

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1999
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0604237F Variable Stability In-Flight Simulation Test Aircraft	PROJECT 3308
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COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
3308 Variable Stability In-Flight Simulation Test Aircraft	5,611	3,989	0	0	0	0	0	0	0	59,508
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description:** This demonstration and validation program modifies an F-16D to create a versatile high-performance flying simulator to replace the NT-33A aircraft, which retired in May 1997. For the past 39 years, the research and development flight test community extensively employed the variable stability NT-33A for flight evaluation of fielded aircraft upgrades and new aircraft developments. Its success has been directly attributable to its relatively low-cost of operation, rapid response to customer needs, and high degree of credibility in the flight test community. VISTA was developed to replace the NT-33A because the NT-33A's performance was not representative of future aircraft (it was the oldest aircraft in the Air Force still actively flying). VISTA has the capability to simulate a wide range of air vehicles to verify crucial flight control and human factor designs, establish flying qualities specification criteria, and operate as a flying laboratory for flight control and cockpit display research. In addition, the Air Force Test Pilot School has used VISTA, as they have the NT-33A, to safely train test pilots to evaluate aircraft handling quality, avionics, and human factors designs in a realistic high-performance environment. Note: Congress added \$6.0 million to this PE in FY 1998 and \$4.0 million in FY 1999 for VISTA. There are no plans to request future funding in this PE to continue operating the VISTA aircraft.

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<p>(U) <u>FY 1998 (\$ in Thousands)</u>:</p> <ul style="list-style-type: none"> - (U) \$5,611 Continued upgrade program that provided electrical and mechanical interfaces for future installation of an F100-PW-299 engine with an existing axisymmetric thrust vectoring nozzle and a programmable display subsystem, and investigated flight control laws and performance characteristics of fielded aircraft upgrades, new aircraft developments, and test pilot training. - (U) \$5,611 Total <p>(U) <u>FY 1999 (\$ in Thousands)</u>:</p> <ul style="list-style-type: none"> - (U) \$3,854 Continue upgrade program that provides electrical and mechanical interfaces for future installation of an F100-PW-299 engine with an existing axisymmetric thrust vectoring nozzle and a programmable display subsystem, and investigate flight control laws and performance characteristics of fielded aircraft upgrades, new aircraft developments, and test pilot training. - (U) \$ 135 Identified as a source for SBIR. - (U) \$3,989 Total <p>(U) <u>FY 2000</u>: Not Applicable.</p> <p>(U) <u>FY 2001</u>: Not Applicable.</p>		
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<p>(U) B. Budget Activity Justification: This program is in Budget Activity 4, Demonstration and Validation, since it includes efforts necessary to evaluate integrated technologies in as realistic an operating environment as possible to assess performance or cost reduction potential.</p> <p>(U) C. Program Change Summary (\$ in Thousands):</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th style="text-align: center;"><u>FY 1998</u></th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>Total</u> <u>Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget/FY 1999 PB</td> <td style="text-align: right;">5,650</td> <td style="text-align: right;">0</td> <td></td> <td></td> <td style="text-align: right;">0</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">6,000</td> <td style="text-align: right;">4,000</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: right;">-196</td> <td style="text-align: right;">-11</td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. SBIR</td> <td style="text-align: right;">-154</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus/Other Above Threshold Reprogrammings</td> <td style="text-align: right;">-39</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogrammings</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 1999 PB</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2000 PB</td> <td style="text-align: right;">5,611</td> <td style="text-align: right;">3,989</td> <td></td> <td></td> <td style="text-align: right;">59,508</td> </tr> <tr> <td colspan="6">(U) Significant Program Changes: Not Applicable.</td> </tr> </tbody> </table> <p>FY 1999: \$135 identified as a source for SBIR.</p>							<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total</u> <u>Cost</u>	(U) Previous President's Budget/FY 1999 PB	5,650	0			0	(U) Appropriated Value	6,000	4,000				(U) Adjustments to Appropriated Value						a. Congressional/General Reductions	-196	-11				b. SBIR	-154					c. Omnibus/Other Above Threshold Reprogrammings	-39					d. Below Threshold Reprogrammings						(U) Adjustments to Budget Years Since FY 1999 PB						(U) Current Budget Submit/FY 2000 PB	5,611	3,989			59,508	(U) Significant Program Changes: Not Applicable.					
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4 - Demonstration and Validation	0604237F Variable Stability In-Flight Simulation Test Aircraft	3308
<p>(U) D. <u>Other Program Funding Summary:</u></p> <p>(U) <u>Related Activities:</u></p> <ul style="list-style-type: none"> - (U) PE 0602201F, Aerospace Flight Dynamics. - (U) PE 0603245F, Flight Vehicle Technology Integration. - (U) This project has been coordinated through the Project Reliance process to harmonize efforts and eliminate duplication. 		
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<p>(U) E. <u>Acquisition Strategy</u>: Not Applicable.</p> <p>(U) F. <u>Schedule Profile</u>: Not Applicable.</p>		
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