditioner					
Less than 2 Years	3.1	0.3	Q	0.2	20.4
2 to 4 Years	5.3	0.5	Q	0.5	18.5
5 to 9 Years	6.4	0.5	Q	0.3	16.2
10 or 19 Years	4.3	0.5	0.2	0.3	22.7
20 or More Years	2.0	0.4	Q	0.3	26.9
Don't Know	2.2	0.4	Q	0.3	29.9
Room Air-Conditioning Use					
Only a Few Times	13.6	1.8	0.4	1.4	12.3
Quite a Bit	5.0	0.5	0.2	0.3	22.9
All Summer	4.7	0.2	Q	Q	26.9
Pays for Electricity for Room Air-Conditioning					
Yes	21.9	2.4	0.6	1.8	10.2
No	1.5	Q	Q	Q	53.5

¹ The number of households, where the end use is electric air-conditioning, does **not** include households that did not use their equipment (2.1 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.

² The 2001 RECS reported 800,000 households having both central air-conditioning and room/wall air-conditioners, with 600,000 households using both central air-conditioning and 200,000 households using only room/wall air-conditioners. These room/wall air-conditioners are not included in the count of 23.3 million households using room/wall air-conditioners. Note: This applies to all occurrences of central air-conditioning.

Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.

Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A, B, C of the 2001 Residential Energy Consumption Survey.