

SPECIAL REPORT

LEASE VERSUS PURCHASE OF EQUIPMENT

WHITE SANDS MISSILE RANGE KWAJALEIN MISSILE RANGE YUMA PROVING GROUND DUGWAY PROVING GROUND ABERDEEN TEST CENTER NATIONAL TRAINING CENTER ELECTRONIC PROVING GROUND

NAVAL AIR WARFARE CENTER WEAPONS DIVISION NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION NAVAL UNDERSEA WARFARE CENTER DIVISION, NEWPORT PACIFIC MISSILE RANGE FACILITY NAVAL UNDERSEA WARFARE CENTER DIVISION, KEYPORT

30TH SPACE WING 45TH SPACE WING AIR FORCE FLIGHT TEST CENTER AIR FORCE AIR ARMAMENT CENTER ARNOLD ENGINEERING DEVELOPMENT CENTER BARRY M. GOLDWATER RANGE

NATIONAL NUCLEAR SECURITY ADMINISTRATION/NEVADA TEST SITE

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LEAVE VERSUS PURCHASE OF EQUIPMENT

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Prepared by

OPTICAL SYSTEMS GROUP

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1. **INTRODUCTION**. This report is the result of an effort by the Range Commanders Council (RCC) Optical Systems Group (OSG) to assist users in determining the financial benefits of leasing or purchasing optical equipment. The initial study considered nine software applications that could be used in making the decision to lease or purchase equipment. Five programs were removed from consideration after it was determined they did not work well or were not as useful as the remaining four programs.

2. **APPROACH**. A task committee was formed within the Photo Lab Committee of the OSG. The committee members selected the applications shown in paragraph 3 for evaluation. The applications take into account only the financial aspect of an acquisition. The following components should also be considered when determining lease versus purchase.

- a. Reasons for leasing
 - Help smooth budget spikes
 - Facilitate rapid technology deployment
 - Facilitate standardization efforts
 - Provide an effective disposal strategy for used equipment
- b. Reasons for not leasing
 - Lack of an in-house Information Technology (IT) Asset Management Program
 - Unacceptable risks of signing a multi-year contract committing to one technology or vendor
 - Requirements for custom or one-of-a-kind hardware
 - Inability to strictly adhere to contract length, terms, and conditions
- c. Financial considerations
 - Outline costs associated with current procurement methods and equipment management. These costs include:
 - Acquisition costs
 - Asset management costs
 - IT support costs
 - Disposal costs
 - Calculate the respective costs of leasing or purchasing equipment

3. **EVALUATION**. The following software applications were evaluated for this report. The first three applications run on Microsoft Windows[®] and the fourth program runs on Mac OSX[®]. All of the applications can be downloaded for a trial period.

- a. Financial Calculator
 - Version 1.1.1 is available at <u>http://www.rwent.com</u>.
 - Calculator has a 15-day trial with full capability.
 - Cost of the software is \$19.95.
 - This application has more functionality than just lease calculation, but the extra features are not particularly useful for our purposes.

	RMENU		
Mortgage / Loan Solvers	Investment Solvers (IRR = Internal Rate of Return)	Other	
Calculate Basic Mortgage	Return On Invest. Deposits IRR	Nominal vs. Effective Interest Rates	
Find a Suitable Loan and Payment	Return On Invest. Monthly Deposits IRR	Bond Yield to Maturity Solver	
Lease Solver	Return Calculator With Taxes		
	Withdrawal Solver WIth Taxes		
	Date	8/11/2004	<pre></pre>
			<pay at="" period=""></pay>
	Date Period in Years End Date Interest Rate (%)	4.00 ? 8/11/2008 6.000 ?	<pay at="" period=""></pay>
	Date Period in Years End Date	4.00 ?	<pay at="" period=""></pay>
	Date Period in Years End Date Interest Rate (%) Purchase Price Down Payment Amount of Lease	4.00 ? 8/11/2008 6.000 ? 25,000.00 ? 0.00 ? 25,000.00	<pay at="" period=""></pay>
	Date Period in Years End Date Interest Rate (%) Purchase Price Down Payment	4.00 ? 8/11/2008 6.000 ? 25,000.00 ? 0.00 ?	<pay at="" period=""></pay>

Figure 1. Financial Calculators, Version 1.1.1 (screen shot).

Features: Lease Solver

- Period in Years
- Interest Rate
- Purchase Price
- Down Payment
- Lease Buyout
- Payment

b. <u>Lease Calc Pro</u>

- Version 1.0 is available at <u>http://www.almsysinc.com.</u>
- Program has a 30-day full use trial period.
- Cost of the software is \$9.95.
- This calculator is slanted toward the automotive industry but the boxes that pertain to vehicle information can be ignored.

× 🗾 🖬 🏠 I		/Address Co-Lessee Vehicle Insurance Depreciation Quote Trade
Base Values		Calculation Options
1. Capitalized Cost: Net Capitalized Cost: 2. End Value (Residual): 🔲 🕯	\$25,000.00 \$25,000.00 \$10,000.00	- or - Residual %: 40.00000
3. Interest Rate: 🦵 No Rate 4. Term:	6.00000	or - Money Factor: 2:56500 Use Money Factor Or Yes No Is the first payment to be included in the Net Capitalized
5. Base Payment Amount:	\$402.28 fields and the 5	30 days left in trial Cost? C Yes © No 5th one will be calculated for you.
Calculated Results		Optional Data
Total Base Payment:	\$402.28	Taxes (%): Accumulative? GST / PST? Description Resulting \$
Taxable Base Payment:	\$402.28	1. 0.00000 ✓ G P N \$0.00 2. 0.00000 ✓ G P N \$0.00
Sales/Use Tax Percent:	0.000	3. 0.00000 🔽 G P N 🕴 \$0.00
Sales/Use Tax Amount:	\$0.00	4. 0.00000 ▼ G P N \$0.00 5. 0.00000 ▼ G P N \$0.00
	\$402.28	5. 0.00000 V G P N \$0.00
Total Monthly Payment: Due On Delivery	\$402.28	Taxable Add-On to Base Payment Amount: 0.00

Figure 2. Lease Calc Pro, Version 1.0 (screen shot).

Features:

- Calculates for missing values (calculation solver).
- Calculates standard and spreadsheet (loan) type leases.
- Allows data to be saved and retrieved in as many different files as desired.
- Prints amortization schedules, payment schedules, depreciation schedules, and customer quotes.
- Contains option to calculate by money factor.
- Contains option to calculate end value as a percentage of capitalized cost (residual %).
- Allows zero percent interest rates.
- Allows report headings to be customized using the built-in RTF editor.

c. AmortizeIt!

- Version 3.0 is available at <u>http://pine-grove.com.</u>
- Program has a 21-day full use trial period.
- Cost of the software is \$24.95.
- This calculator provides a narrative and charts to explain the conclusion it reaches.

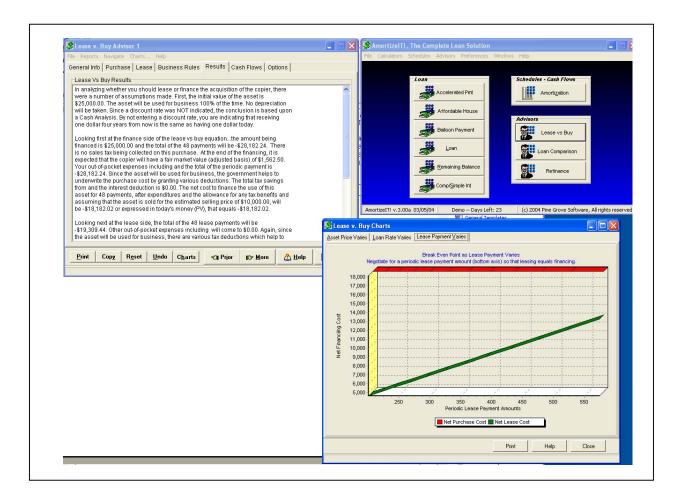


Figure 3. AmortizeIt!, Version 3.0 (screen shot).

Features:

- This calculator allows the user to print a detailed projected cash flow for both the financing side as well as the lease side of the problem
- The program calculates cash flows for both the lease and buy scenarios
- Calculator includes a charting module that visually shows the lease costs vs. the cost of financing.

d. FinLease

- Version 1.5 is available at <u>http://paranzasoft.com.</u>
- Calculations can only be made up to \$10,000 until the software is registered.
- Cost of the software is \$45.00.
- This calculator runs on Mac OSX[®] only.

00			🔳 samp	ole lease			
Lease dat	a	General:		Payments:			
Nominal ann	ual rate:	6.0000	%	Lease date:	10/11/200)4	
Compounding:		(monthly		Payments occur:	monthly	monthly	
Equipment cost:		10.000.00 USD		First payment date:	▶ 11/01/200)4	
					48		
Points:		0.0000	%	Total payments:	48	_	
Periodic paym	ent:		234.46 USD	Amount financed: 10,000.00 USD			
Total paid:		1	1,254.08 USD	Total interest:		1,254.08 US	
		Ar	nortization Sc	hedule Details			
	1						
Date	Description		Payment	Interest	Principal	Balance	
10/11/2004	Lease		-10,000.00	0.00	-10,000.00	-10,000.00	
11/01/2004	Payment	1	234.46	-33.31	201.15	-9,798.85	
12/01/2004	Payment	2	234.46	-48.99	185.47	-9,613.38	
01/01/2005	Payment	3	234.46	-48.07	186.39	-9,426.99	
02/01/2005	Payment	4	234.46	-47.13	187.33	-9,239.66	
03/01/2005	Payment	5	234.46	-46.20	188.26	-9,051.40	
04/01/2005	Payment	6	234.46	-45.26	189.20	-8,862.20	
05/01/2005	Payment	7	234.46	-44.31	190.15	-8,672.05	
06/01/2005	Payment	8	234.46	-43.36	191.10	-8,480.95	
07/01/2005	Payment	9	234.46	-42.40	192.06	-8,288.89	
08/01/2005	Payment	10	234.46	-41.44	193.02	-8,095.87	
09/01/2005	Payment	11	234.46	-40.48	193.98	-7,901.89	
10/01/2005	Payment	12	234.46	-39.51	194.95	-7,706.94	
11/01/2005	Payment	13	234.46	-38.53	195.93	-7,511.01	
12/01/2005	Payment	14	234.46	-37.56	196.90	-7,314.11	
01/01/2006	Payment	15	234.46	-36.57	197.89	-7,116.22	
02/01/2006	Payment	16	234.46	-35.58	198.88	-6,917.34	
03/01/2006	Payment	17	234.46	-34.59	199.87	-6,717.47	
04/01/2006	Payment	18	234.46	-33.59	200.87	-6,516.60	
05/01/2006	Payment	19	234.46	-32.58	201.88	-6,314.72	
06/01/2006	Payment	20	234.46	-31.57	202.89	-6,111.83	
07/01/2006	Payment	21	234.46	-30.56	203.90	-5,907.93	
08/01/2006	Payment	22	234.46	-29.54	204.92	-5,703.01	
09/01/2006	Payment	23	234.46	-28.52	205.94	-5,497.07	
10/01/2006	Payment	24	234.46	-27.49	206.97	-5,290.10	
11/01/2006	Payment	25	234.46	-26.45	208.01	-5,082.09	
12/01/2006	Payment	26	234.46	-25.41	209.05	-4,873.04	
12/01/2000							
01/01/2007	Payment	27	234.46	-24.37	210.09	-4,662.95	

Figure 4. FinLease, Version 1.5 (screen shot).

Features:

- User entered first payment date
- Compounding frequencies ranging from annually to daily
- Payment frequencies ranging from annually to weekly
- Choose from six different day count conventions
- Specify end of month adjustments
- Choose from four different rounding options
- One, two, three advance payments, no advance payment, or a percentage of equipment cost as advance payment
- Up to 12 groups of 12 step up payments, either as a percentage of regular payments, a fixed amount or interest only
- Up to 12 groups of 12 step down payments, either as a percentage of regular payments, a fixed amount or interest only
- Residual payment, either as a percentage of equipment cost or as a fixed amount, occurring on the normal end date, on the last payment date or one month after the last payment date

4. **CONCLUSION**. After testing the applications, AmortizeIT! was selected as the application that best meets the needs of the user; FinLease was the next best application. The AmortizeIt! program has an extensive help menu and explains in detail how it calculates formulas. FinLease has almost the same features, but is not as user friendly.