UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D. C. 20549

FORM 11-K

ANNUAL REPORT PURSUANT TO SECTION 15(d)

OF THE SECURITIES EXCHANGE ACT OF 1934

For the year ended December 31, 2005

Commission File Number

0-12490

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

ACR GROUP, INC. 401(K) PLAN

B. Name of issuer of securities held pursuant to the plan and the address of its principal executive office: ACR GROUP, INC.

3200 WILCREST DRIVE, SUITE 440

HOUSTON, TEXAS 77042-6039

ACR GROUP, INC. 401 (k) PLAN

FINANCIAL STATEMENTS

AND

SUPPLEMENTAL SCHEDULE

YEARS ENDED DECEMBER 31, 2005 AND 2004

ACR GROUP, INC. 401(k) PLAN

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Plan Administrator

ACR Group, Inc. 401(k) Plan

We have audited the accompanying statements of net assets available for benefits of the ACR Group, Inc. 401(k) Plan as of December 31, 2005 and 2004, and the related statement of changes in net assets available for benefits for the year ended December 31, 2005. These financial statements are the responsibility of the Plan s management. Our responsibility is to express an opinion of these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan s internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan at December 31, 2005 and 2004, and changes in its net assets available for benefits for the year ended December 31, 2005, in conformity with accounting principles generally accepted in the United States of America.

Our audit was performed for the purpose of forming an opinion of the financial statements taken as a whole. The accompanying supplemental schedule of assets (held at end of year) as of December 31, 2005 is presented for purposes of additional analysis and is not a required part of the financial statements but is supplementary information required by the Department of Labor s Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. This supplemental schedule is the responsibility of the Plan s management. The supplemental schedule has been subjected to the auditing procedures applied in our audit of the financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements taken as a whole.

/s/ Hein & Associates LLP

Houston, Texas

June 9, 2006

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ACR GROUP, INC. 401(k) PLAN

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

	D есем 2005	D ECEMBER 31, 2005 2004	
ASSETS	2005	2004	
Receivables:			
Employer contributions	\$ 10,198	\$ 22,949	
Participant contributions	24,893	56,753	
Total receivables	35,091	79,702	
Investments	7,934,705	7,228,783	
Total assets	7,969,796	7,308,485	
<u>LIABILITIES</u>			
DISTRIBUTIONS PAYABLE	11,905	12,416	
Net assets available for benefits	\$ 7,957,891	\$ 7,296,069	

See accompanying notes to these financial statements.

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ACR GROUP, INC. 401(k) PLAN

STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

YEAR ENDED DECEMBER 31, 2005

Additions:		
Net appreciation in fair value of investments	\$	556,051
Employer contributions		307,161
Participant contributions		843,996
Participant rollovers		24,769
Total additions	1,	,731,977
Deductions:		
Benefits paid to participants	1,	,058,333
Corrective distributions		11,822
Total deductions	1,	,070,155
Net Increase		661,822
NET ASSETS AVAILABLE FOR BENEFITS AT:		
Beginning of year	7,	,296,069
End of year	\$7,	,957,891

See accompanying notes to these financial statements.

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ACR GROUP, INC. 401(k) PLAN

NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 2005 AND 2004

1. DESCRIPTION OF PLAN

<u>General</u> The ACR Group, Inc. 401(k) Plan (the Plan) is a defined contribution profit sharing plan covering all eligible employees of ACR Group, Inc. and its participating employers (collectively, the Company or the Employer). The Plan was adopted effective March 1, 1991 and is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA).

The following description of the Plan provides only general information. Participants should refer to the Summary Plan Description for a more complete description of the Plan s provisions, a copy of which is available from the Company.

The Plan s record keepers are Hartford Life Insurance Company and July Business Services.

Effective May 8, 2001, the ACR Stock Fund was frozen due to lack of a national exchange mechanism for trading ACR stock. Participants may invest no new contributions in this fund option. Participants are currently restricted from transferring their prior investment out of this fund. Subsequent to December 31, 2005, the Company s stock began trading on the American Stock Exchange and the Plan is reconsidering the status of the Stock Fund.

Effective August 13, 2001, an officer of the Company became trustee of the Plan.

Eligibility Each salaried or hourly employee of the Company who has completed at least six months of service and is a least 19 years of age is eligible to participate in the Plan.

<u>Contributions</u> Participants may contribute up to 100% of their eligible annual compensation on a pretax basis, not to exceed the maximum amount allowed for deferral for federal income taxes, which for 2005 and 2004 was \$14,000 and \$13,000 respectively. Qualified rollover contributions are also accepted by the Plan at the discretion of the Company.

The Company may determine annually the percentage of a participant s pretax contributions that will be matched up to 6% of compensation. For the 2005 plan year, the Company elected to match 50% of a participant s contribution limited to 6% of annual compensation. Also, at its sole discretion, the Company may elect to make an additional contribution to the Plan from time to time. No additional contribution was made for 2005.

All participant contributions and employer matching contribution accounts are participant-directed.

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ACR GROUP, INC. 401(k) PLAN

NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 2005 AND 2004

1. <u>Description</u> of Plan (continued)

<u>Administrative Expenses</u> Certain administrative expenses of the Plan are paid by the Company. In 2005, the Company paid \$28,996 of administrative expenses related to the Plan.

Vesting Participants are immediately 100% vested in their contributions plus earnings thereon.

Vesting in the Company contributions portion of participants account plus earnings thereon is based on years of credited service at 25% per year with 100% vesting after four years. Participants also become 100% vested upon death, disability, or the attainment of normal retirement age of 65. Forfeitures of account balances by participants not fully vested are used to reduce future Employer contributions. For the year ended December 31, 2005, forfeitures of \$7,812 were used to offset Employer contributions.

<u>Benefit Payments</u> To meet certain financial hardships as defined by the Internal Revenue Service (IRS), participants may make withdrawals from the portion of their accounts attributable to employee pretax contributions and the vested employer contributions. Distributions of a participant s accrued benefits are also made upon termination of employment, total and permanent disability, or death. Participants may elect to receive distributions in a lump-sum payment or rolled over to an Individual Retirement Account or a qualified plan.

At December 31, 2005 and 2004, the Plan had allocated \$0 to persons who had elected to withdraw from the Plan but had not been paid.

<u>Plan Termination</u> Although there is no current intention to do so, the Company has the right to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. In the event the Plan is terminated, all participants will become 100% vested in their accounts.

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ACR GROUP, INC. 401(k) PLAN

NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 2005 AND 2004

2. <u>Summary of Accounting Policies</u>

<u>Basis of Accounting</u> The financial statements have been prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America. Benefits are recorded when paid.

<u>Use of Estimates</u> The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates that affect the amounts reported in the financial statements and accompanying notes and supplemental schedule. Actual results could differ from those estimates.

<u>Investment Valuation and Income Recognition</u> The Company s common stock is stated at fair value based on quoted market prices. The investments in the pooled separate accounts are stated at fair value as determined by the issuer based on quoted market values of the underlying investments.

Short-term investments are stated at costs that approximate fair value. The fixed income account is stated at contract value. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

Loans The Plan does not provide for participant loans.

<u>Risk and Uncertainties</u> The Plan provides for various investments in common stock, short-term investments, pooled separate accounts, and an investment contract. Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility risk. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the statement of net assets available for benefits and participant account balances.

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ACR GROUP, INC. 401(k) PLAN

NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 2005 AND 2004

3. <u>Investments</u>

The following table presents the fair value of the Plan s investments at December 31, 2005 and 2004:

	DECEM	DECEMBER 31,	
	2005	2004	
Hartford Life Insurance pooled separate accounts:			
American Century Income & Growth Fund ³	\$ 463,449	\$ 420,329	
Income Fund of America ^{1,3}	438,519		
American Century Ultra Fund	263,528	241,240	
Franklin Small Mid Cap Growth Fund ³	585,413	743,934	
EuroPacific Growth Fund ¹	267,673		
Goldman Sachs Small Cap Value Fund ¹	3,654		
Saloman Brothers Small Cap Growth Fund ¹	1,861		
Index Fund ¹	208,879		
Dividend & Growth Fund ³	868,107	839,763	
Bond Fund ³	387,318	377,209	
Small Midcap Fund ³	1,642,304	1,220,366	
Money Market Fund	342,882	290,503	
Janus Balanced Fund ²		423,940	
Janus Twenty Fund ³	542,451	642,711	
Fidelity VIP Overseas Fund ²		227,165	
Hartford Life Insurance Fixed Income Account ³	1,122,657	928,352	
ACR Group Common Stock	727,574	824,955	
Schwab Money Market Fund	68,436	48,316	

Total

Notes:

1 - Investment fund added in 2005.

3 - Investment represents 5% or more of the Plan s net assets at December 31, 2005 or 2004.

During 2005, the Plan s investments of pooled separate accounts (including investments bought, sold, and held during the year) appreciated in fair value by \$556,051.

The Plan has a group annuity contract with Hartford Life Insurance Company (Hartford) that includes a fixed income account. The crediting interest rate may be changed from time to time by Hartford. The interest rates at December 31, 2005 and 2004 were guaranteed at 3.90% and 4.15%, respectively. The crediting interest rate was 3.90% at December 31, 2005. The average yield for 2005 was 3.92%.

\$7,934,705

\$7,228,783

^{2 -} Investment fund replaced in 2005.

ACR GROUP, INC. 401(k) PLAN

NOTES TO FINANCIAL STATEMENTS

DECEMBER 31, 2005 AND 2004

4. INCOME TAX STATUS

The Plan has received an opinion letter from the IRS dated September 4, 2001, stating that the written form of the underlying volume submitter plan document is qualified under Section 401(a) of the Internal Revenue Code (IRC), and that under certain conditions, employers adopting this form of the Plan will be considered to have a plan qualified under the IRC. The Company believes those circumstances have been met and that the operation of the Plan is in compliance with the plan document and the IRC. Therefore, the Company believes that the Plan is qualified and the related trust is exempt from taxation under Section 501(a) of the IRC.

5. <u>PARTY-IN-INTEREST TRANSACTIONS</u>

The Plan engages in investment transactions with funds managed by The Hartford. The Hartford is affiliated with Hartford Life Insurance Company, the recordkeeper. These transactions are covered by an exemption from the prohibited transaction provision of ERISA and IRC.

The Plan owns investments in shares of the Company s common stock. As the Company is the sponsor of the Plan, these transactions qualify as party-in-interest transactions that are exempt under ERISA.

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SUPPLEMENTAL SCHEDULE

ACR GROUP, INC. 401(k) PLAN

Schedule H Line 4(i) Scheduløf Assets (Held at End of Year)

DECEMBER 31, 2005

EIN: 74-2008473 PN: 001

(a) (b) **IDENTITY OF ISSUE BORROWER,** (c) (e) **CURRENT VALUE** LEASER OR SIMILAR PARTY **DESCRIPTION OF INVESTMENT** Charles Schwab Schwab Money Market Fund \$ 68,436 * ACR Group, Inc. 220,477 Shares of Common Stock & Cash 727,574 * Hartford Life Insurance American Century Income & Growth Fund³ 463,449 Income Fund of America^{1,3} * Hartford Life Insurance 438,519 * Hartford Life Insurance American Century Ultra Fund 263,528 * Hartford Life Insurance Franklin Small Mid Cap Growth Fund³ 585,413 * Hartford Life Insurance EuroPacific Growth Fund¹ 267,673 Goldman Sachs Small Cap Value Fund¹ * Hartford Life Insurance 3,654 * Hartford Life Insurance Saloman Brothers Small Cap Growth Fund¹ 1,861 208,879 * Hartford Life Insurance Index Fund¹ Dividend & Growth Fund³ * Hartford Life Insurance 868,107 * Hartford Life Insurance Bond Fund³ 387,318 * Hartford Life Insurance Small Midcap Fund³ 1,642,304 * Hartford Life Insurance Money Market Fund 342,882 Janus Twenty Fund³ * Hartford Life Insurance 542,451 * Hartford Life Insurance Hartford Life Insurance Fixed Income Account³ 1,122,657 Total \$ 7,934,705

Notes:

3 - Investment represents 5% or more of the Plan s net assets at December 31, 2005.

* Party-in-interest

^{1 -} Investment fund added in 2005.

^{2 -} Investment fund replaced in 2005.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the trustee has duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: June 23, 2006

ACR Group, Inc. 401(k) Plan

/s/ A. Stephen Trevino A. Stephen Trevino Trustee

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