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## Avion 1992-08-05 (B)

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# AERONAUTICA

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## Huge losses may knock some airlines out of race

NEW YORK (AP) — Bargain-basement ticket prices and high costs left the airline industry with huge losses this spring and raised expectations that there would be fewer U.S. carriers flying by the end of the year.

Airlines are supposed to make money in the spring and summer to make it through the traditionally weak fall and winter quarters. But half-price ticket sales made this second quarter possibly the worst in aviation history and dim the outlook for the third quarter.

Analysts say the industry will have to shrink before it can make money again. That means some carriers flying today would have to fold up their business or sell to healthier rivals.

The airlines have spent the early days of the summer trying to recoup some of their spring losses. Earlier

this month they increased fares an average of 4.4 percent.

However, much of the gain has already been diluted by the recent fare wars, said Lee Howard, chief executive of the Washington-based consultants Airline Economics Incorporated.

The airlines have been in this situation many times before. Faced with a dire need to raise revenues, they clamor that ticket prices have to increase. But just as frequently, intense competition prompts one carrier to start offering huge discounts that others airlines are forced to match. This is a scenario analysts expect to see repeated soon.

"It's my guess we won't see another big fare reduction until after Labor Day. But as long as you have airlines around struggling for cash, fares can come down," Howard said.

Even carriers considered healthy lost huge amounts in the April-June quarter. The parent company of American Airlines, the country's largest airline, lost \$166 million and Delta Air Lines Inc. lost \$180 million.

United Airlines' parent company, UAL Corp., is expected to report a loss of about \$100 million when it announces second-quarter results tomorrow.

The last time the entire industry lost money in the second quarter was 1980 when it lost \$151 million, Howard said. He also said that with this quarter's huge losses it could be the worst second quarter ever.

So far, the most significant profitable airline has been low-budget Southwest Airlines Co., which earned \$23.5 million in the second quarter.

Southwest has made a name for itself by offering no-frills service and cheap tickets. While it's unlikely any of the other major airlines will try to copy Southwest's formula, they are examining their costs closely.

Delta, in addition to cutting its work force by 5 percent to lower costs, recently announced its passengers will not get a decorative piece of lettuce with their salads. The lettuce savings are expected to amount to \$1.4 million a year. Consumer advocates are fearful the drive to cut costs could compromise safety.

"When profitable, it's easier to pay attention to the fundamentals: maintenance, meals, comfort. But when looking at continued survival, there's temptation to cut corners," said Kenneth Hoagland, president of Aviation Consumer Action Project. The ACAP is an organization found-

ed by consumer activist Ralph Nader.

Airlines are also asking their unions for concessions. Northwest Airlines is asking its pilots to cut costs by \$500 million and Delta is also expected to approach its pilots for concessions.

Whether through liquidation or merger, America West Airlines and Trans World Airlines, both operating under bankruptcy court protection, are frequently mentioned as the most likely to be gone by the end of the year.

TWA has confirmed it is talking to USAir about selling some assets. USAir recently agreed to a \$750 million cash infusion from British Airways. This deal would give USAir enough funds to buy TWA assets.

Julius Maldutis, airline analyst at Salomon Brothers Inc., believes

USAir would be most interested in TWA's international division.

USAir's prospects brightened with its British Airways agreement, but other carriers are still struggling.

Continental, which is operating under Chapter 11 protection, has an agreement to sell a majority stake to an investor who would bring it out of bankruptcy court.

Northwest has been cutting staff and juggling its flight schedule as it grapples with huge losses. But the extent of the airline's troubles is not known. Since it is privately held, Northwest does not publicly release its results.

If any of these airlines die, it would make traveling harder for passengers. They would see fewer chances for fare cuts and an increased likelihood that prices in general would rise.

## Construction of Dassault's Falcon 2000 on schedule

By Ronald Hess  
Aeronautics Editor

The new Falcon 2000 business jet is currently under construction at factories in Europe and the United States. Final assembly of the No. 1 (certification) aircraft began this past month at Dassault's main Falcon factory at Merignac, near Bordeaux, France. All of the major structural subassemblies, including the wings and the five fuselage sections, were finished or nearing completion by the end of May, 1992.

The Falcon 2000 is a new high-speed, twin-engine transcontinental business jet. The design is based upon the widebody passenger-cabin cross section of the Falcon 900. The aircraft is powered by two CFM738 turbofan engines developed by General Electric and Garrett.

The powerplant will take the Falcon 2000 to 41,000 feet and cruise 3,000 nautical miles at .80 Mach. These specifications are based on a standard interior, 8 passengers and NBAA IFR fuel reserves. The engines allow the Falcon 2000 to join any two cities in the contiguous U.S. nonstop under the most difficult 99th-percentile wind conditions. Under standard conditions, the Falcon 2000 will have more thrust-to-weight at top of climb than the Gulfstream IV and Citation III.

The CFE Company began testing the engine core and fully built-up

test engines in May, 1990, at G.E.'s Lynn, Mass., and Garrett's Phoenix, Ariz. plants. The engines have logged over 465 hours of test cell time. Three of the test engines have exceeded the Falcon 2000 thrust rating of 5,725 pounds per engine.

Recent tests have focused on verifying the engine's mechanical systems and performance. The engine gearbox has passed the FAA 150-hour endurance and fire-exposure tests. Flight testing is underway on a Boeing 720 testbed aircraft. Certification is targeted for April 1993. By the end of 1993, 11 engines will have performed more than 5,000 hours in ground testing and flight.

One of the Falcon 2000's greatest strengths is its cabin size. In terms of usable passenger volume, the interior is more than twice the size of the BAe 1000 and Citation X cabins. The cross section of the 2000 has six feet of headroom and a maximum width of 7.75 feet, exactly the same size as the Falcon 900. The passenger cabin measures slightly over 26 feet, from cockpit divider to aft laboratory bulkhead. The 141 cubic foot baggage compartment is larger than the 900's.

In 1990, Dassault selected the Italian aerospace company Alenia as a risk-sharing partner to build the aft fuselage (sections T4 and T5), engine pylons and nacelles. Deo Howard Company, a subsidiary of Alenia, provides the thrust reversers. Alenia has also participated in the

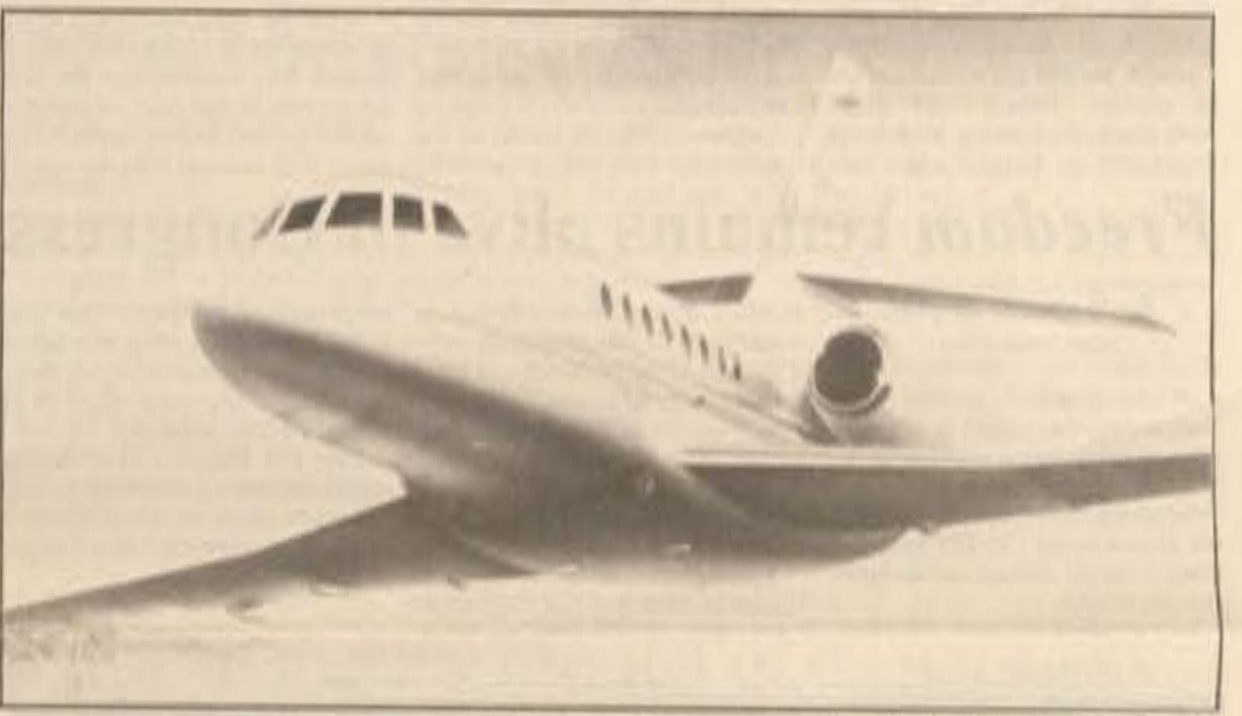
development of the Falcon 2000. A Design Build Team (DBT) consisting of Alenia and Dassault engineers resolved the design issues.

The three forward fuselage sections (T1, T2 and T3) are being manufactured at Dassault's factory in Argenteuil, near Paris. T1 and T2 include the cockpit and forward cabin. They are currently mated, and will be joined with the center-cabin section, T3. Once all three sections are united, they will be trucked to the main Falcon assembly plant at Merignac for mating with Alenia's T4 and T5, and with the wings.

The first shipment of Falcon 2000 wings are being constructed at Dassault's factory in Martignas, in the Bordeaux area of Southwestern France. Dassault has applied robotics to the manufacturing of the 2000's wings. The wing design is similar to the Falcon 900 wing except for the inboard leading-edge slats.

The Falcon 2000 will be one of the first aircraft developed and certified without a mechanical mockup to work out the installation of piping, ducting, wire harnesses and similar engineering details. All work is being accomplished using CATIA, a powerful, interactive, three-dimensional computer design system developed by Dassault. CATIA provides what engineers call a "full electronic mockup." The process saves both time and money.

CATIA is being used to design all of the parts of the Falcon 2000.



This artist's rendition of Dassault's Falcon 2000 shows the sleek design of the new business jet. The high-speed twin engine jet is expected to be rolled out and flight tested next February.

Engineers use CATIA to create a part of desired shape, operation, strength and weight. CATIA can take this information and define the tooling necessary to manufacture the part. The result is a high level of quality, precision and repeatability.

Dassault has sold the system to other aerospace manufacturers. Boeing used a CATIA system to build the 777. Engineers at Falcon

Jet's completion facility in Little Rock, Arkansas, use CATIA to design the standard interior for the 2000.

The Falcon 2000 is priced at US \$13.95 million for a completed, standard equipped airplane. This includes the new five-year warranty announced last year. Options and contracts have been signed by customers in 12 countries: Argentina,

Australia, Austria, France, Great Britain, Japan, Italy, Netherlands, Saudi Arabia, Switzerland, United States and Venezuela.

Gene Rainville, Falcon Jet's Senior Vice President of Marketing, said that the Falcon 2000 is currently sold through the first half of 1996. Factory rollout and first flights are scheduled for February, 1993.

## British Airways and USAir sign agreement to merge together

By Ronald Hess  
Aeronautics Editor

USAir and British Airlines have joined forces. Last month, USAir agreed to sell 44% of its stock to British Airways in return for \$750 million cash and access to BA's worldwide operations. In return, BA would gain a partner in the largest air transportation market, the United States.

British Airways' has obtained a significant portion of worldwide airline routes. Competitive scheduling and pricing have provided BA with a stable financial background. The next step for BA was to enter the U.S. market. The British carrier was looking for a compatible partner that shared the same values and objectives as BA. The airline originally started negotiations with Northwest. When talks collapsed, competitors USAir, Continental Airlines and Trans World Airlines scrambled to

make a deal with British Airways.

American carriers were greatly interested in BA's financial support. Facing a recession, fare wars and low traffic have left U.S. carriers struggling to survive. An agreement with British Airways would provide some financial support and an advantage in foreign markets.

Talks between USAir and BA began over a month ago. On July 20, 1992, the boards of both companies signed the agreement. The agreement stipulates that BA will pay \$520 million for 7% of USAir's series C cumulative stock, and \$230 million for series E preferred stock. BA can convert both stock series to USAir common stock at a price of \$20.50 a share.

Of the stock purchased, the British carrier will only have 21% of USAir's voting stock. This is due to a U.S. regulation that foreign investors may only hold 25% of an airline's stock. The shares due by

BA four seats on USAir's board of directors and two additional directors will serve on both airlines' boards.

British Airways' purchase will reduce USAir's debt. Currently, the debt stands at \$2.19 billion, which would reduce to \$1.44 billion and boost USAir's equity to \$2.35 billion. The transaction increases the airline's financial opportunities.

Examination of the service provided by the agreement shows that the airlines have 339 destinations in 71 countries. USAir gains access to European, the Middle and Far East, the Mediterranean, African, Australian and Latin American markets. BA is open to some 55 million USAir passengers and the strong market in the eastern U.S.

Both airlines are anxiously awaiting approval of their pact so that the benefits may be reaped. Approval must come from the transportation departments of both countries. The



USAir and British Airlines have signed an agreement where the British carrier will purchase 44% of USAir's stock in return for access to USAir's eastern U.S. facilities.

U.S. Justice Department will examine the effects of the agreement on competition. The U.S. does not want a foreign investor to control a U.S. carrier. The British government is concerned with the impact of the

agreement on British and European carriers.

If and when the agreement is improved, British Airways and USAir will become powerful international carriers. USAir will gain an

advantage over other U.S. airlines with their improved financial stability. British Airways will achieve its ultimate goal, a partnership with a United States airline, and access to a rich new market.

## TWA flight 843 bursts into flames at Kennedy Airport

NEW YORK (AP) — The pilot of an airliner that veered off a runway and erupted in flames told investigators last Friday that he aborted the takeoff when a warning system indicated engines were stalling, a federal official said.

The pilot had no indication there was a fire until after he aborted the liftoff at Kennedy Airport, John Lauber, a National Transportation Safety Board investigator, said at a news conference.

All 292 people aboard escaped

through emergency exits as flames engulfed the back half of the air plane. Fifty-five people were injured, but none of them were hurt seriously. TWA Flight 843, a Lockheed L-1011, had been headed to San Francisco.

Passengers told investigators that the plane lifted off the ground from 2 feet to 100 feet before pilot William Shelby Kinkad decided to abort the flight, Lauber said.

He quoted the pilot as saying: "The airplane didn't feel normal at

that point. It didn't feel like it was going to fly." Lauber said Kinkad told investigators a warning system indicated engines were stalling.

Air traffic controllers told investigators they saw smoke coming from the plane when it was halfway down the runway and radioed the pilot at about the time of liftoff, Lauber said. Lauber disputed an earlier report that fuel had leaked from the plane during the takeoff.

The Port Authority's preliminary report on the accident said a rear

fuel line to the plane may have ruptured, causing the fire, said a Port Authority police official who spoke on condition of anonymity.

That report said the plane left a trail of fuel stretching 2,500 feet behind the site where the plane came to rest, the source said. But Lauber said investigators could find no evidence that any fuel lines broke and found no fuel on the runway.

Earlier last Friday, Gregory Feith, an NTSB inspector, said an engine problem may have preceded the fire.

But Thomas Conroy, who is heading the investigation for the NTSB, said it was too early to say what the cause was.

Investigators collected and analyzed pieces of wreckage. The plane's flight and voice recorders were sent to Washington.

The L-1011 has a good safety record, according to aerospace experts. But twice in the past two years L-1011 engines have spurted flames: at Kennedy on April 16, 1992, and at Boston's Logan Airport

on March 26, 1990. No serious injuries were reported in either case.

Passengers who watched from the tarmac as flames enveloped the rear half of their plane praised the 12-member crew for getting them out.

"The crew did 'a fabulous job,'" said Bill Kistner, a retired police officer from San Jose, Calif.

"People were panicking. We were all trying to get away from the flames," he said. "The captain was helping everyone out. He was the last to go."



# Space station verification to be engineering challenge

By Joshua S. Mussaf  
*Space Technology Editor*

As if one of the world's largest engineering projects - involving 13 countries and an array of time zones and languages - is not complicated enough, imagine building a spacecraft in orbit over four years, knowing that the first piece must work with the last. There lies one of the greatest space station challenges - the challenge of verification.

This is the first time NASA will launch a spacecraft packaged in pieces. Space Station Freedom will never be completely assembled on the ground as a unit, making verification imperative. Verification is the all-encompassing term used to describe the complicated coordination and checkout of hardware and software that will be built at various locations around the world.

This incremental approach of building Freedom is necessary because of the station's size and weight. It will take about 18 space shuttle flights to lift the elements into space and then assemble them using extravehicular activity and robots. Since this has never been attempted before, this incremental approach requires coupling classic design and verification principles with some futuristic planning to create a finished product in space.

Typically, flight articles designed in the classic sense begin at a "breadboard" or "brassboard" phase, where designs aim only to fulfill a function. Breadboard models answer the question, "Does it work?" At the next phase, engineering models (or prototypes) are designed which inte-

grate function, form and fit. Form is the article's shape, and fit is the article's ability to fit into an assigned space. From there, flight hardware like models are built to simulate the article's function. These models are true to form and fit and are built with the actual materials intended for the actual station.

At this point, the qualification model is tested for its ability to perform in the launch and the space environment. It is pushed to the limits of both environmental and functional capabilities, and every possible scenario is created to challenge the qualification model. If the model survives the qualification test, the design is approved for flight. In past missions, a flight unit was fully assembled and tested on the ground before launch. This marks the critical difference between Space Station Freedom and any other spacecraft ever built.

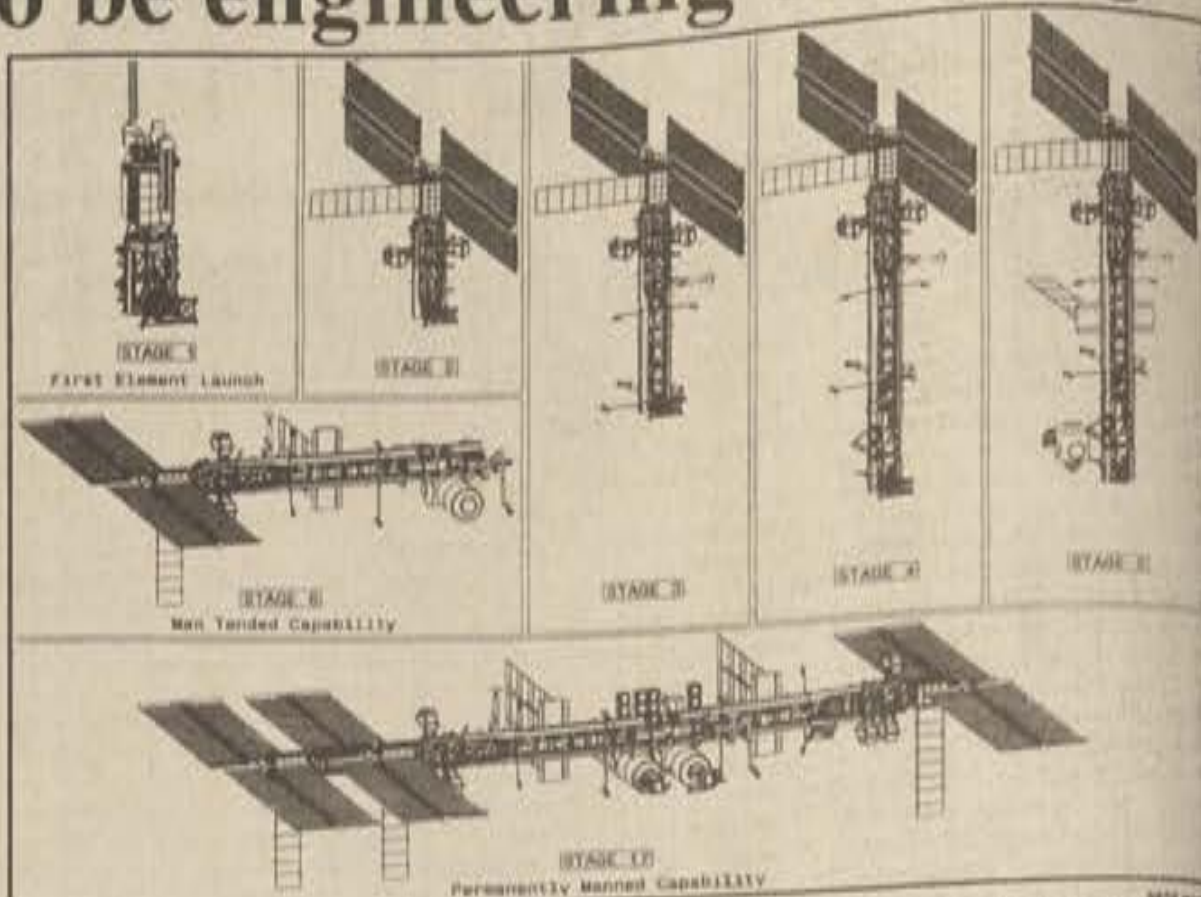
For Space Station Freedom, the Integrated Systems Preliminary Design Review, held in November of 1990, initiated the process of creating bread and brassboard designs and engineering models for the station. Designs for the first six elements, which comprise the mandated configuration, next will be reviewed at the critical design review, scheduled for the spring of 1993. Simultaneously, the next five elements, comprising a portion of the permanently manned configuration, will undergo preliminary design review. Qualification models will then be built by the program's contractors and tested. At design certification reviews, scheduled throughout 1995, the results of the qualification tests will be reviewed

to certify the design of the mandated phase. The permanent occupation design certification process will be done incrementally as each subsequent piece is qualified throughout Freedom's construction.

Flight acceptance tests for each element will be conducted prior to the delivery of each element to Kennedy Space Center for launch preparation. Flight acceptance tests will verify the manufacturing and assembly of each element. This is less demanding than the qualification tests, intended only to stress the design.

This complex arrangement of designs and tests, however, cannot be applied to Space Station Freedom in the classical sense. Since Freedom is being designed by an international team, built on Earth piece by piece and assembled in space over four years, a tailored approach is needed. To date, no other space system has required a verification system adaptable to these dynamics. NASA will achieve the intent of the classical process and deliver a station to space which has been tested incrementally to guarantee the success of the whole. While the design facilitates verification at the element level (elements such as truss segments, nodes and pressurized modules can be tested prior to launch), the success of the integrated system will be determined by verification between 1995 and 1999.

While the space station will never be completely assembled on the ground, it is essential that the first six sections fit and function together on the ground before launch. To accomplish this and hold the launch



This computer generated graphic shows the various stages of construction of Freedom leading to the permanently manned capability at the turn of the century.

schedule, a detailed plan was developed to ensure that all connections will be tested in their flight configuration on the ground. As experience is gained, those connections will be tested while mated to qualification hardware or specially designed test equipment.

What can not be tested, however, is the difference between the Earth and space environments. Knowing how two elements merge and inter-

act on the ground differs from the near zero-G environment where this facility will function. No simulator on Earth can give life-like zero-G conditions.

Early in the development process, technical phenomena, needing zero-G verification, were identified and flight tests aboard the space shuttle were developed. For these tests, prototype versions of the space station equipment are simulated in a flight

environment aboard a shuttle. This testing verifies the design features and operations protocol that will ultimately fly on Freedom. For example, a process particularly sensitive to the absence of gravity is the separation of liquid and gas phases of a fluid. This is critical in the pumps and heat transfer devices primarily found in the thermal control

see Freedom, page B7

## Freedom remains alive in Congress

By Joshua S. Mussaf  
*Space Technology Editor*

Washington D.C. — The Space Station Freedom project is still alive after averting its cancellation in the U.S. House of Representatives last Wednesday. After hours of debate, the House voted 237-181 to spend more taxpayer money on the eight year old project.

As a result of the vote, the effort

to build Space Station Freedom would get \$1.7 billion more to carry it through 1993. The amount is \$500 million less than requested by President Bush and NASA. The money came as part of a bill that would strip \$1 billion off the space agency's \$15 billion budget requested for all of its operations.

Opponents, led by Rep. Bob Traxler of Michigan said the station is too costly, of little scientific value

and a drain of worthy NASA projects. Wednesday's effort was aimed at taking space station money from NASA and applying most of it toward the federal deficit.

Rep. Jim Bacchus of Orlando, summed up the arguments of the station promoters. Bacchus' district includes the Kennedy Space Center.

see House, page B7

## Spaceport Florida to launch in-state rocket

Cocoa Beach, Fl. (AP) — Spaceport Florida will take a small and long-delayed step for mankind when it launches its first rocket from an in-state site to study the earth's ozone layer.

The state space agency originally planned to launch the 10-foot suborbital rocket more than a year ago, but environmental questions put it on hold.

Spaceport officials now say the Viper rocket, a type commonly used

for weather probes, will blast off August 22 from Cape San Blas in the Florida Panhandle, about 80 miles southwest of Tallahassee.

It will carry a sensing device to measure ozone levels at altitudes up to about 200,000 feet for researchers at Florida State University, the agency said in a release.

When federal environmental regulations delayed flights from the Air Force-owned site, Spaceport Florida launched its first rocket last July in

Mexico to study a solar eclipse. Although the rocket apparently performed properly, the Florida Institute of Technology's instrument payload failed to transmit data.

The Cape San Blas site once was used by Eglin Air Force Base for missile launches. Environmental requirements have grown much stricter in the years since Eglin stopped using it.

see Spaceport, page B7

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## THE Crossword

by William Lutwiniak

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### ANSWERS

SLED	BRAINT	LEST										
CARE	QATER	OKRA										
BETTER	BELIEVE	IT										
ADIOS	BLUR	PAS										
AMOUNT	AQUA											
HOARY	SPLEEN											
ETIA												
ELL	PRODS											
NOIF	SANDS	ORBITS										
QWAR	SAUCE	MEVA										
TATAHS	DEALT											
ZANE	SWEETS											
NAM	JOIN	ESSSES										
ASAWA	TTE	HOFF	FACT									
FOXY	AREAL	FEAR										
OREG	BARRES	OLLA										

<p><b>ACROSS</b></p> <p>1 Neighbor of Nev.</p> <p>5 "— in Toyland"</p> <p>10 Bulging pot</p> <p>14 Sly</p> <p>15 Of space</p> <p>16 Phobia</p> <p>17 Truly</p> <p>20 Bus. org.</p> <p>21 Bring together</p> <p>22 Road curves</p> <p>23 Author — Grey</p> <p>24 Goodies</p> <p>26 Kazan natives</p> <p>29 Distributed</p> <p>30 Man —</p> <p>31 Chef's creation</p> <p>32 — culpa</p> <p>35 Truly</p> <p>39 Pipe bend</p> <p>40 Gives a poke</p> <p>41 Comical Kett</p> <p>42 Ancient</p> <p>43 Bad temper</p> <p>45 Quantily</p> <p>47 Greenish-blue</p> <p>48 So long</p> <p>49 Run together</p> <p>50 — de deux</p> <p>53 Truly!</p> <p>57 Part of TLC</p> <p>58 Western flick</p> <p>59 Gumbo must</p> <p>60 Coaster</p> <p>61 Wild goose</p> <p>62 Fearing that</p>	<p><b>DOWN</b></p> <p>1 Twinkling — eye</p> <p>2 Bonheur or Ponselle</p> <p>3 Test</p> <p>4 Place for a workout</p> <p>5 Things to twirl</p> <p>6 Bandsman Shaw</p> <p>7 Existed</p> <p>8 Corn serving</p> <p>9 Sch. sign</p> <p>10 Counteract</p> <p>11 Minimal</p> <p>12 Shoestrings</p> <p>13 Carney and Tatum</p>	<p>18 Open a little</p> <p>19 Antenna</p> <p>23 Stand for a cup</p> <p>24 Grinch's creator</p> <p>25 Baylor U. site</p> <p>26 — down (soften)</p> <p>27 Mil. no-show</p> <p>28 Plane section</p> <p>29 Sugar —</p> <p>31 Mews sound</p> <p>32 Speechless</p> <p>33 Ending with major</p> <p>34 — example</p> <p>36 Mate</p> <p>37 Island off Galway</p> <p>38 Lugosi or Bartok</p> <p>42 Booced</p> <p>43 Whippersnapper</p> <p>44 Absolute</p> <p>45 "Let's make —"</p>	<p>46 Liturgical headdress: var.</p> <p>47 Woody or Steve</p> <p>48 Fundamentals</p> <p>49 Twixt phi and kappa</p> <p>50 Small dog</p> <p>51 Makes known</p> <p>52 RBI e.g.</p> <p>54 Burglarize</p> <p>55 Pub fixture</p> <p>56 Tenn. athlete</p>
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# Publishers launch a battle for your personal computer desktop

➔ **Software Review:** Quarterdeck's *Desqview IX* is a software package for the IBM PC. Norton Desktop 2.0 is also available for the IBM PC.

By Joe Cambron  
Data Tech Editor

"Desktop" programs are a hot new commodity in the PC software jungle. Generally, a Desktop program is one that allows its owner to organize and move quickly between several different programs. Its purpose is to increase the users' productivity by facilitating rapid transition between tasks. This article will analyze the quality and effectiveness of *Desqview IX* by Quarterdeck and *Norton Desktop 2.0* by Symantec.

**Other desktop programs**

By its loosest definition, quite a few programs qualify as Desktops. Programs as simple as the *MS DOS Shell* or as complicated as the *Amiga Workbench* or the *Mac Desktop* qualify. Even *Windows* is a desktop program. All the modern desktop products do share one common thread, a GUI (Graphic User Interface) modeled after the Macintosh and earlier Xerox computers. (A GUI is a graphically represented desktop usually controlled by a mouse that uses icons or pictures to represent actions.)

**Desqview and Desqview IX**

Many desktop products are combined with new computer operating systems. While there are advantages (such as speed) to this type of design, the already established DOS PC market dictates a separation of the operating system and the desktop. *Desqview* and *Desqview IX* border upon being separate operating systems, but are instead in the same category as Microsoft's *Windows*. They act like an operating system, but they require DOS.

*Desqview* is a unique product by Quarterdeck the maker of the best selling *QEMM-386* memory manager. Sworn to by many devoted users, the product is a simple multi-tasker without all the bells and whistles of *Windows*. Essentially, *Desqview* can run multiple programs operating simultaneously more efficiently than *Windows*. *Desqview* has no GUI interface and is instead controlled by hot-keys (ALT and F1 for instance). These hot-keys allow the user to toggle between separate running programs.

*Desqview IX* is basically *Desqview* with many of *Windows* bells and whistles added, including a GUI. The *IX* in the title refers to *X Windows*. *X Windows* is to UNIX based systems what Microsoft *Windows* is to DOS based systems.

Using *X Windows* as a GUI for *Desqview* was a brilliant idea. For one thing, software can be converted

from UNIX to *Desqview IX* in very little time. It also makes the migration of users between UNIX and DOS machines a lot easier. Finally, it is simple, easy to understand and very functional.

Included in the package are *Adobe Type Manager for Desqview IX*, a file management system, an icon editor, several games, *QEMM-386* memory manager and an application manager.

*Desqview IX's* strength lies in its versatility. It can run DOS text programs seamlessly, multiple Microsoft *Windows* sessions (provided you have the memory), or *X Windows* designed applications.

Another *Desqview* strength is its remote user capability. On a properly setup network, a remote user can have access to the programs running on the parent computer. A session of *Excel for Windows*, for instance, could be running in a window on one PC, while it is being used on another. This function is truly ground breaking.

**Overall**

For all its technical gadgetry, the program has some shortcomings. It has limited support for extended video modes above the VGA standard. When running a desktop program it is important to see as much of each of your programs as possible. Limited support is also provided for 256 color video modes above 320x200 pixels. This prevents many

graphic based applications from running in a window at all.

Even with those worries, the program stands toe-to-toe with *OS/2* and only a few toes short of Microsoft *Windows*. For the average user with multi-tasking needs, vanilla *Desqview* probably offers a more usable environment even without the bells and whistles.

One excellent use of the program is to multitask a telecommunications program running at 9600 baud in one window and a word processor or spreadsheet in another window. With the proper serial port setup, this task can be completed error free under *Desqview* even while using only a 386 based PC. *Windows* would require a fast 486 to attempt such a task, and often fails in trying.

**Norton Desktop 2.0**

Unlike *Desqview IX*, Peter Norton's company has surrendered to the success of Microsoft *Windows* and has made its product run under *Windows*. This spawns the question: "Doesn't Microsoft *Windows* already have a desktop?" Indeed it does, but it is one that many people find inadequate.

Like the Mac, but unlike regular Microsoft *Windows*, *Desktop* offers "drag and drop." This feature allows a file to be picked up with the mouse and moved to a shredder to be destroyed, rather highlighting the file and pressing delete. Other functions such as viewers and virus

checkers can have files dropped on them.

The desktop can be fully configured using password protection if needed, or a user may elect to stick with the program groups from the old *Program Manager*.

Groups may exist inside other groups also like the Mac. This in essence creates a menuing system.

The file manager has been integrated with the overall desktop as well. Features such as directory prune and graft are available as well as support for multiple file tagging.

Like *Norton Utilities 6*, *Desktop* has full unerase protection that can be customized to erase deleted files as long as a day, a week, or even longer after you may have thought you did not need them.

Full virus protection is offered via a command file inserted in the start-up sequence. Up to 1000 or more viruses are specifically searched for.

Backup of your hard drive to tape or floppy is supported on regular intervals or at your convenience. Full network capability is also available. A string of *Windows* commands can even be carried out in a batch language available only in *Desktop* and HP's *New Wave*.

**For better or worse?**

Since *Norton Desktop* requires *Windows*, it must be sufficiently better than *Windows* own desktop to justify both its cost and its storage space.

If you have been a regular Mac user in the past, and are just now migrating to the *Windows* platform, *Desktop* is a vital link that will offer you consistency in the transition.

If you are new to *Windows* or are unfamiliar with the operations of a GUI interface, *Desktop* is still beneficial. Its simplicity and ease of use make time consuming tasks for a new user go much more quickly.

Finally, if you do not own *Norton Utilities* or have attempted to eliminate every last DOS program from your hard drive, *Desktop* is a suitable replacement for most DOS utilities packages. It offers a strong combination of utilities that in the past were only available in DOS based programs.

Only if you are a "power user" (someone very familiar with *Windows* and interested in maximum speed at all times) will *Desktop* seem unnecessary. Transitioning from *Windows*' desktop to Norton's is time consuming if you are already familiar with the default system. Further, even with a faster startup sequence than version 1.0, starting *Windows* with *Norton Desktop* installed requires about twice as long as it does without it.

*Desqview 386* is available from Insight Software (1-800-998-8030) for \$125. *Desqview IX's* price was unavailable at press time. Norton's *Desktop for Windows* version 2.0 is available for \$95 from Insight.

# New language combines BASIC with cutting edge programming under Windows

➔ **Software Review:** Visual Basic Professional Toolkit is available for an IBM PC with Windows.

By Joe Cambron  
Data Tech Editor

For those readers who are not familiar with Microsoft's *Visual Basic*, the release of Microsoft's *Professional Toolkit for Visual Basic* may not mean too much, but it should. As someone who will be living in the information age for a long time to come, learning to program a computer is an extremely valuable

asset. Luckily, one of programming's easiest languages has made the transition to modern times.

**Background**

BASIC is a language taught to children as young as eight years old, but now the ease of BASIC has been mated with the cutting edge program *Windows*. *Visual Basic* allows developers to draw windows on the screen like a paint program and then add BASIC code to the functions drawn onto the windows.

Never has programming at such a high level been so easy. *Visual Basic* picks up where *Toolbook* failed and goes 100 steps beyond it.

The limit to *Visual Basic* is the limit of the imagination. Any program used with *Windows* can be designed under *Visual Basic*.

True, some programs can be designed more efficiently from a speed or size standpoint using complex and advanced languages like C, but *Visual Basic* has the advantage of ease. Where a window might have to have its points specified in a language like C, they can just be drawn with a mouse. Whereas a control like a button might have to be designed from the base level under C, *Visual Basic* allows a button picture to be pulled from a con-

trol palette just as if you were painting.

**Professional Toolkit**

The name of this product is deceiving. One does not need to be a professional to use or understand this add-on to *Visual Basic*. What this product does offer is a further link to the cutting edge. With this addition *Visual Basic* can easily (and that is the key) access digitized sound features, the new pen interface on many small notebook PCs, use graphs more easily, use 3-D effects, or create tables of data.

The most exciting features of this new package are the sound and pen

options. While the pen use option is intended to spur software development for what is expected to be high demand for pen based PCs in the coming years, the sound option is available to millions immediately.

What makes *Windows 3.1* so wonderful is its use of digitized sound. Whether a sound is recorded on a Soundblaster or an F/X Sound Board or a Pro Audio Spectrum or any of several other boards it can be played back on any of these boards under *Windows*. This kind of bridge crossing compatibility makes the prospect multimedia come to life under *Windows* in the near future.

*Visual Basic* can tap into this new technology.

**Conclusion**

If you are a current programmer struggling with C or Pascal or a novice with a little BASIC experience under your belt, *Visual Basic* is the perfect route to a career as a software developer. It is simple enough to make learning as easy as it ever will be, while flexible enough to accomplish virtually any task.

*Visual Basic* is available from Telemart for \$119 (1-800-821-2033). The price of the *Professional Toolkit* was unavailable at press time.

# Symantec's Norton Utilities marches forward with a sixth version of its package

➔ **Software Review:** Norton Utilities 6 is available for the IBM PC.

By Joe Cambron  
Data Tech Editor

*Norton Utilities 6* is now rolling off the "presses" in record numbers. This follow up to previous versions of *NU* offers numerous improvements, some that are vital and others that are merely cosmetic.

**Got to have it**

If you have recently upgraded to *DOS 5.0*, then *NU 6* is more or less a requirement. Since *NU 5* was

designed well before the debut of the new operating system, quite a few bugs exist in the implementation of *NU 5* under *DOS 5.0*. Among them is a problem with *MS DOS Task Switcher* and *NU's Speed Disk* which can cause erratic behavior and possible data loss. The redesigned version is clocked at four times faster than the previous version, particularly with large hard drives.

*NU 6* even improves upon *DOS 5.0* by replacing *COMMAND.COM* with *NDOS*. *Norton DOS* is a new command interpreter that adds 200 new features to the DOS command line and best of all it uses less memory than the old file.

**Trend setting**

In what is probably the most welcome move in all of software development, Norton has decided to ship *NU 6* in a compressed form. Unlike other programs which compress their code on the floppies they come on, but expand like a balloon on your hard drive, *NU 6* files use an on-the-fly compression technique that reduces their size by 40% at all times. Happily, the speed loss from the compression is negligible. The only down side to the compression technique occurs if you already use *Stacker* or another compression package. Not only will *Stacker* be unable to compress *NU 6* any fur-

ther, it becomes painfully slow to use.

**Caching in**

Norton's caching program has been improved to the point where it towers above the SMARTDRV.SYS program that comes with *DOS 5.0*. It is on an equal par, however, with SMARTDRV.EXE that ships with *Windows 3.1*. Unlike SMARTDRV.EXE, though, Norton's cache can disable write-through caching which can cause data loss if your computer stops suddenly.

**Also new**

Norton's *Safe Format* and other commands now support 2.88 megabyte floppies, while many

other utilities now can use expanded memory to improve speed and performance. Norton's erase protection utility (which hides away erased files for a specified time so they can be unerase unharmed), *Disk Monitor*, and *Norton Cache* can now be loaded into high memory.

**File liberation**

For years reviewers and computer owners have whined about DOS's eight character filenames and three letter extensions. Many people think that the cryptic filenames spawned by these limitations make computing more difficult. With Norton's *NDOS* program, a 40 character description can be added to a file.

**Mouse Support**

Full mouse support is now available for *NU 6*. Icons are also provided, and installed at your option, for *Windows* operation.

**All in all**

*NU 6*, and now *NU 6.01* (which fixes some minor problems), is a must for every user who ever hopes they will not mistakenly erase a file or lose a hard drive's data. Norton's classic utilities for defragmenting your hard drive and marking bad sectors are just as necessary today as they were when *NU 1* came out in the 1980s. *NU 6* is available for \$109 from Telemart (1-800-821-2033).

# CONGRATULATIONS

TO THOSE STUDENTS WHO HAVE MADE THEIR FIRST SOLO FLIGHT

BARCLAY, ANDREW

BOTTOLINE, TONY

GONZALEZ, JASON

HALVERSON, KRISTINE

HENDRIX, ASHLEY

KING, HANS

KNUDSON, BLAIR

OULAI, TONY

PERLMAN, PHIL

RICE, ERIC

ROBINSON, BRIAN

STOUFFER, ERIC



# Cool World offers hot soundtrack

By Boyd Kelly  
Diversions Writer

To say that Cool World is a lot like the Coliseum but different is really not too far from the truth. This album, like the movie, is full of music.

If you have seen the movie then you know what I am talking about. There is music playing constantly through the whole movie.

Well, the folks up at Warner Brothers have put together one hell of a soundtrack album for the movie.

The main track "Real Cool World" is unmistakably David Bowie. Bowie, of course, is no stranger to movie soundtracks. His songs for movies like this one, *Labyrinth* and *When The Wind Blows* are an asset.

Next come the Thompson Twins with "Play With Me." This is definitely a dance track and a new style for the Thompson Twins. They have made quite a progressive change.

Electronic with "Disappointed" and The Future Sound of London with "Papua New Guinea," set the album right into motion.

Next we get a hard hitter from Ministry's long awaited album, "N.W.O." is the track and it stands

**The meaning I will not divulge, buy it and see for yourself**



The Cool World soundtrack includes songs from bands like My Life With The Thrill Kill Kult and Ministry.

for New World Order, a sort of theme demonstrating Ministry's advancing change.

I was surprised to hear from The Cult on this one. They have a neat little track called "The Witch." It is quite a song running over seven minutes and laying down a beat that seemed most prominent throughout the movie.

My Life With The Thrill Kill Kult and Moby are the only bands to claim two songs apiece on the album.

The Thrill Kill Kult plays "Her Sassy Ass" and the song that has become synonymous with the movie "Sex On Wheels." If you're keeping track its the "Glamour Dyke Mix," which of course will only affect you

if you truly follow dance music.

Moby does "Ah-Ah" and "Next is the E." Both of the tracks are strict power cuts for professional dancing only.

On the same line Mindless with "Mindless," has a real powerful beat but keeps a mellow pace as a bridge between the two Moby songs.

Brian Eno and Tom Baily finish off the CD. Brian Eno's song is, I would guess, what you would call the "fantasy / love theme" for the movies.

Tom Baily's songs actually has a hidden meaning in its title, "Industry and Seduction."

The meaning of which I will not divulge, just buy it and see for yourself.

# Bronx Style Bob releases Grandmas Ghost as his first solo album on Sire

By Brian White  
Diversions Writer

In 1987 Bronx Style Bob migrated from New York to Los Angeles taking with him an education in "old school" rap ideology. Bob also possessed a bit of ghetto poetry and a beat that he soon transformed into his own sound. He is said to be celebrated for appearances on Ice T's Rhyme Syndicate compilation *Comin' Through* and Ice T's 1989 *The Iceberg*.

Bob was soon to be one to emerge from the multitude of talented rappers and use the experience to exploit his versatility. Bob's career started to take shape when he became the man up front for L.A.'s notorious Truilo Disgracias.

This musical potpourri of precious gemstones contained members of Fishbone and Parliament/Funkadelic. Bob commented upon being acknowledged as a rapper who

could sing, "after growing up in the Bronx, where all I did was rap, I didn't even know that I could sing."

He also stated "I wanted to avoid that classification, simply because my work is the union of many cultural elements — by transcending musical boundaries."

On *Grandma's Ghost*, Bob expresses his talent in transcending musical boundaries by the performance of heart filling tracks as well as those upbeat cuts that make even the tightest collar want to loosen and get into the groove.

"Forbidden Love", which is the first cut, is an excellent example of how he can combine funky pop/soft rock with his talent to produce a song with an R&B feel to it. A touch of rap is even splashed in without detracting from mesmerizing experience.

Bronx Style Bob also excels in the performance of ballads. "I'll Be There 4 You" is a vivid soul touch-

ing journey into everything that a man should be, do, and say in a relationship, obviously expressed in the words of a man. "I Can't Love U" is a colorful story of lost love and the pain that rides in its sidcar.

Bob's talented musicians show their flexibility as well as their ability to control the listeners mood and emotional climaxes. This artist's rap muscle is flexed on the cut "Freedom" where he expresses his wish for world peace, true freedom of speech, and the total demolition of racism. The Parliament / Funkadelic influence strongly shows in the music of this song as well as "Ode II Junior".

Overall, Bronx Style Bob has succeeded in coloring outside the lines of musical boundaries. He has used his talent to show that this country's musical core is still able to grow. *Grandma's Ghost* should be an enjoyable trip for everyone. Even the hard rockers will be thrilled.

# Indigo Girls reach new heights with their latest chart climbing release

By Jason Simon  
Diversions Writer

Folk music, I hate it. It reminds me of old codgers sitting on a decrepit porch in the middle of a hick town. It reminds me of hoe-downs in the barn and "squeezeboxes" being compressed in unison with some "Billyjoebob" blowing for all he's worth into a jug, trying to find harmony somewhere. It reminds me of bloody fingers strumming up and down a rusted washboard and the twang of a mouth harp.

Has it made you sick yet? Well, it normally makes me sick. But I have to classify the Indigo Girls in this category. However, this "folk music" has unique qualities that ride it way above the classifications that I have given to this species of music that causes me to hurl incessantly.

The Indigo Girls have been high on life since the success of their current release "Galileo." However, I find it strange that the song has gone top 40.

I'm sure that there are many fans of these two girls out there who disagree with my classification, if you have any better ideas please drop me a line at The Avion; enough of this prattle, lets review this.

The songs on this album have an fresh, airy feel. The acoustic guitars, which both Amy Ray and Emily Saliers command, penetrate the music and set the tone of the song. The songs entrance the listener and pull that person into the meaning of



The Indigo Girls are taking the charts in leaps and bounds with their new album *Rites of Passage*.

the songs. While I do not think that the Indigo Girls will pull another top 40 hit out of this album, it is still an album worth taking note of. Galileo is definitely not my favorite; the deep echo of the side guitar in Cedar Tree is worth the price of the album in my book.

By the way, I do not think that it was ever their intent to pull a top 40

hit out of this album. Rather, it is just two girls singing the way they want to sing; not worried whether your pleased, but if they are pleased with what they sing. It works and the album is definitely worth a second, third and fourth listen to. They might be classified as Folk in my book, but they are nothing like their "kin."

# Ministry releases Psalm 69: The Way to Succeed and The Way To Suck Eggs

By Bob Mallon  
Diversions Writer

Ministry's long awaited follow-up album to their 1989 release, *The Mind is a Terrible Thing to Taste*, is finally here. *Psalm 69: The Way to Succeed and the Way to Suck Eggs*, proves to be yet another evolutionary step in Alain Jourgensen's musical career and well worth the wait.

With the release at the end of last year of the single, "Jesus Built My Hotrod," Ministry's style was certainly progressing right along the lines where the last album left off. Leaving the keyboards of the late 80s even farther behind them, Alain Jourgensen and Paul Barker supply their ever quickening driving beats with more guitar and bass than anything else.

The first song "N.W.O." (which can also be found on the *Cool World* soundtrack) starts off with a wake up call, consisting of guitars and drums, to any new Ministry listeners. Even if you area veteran, it still is virtually impossible to keep from thrashing your head to this one.

A week after its release New World Order debuted as the #1 most requested new release.

"Give me the Thorzine, Man," taken from the opening lines of the second song "Just One Fix," is just the advice needed if you want to sit still through the bass line that thumps throughout this song.

The third song on this album which is on the flip side of the "J.B.M.H." single, "TV II" comes across as a race between the lead guitarist and drummer to finish first or at least drown out Alain's vocals.

The next song "Hero" features yet another speed guitar part driving the beat down the listeners throat while Alain commands you to listen. "J.B.M.H." is summed up in one line, "Nobody with a good car needs to be justified."

Following such wisdom is "Scarecrow" the longest song on the album. It takes eight minutes, to say 16 lines. This song does get old after a couple of minutes along with the title track which comes up next on the play list.

"Psalm 69" is reminiscent of a Clive Barker movie tune. This song makes one wonder whether these two guys go to church everyday or are the ones burning down churches all over Florida. This song, like the

last one, is one song played twice. At first listen this album on a whole gets away from the programming and sampling found on the earlier recordings. After a few sessions of serious listening the sampling does come through over the heavy guitars especially on the last two tracks.

As usual, the lyrics on this album are hard to understand but that is half the fun, trying to decipher the ingenious innuendos used by the group.

After three long years of waiting I would have hoped that this album would have more than nine songs on it. If you are a recent Ministry fan though it is a must get. If "With Sympathy" or the "Halloween" single is the only songs you know, conveniently record this album on a 45 minute tape and give it a listen before you buy it. Get your heart checked first.

With this release I can't wait for another three years to hear their next album and their progression, who knows maybe all be a Sophomore by then. Finally, don't forget to check out Ministry at this summer's Lalapalooza II tour this summer.

# Textbook band Rain fails to please crowd

By Rick Arkwright  
Diversions Writer

This four piece group out of England amazes me.

Not amazement such as, "Wow, these blokes can really play" or "Wow, what great lyrics" but rather, "Wow, how did these guys get signed to a label?"

Rain dabbles in that murky catch-all category of hard rock, without even once working up a sweat. Instead they're content to build a song, each and every one of them, using the same standard format. Verse, chorus, verse, chorus, cheesy lead line, bridge then repeat. With that task completed, they simply

bang it out for three minutes.

As far as stylistic influences it's easy to see that these boys are locked into 60's English invasion groups like the Kinks and the Beatles. On "Going", they take the classic guitar riff from "You Really Got Me" and slap some sixth grade lyrics over it. They should be ashamed.

When they break from lifting Kinks' riffs note for note, they turn to the well picked carcass of Beades material. On songs such as "Lemonstone Desired," "Hold On" and "She's On Fire;" they come off sounding like the Beatles if they'd have recorded when they were thirteen years old using mail order

instruments from the Sears catalog.

The best cut on the CD, "Taste of Rain," though livelier musically than most on the album, is hobbled by the infantile lyrics. Nick Lowe currently of Little Village, produced this cut. It would seem Mr. Lowe has fallen on hard times.

I can't help but think of all the bands playing in bars all over the country who have fresh ideas that'll never be heard of except by a small group of patrons of these clubs, while these guys have a record deal and all the promotional machinery of a major label at their disposal. Listeners, strike a blow for the little guy and run don't walk to get out of this Rain! Grade: F

# Sonic Youth takes hold of the charts

By Fred Block  
Diversions Writer

Music can be created by reacting against perceptions. The godfathers of grunge, Sonic Youth, have mastered this art of perception-reaction and have once again delivered a stunningly intense batch of tunes. This 11 year old band from NYC has done more for alternative music than just about anybody. If you can dig their label-mates Nirvana, who list Sonic Youth as one of their biggest inspirations, you should thank Sonic Youth.

You see, if Sonic Youth hadn't signed to their current major label, DGC, alternative music might still be stuck in rotten, stinky clubs and on late night TV. The real point of the matter is that the current alternative-for-the-masses movement can be largely credited to Sonic Youth and their move to the major label league.

With their new release, *Dirty*, Sonic Youth seems to be reacting against some of the hypocrisies of their newfound alternative brethren. Punk rock has always been dirty, but the trend seems to be going towards super-polished, keyboard-laden, studio-pop-perfection. Sonic Youth has dispelled that notion to the fullest with *Dirty*.

The CD was supposedly recorded on the oldest equipment they could find and producer Butch Vig (of Nirvana fame) took part in the project also. The songs on *Dirty* are very different from the standard radio-play alternative music that is so common today. If you are not currently a Sonic Youth fan, chances are that you will not have an imme-



The puppet cover is significant of many meanings.

diated understanding of this sort of thing. It is not as catchy as Nirvana and probably never will be. Sonic Youth will be the last band to sell themselves by copying what's hot.

Many of the songs on *Dirty* continue on in the band's noise fest tradition. "Orange Rolls, Angel's Spit" is a rocker that Kim Gordon screams out on. "Youth Against Fascism," another power tune, features guitar work by Ian MacKaye of Fugazi fame. *Dirty* also contains a few slower groovers as well as a hilarious cover of an Unouchables punk song named "Nic Fit." My favorite

songs on the CD are named "Theresa's Sound World" and "Wish Fulfillment." Both tracks start out with a melodic, smooth texture and build into powerful, shaking masses of sound only to drop off again into their original state of peacefulness. These songs, along with the rest of *Dirty*, are stirring reactions to the dirty scenes of society.

Overall, I will give *Dirty* a B+. It is not my favorite Sonic Youth offering, but it is excellent nevertheless. Its definitely worth checking out if only for the dirty picture inside.

# Busch should stick to brewing beer, not fun

By Jason Simon  
Diversions Writer

Sea World has always been one of my favorite parks. When I go there, I expect spectacular water ski shows and the zany antics of Clyde and Seymore. However, Sea World has added a new attraction which should have left visitors gaping in awe; I am talking about Mission Bermuda Triangle.

Sea World has recently jumped on the flight simulator ride bandwagon like many of its competitors. Rides like Star Tours, at the MGM studios, and Back to the Future, at Universal, are basically specially designed flight simulators that adhere to a strict computer program coupled with a spectacular movie/computer animation screen to give the rider a

true sensation of movement. However, Mission Bermuda Triangle lacks much of what MGM and Universal have.

Mission Bermuda Triangle is supposed to be a voyage into the infamous sector to try and locate a similar ship and assist it with its study of a shipwreck. Of course no mission of this type ever works out correctly and pitfalls occur that send the "ship" and its passengers on a wild and bumpy ride through the depths of the ocean.

While I was standing in line, I was given information, via a display, on how big the craft that I was supposed to be in was. There were also monitors strung along the queue that told of missions to the Triangle that never returned, like the famous lost squadron.

After waiting in line for about 40 minutes, I was ushered into a waiting area where a movie screen told the group that filled the room with me about the mission that we were on and what to expect. The wait in that room seemed endless, although the air conditioning felt great compared to the sticky, humid and hot atmosphere in the waiting line.

After a briefing on where to sit, the "doors" of the "ship" opened up and the group that I was with and I proceeded to sit down in the uncomfortable chairs.

After buckling in my seat belt, and noticing the bungee cords that surrounded many of the "inoperative" seats, I felt like saying that the ride seemed to have a lot of problems with it.



# Faster Pussycat whips out a powerful performance at The Station

By Douglas O. Fischer  
Diversions Writer

Fans of Faster Pussycat will be glad to hear that their new album *Whipped* was released yesterday. Now that the album is done Faster Pussycat is back on the road again and according to guitarist Greg Steele on the road is where they want to be. The fourth stop on this first tour in two years was right here in central Florida, at the Station.

The lights dimmed and they got on stage as "Cat Bash" played. Faster Pussycat started the show off in high gear by playing "Jack the Bastard," a power cut off the new album. The breathing room only crowd went wild over this new killer tune.

Next they rocked the crowd with "Slip of the Tongue" an excellent tune about making love and where you end up with a slip of the tongue that everyone new the words to. They continued with some tunes from their first two albums. When they played "House of Pain" the crowd went wild and sang along to this ballad about growing up with an

absent father. This song was sung from very deep within Taimé Downe, the lead vocalist. A lot of emotions showed as he sang what seemed to be a difficult song for him to sing.

The rest of Faster Pussycat is Brett Bradshaw on drums, Eric Stacy on Bass and Brent Muscat on guitar. Together they make one killer band.

Finally they played "Nonstop to Nowhere," the lead track of *Whipped*. I was surprised that so many people knew the words to this grooving tune that I know you'll like. They took a breather and slowed it down to sing "Friends," a song about how when the money is gone certain friends leave, and the real ones stay.

Next they played my favorite song on the new album, "Body Thief," a full power rocker about serial killers and how whacked some people are.

The crowd was not going to leave without hearing one more. For their encore performance Faster Pussycat rocked the crowd with "You're so Vain." They do an excellent job on this most excellent song. In fact it's

the best remake I have heard.

During the show some fortunate front row fans got to shake hands with the band members. Greg threw many a guitar pick to the waiting hands of enthusiastic fans. All in all a terrific live performance.

The album *Whipped*, released yesterday is a great album containing killer tunes. "Nonstop to Nowhere" leads into the full attack of "Body Thief" and "Jack the Bastard." The fourth song is titled "Big Dictionary" and is a lighter song. "...She just loves me for my big dictionary, she wants my vocabulary..." I definitely enjoy listening to this one.

"Madam Ruby's Love Boutique" is a song about a love boutique with a good rock n roll beat to it. "Only Way Out" is a rocker about child abuse and lets the listener know about the sick people in the world. "Maid in Wonderland" keeps the album rocking and "Friends" is a fantastic slower song about money and friends.

When I first listened to "Cat Bash" I wondered as to how it came about. Greg explained it to me during a phone interview.



Faster Pussycat plays their newest songs to a breathing room only crowd at The Station.

"We have a phone line to keep the fans updated. About one in twenty messages left is negative and usually very funny, so I got this idea to put bits and pieces of comments to music. I got with the rest of the band and "Cat Bash" was the result." This song is a hilarious collection

of comments set to music. "Loose Booty" is a bit on the funky side and is about fat girls and the things they do that are so good.

"Mr. Lovedog" is another scorcher about Taimé's friend who could have had it all but overdosed. The ending track "Out With a

Bang," puts the wraps on an album destined for Gold.

A special thanks to Greg and the rest of Faster Pussycat, Jodi from Elektra Entertainment, and the staff and management of the station for letting me enjoy an excellent album and a killer show.

## Wednesday night jam with George Thorogood

By M.E. Senn  
Diversions Writer

Fantasma Productions treated Rock/Jazz fans to an earful of jammin tunes July 22nd with George Thorogood and the Destroyers.

All in attendance at the Thorogood concert, held at the Tupperware Center Theatre, Kissimmee, enjoyed a most excellent performance by the Delaware based band. It was very refreshing to catch a show where the emphasis was not on big hair and spandex, but on great down home music by excellent performers.

If the mix of songs from the show is any indication of what we can expect on their new album, *Baddest Of Due* out July 28th, we're all in for a treat.

In order, songs performed were: "Long Gone," "Who Do You Love," "Born To Be Bad," "No Particular Place To Go," "Night Time," "I Drink Alone," "House Run Blues,"

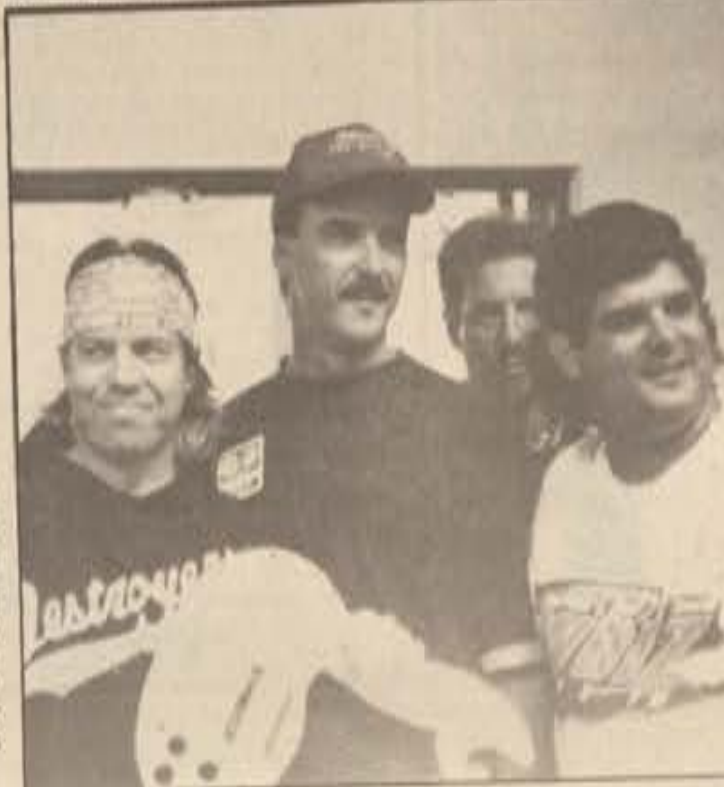
"If You Don't Stop Drinking," "The Sky Is Crying," "Madison Blues," "Bad To The Bone," "Gear Jammer," "Move It On Over," with "Talk To Much" and "Reelin And Rockin'" as encores.

Hank Carter worked wonders with the saxophone, as did Jeff Simon on drums and Steve Chrimer on bass.

George Thorogood's (guitar, vocals) performance was fantastic, his flashy guitar playing outshining the flashlights that were shown in everyone's face occasionally, as Tupperware Center security searched for brewskies and food. Although the show was presented by Budweiser, the Tupperware Center Theater has a no food or beverages policy. Go figure.

Any inconvenience this may have caused anyone was quickly made up for by the superb sound system and comfortable seating.

An especially lucky fan was presented a Gibson Epiphone Guitar, autographed by George Thorogood.



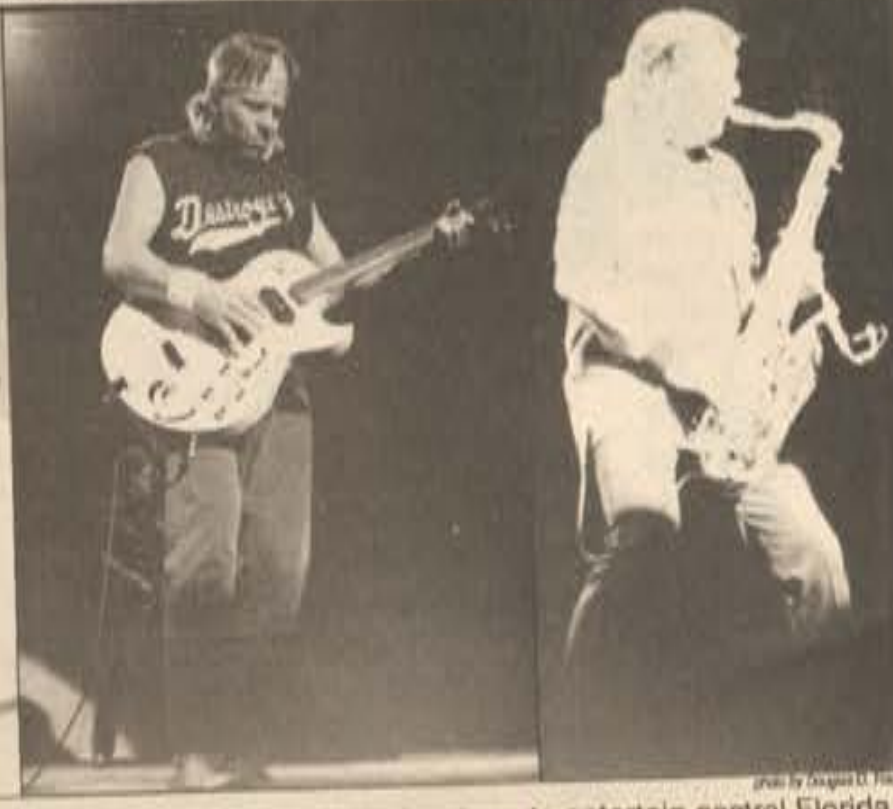
WDIZ presented Greg Welch with an autographed guitar and then the band hit the stage to entertain central Florida.

Greg Welch of Orlando was the recipient, a winner of a contest held by the WDIZ radio station. In a pre-

concert backstage meeting, attended only by WDIZ and the *Avion*, George Thorogood and the

Destroyers greeted each of us individually with a warm handshake, autographed the Guitar, and then

proceeded on to do a show that Central Florida fans will not soon forget.



## The Moody Blues hit the Ocean Center with a show that appealed to all ages

By Douglas O. Fischer  
Diversions Writer

Polygram recording artists Moody Blues performed at the Daytona Beach Ocean Center before a crowd of all ages who came to see this legendary band. There were mothers with daughters, fathers with sons, and whole families in attendance including a few grandparents.

"The kids have been bugging us to go to a concert, but we didn't think they were old enough so we took them to see a band we saw when we were in High School." This was one couples reason for being there. One veteran rock n roll couple didn't want to admit the number of years they have been listening to the Moody Blues, but did respond with "Since the late sixties."

The crowd cheered and stood as the lights dimmed to signal the start of what was to be an excellent live performance.

For the newer fans they played three songs from their new album *Keys of the Kingdom*. "Bless the Wings that Bring You Back, Lean on Me Tonight," and "Say it with Love" have the early Moody Blues sound to them and were loved by the fans of young and old.

The Moody Blues stepped back in time a bit to sing "Wildest Dreams," a fantastic song which received a standing ovation. The length of time of the applause was the longest I have ever seen in the middle of a show. This was the point in the concert when most of the crowd remained on their feet. After "Isn't Life Strange" everyone was standing.

"The Other Side of Life" had an incredible light show to back it up. Beams of black light fit the psychedelic sound perfectly.

The fans of old displayed peace signs during this one. The atmosphere created made me feel as if I

was transported back in time to the sixties. "Singer in a Rock 'N' Roll Band" sounded so good I would have thought it faked if I wasn't so close.

During "Knights in White Satin," (the song that sticks in ones' mind when the Moody Blues are mentioned) I noticed that both the young and old were singing to this most excellently performed song. Following this was "Legend of a Mind," the song mentioning Timothy Leary and his most interesting invention.

The Moody Blues ended with "Christian," and once again the standing crowd was singing along "I'm waiting for someone to change my life..." (You know the words, just not the title of this song).

The crowd felt as I did in that an encore was much needed, besides there was one song I really wanted to hear.

After long minutes of constant



The Moody Blues showed their versatility by playing to several generations of fans.

applause and cheering by myself and the crowd I got to hear that song. For their encore performance the Moody Blues played my favorite song, "Ride my See Saw," and from the sound of the crowds' response

when the song first started, one of theirs to.

After the encore ended security let two women approach the stage to give the band a bouquet of white roses, which were accepted and

made these two women the happiest people on earth.

The Moody Blues, a band spanning generations and still giving it their all, is definitely one of rock's finest.

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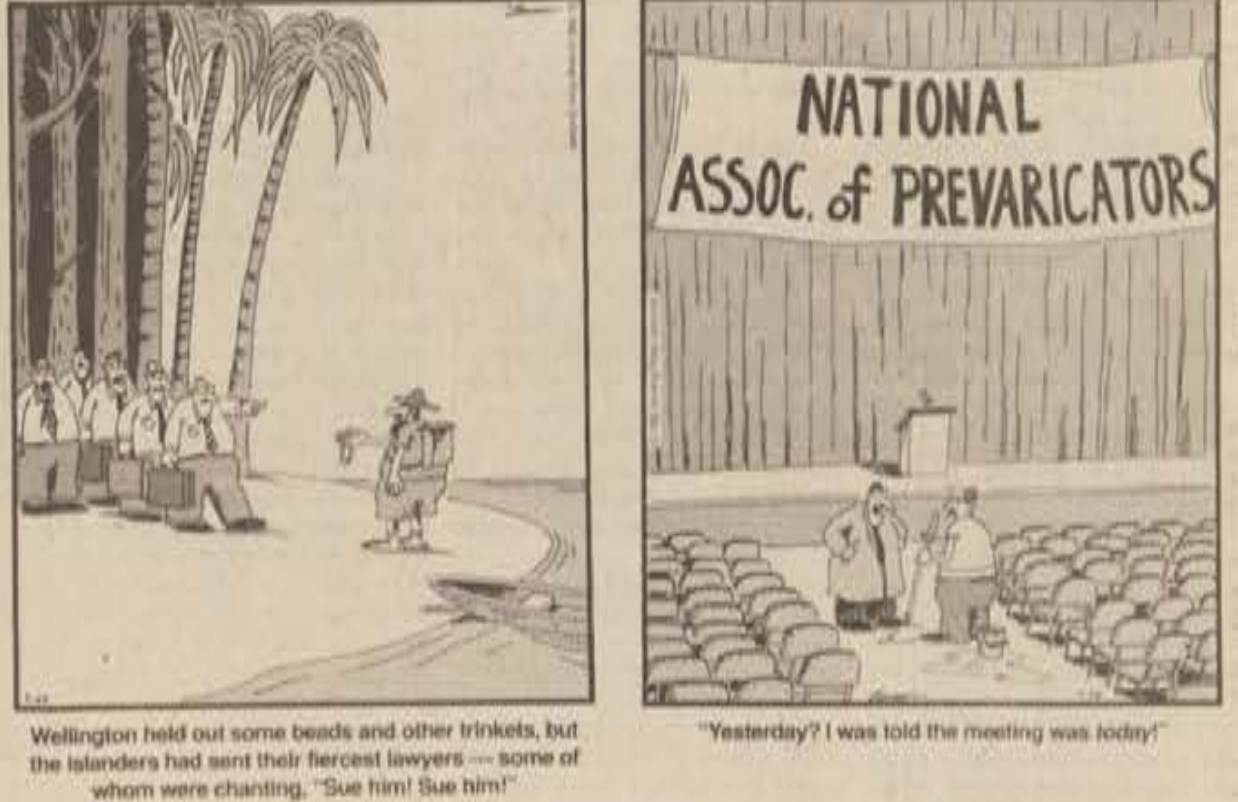
\* Available through Davis Aviation; all others contact PhilAir



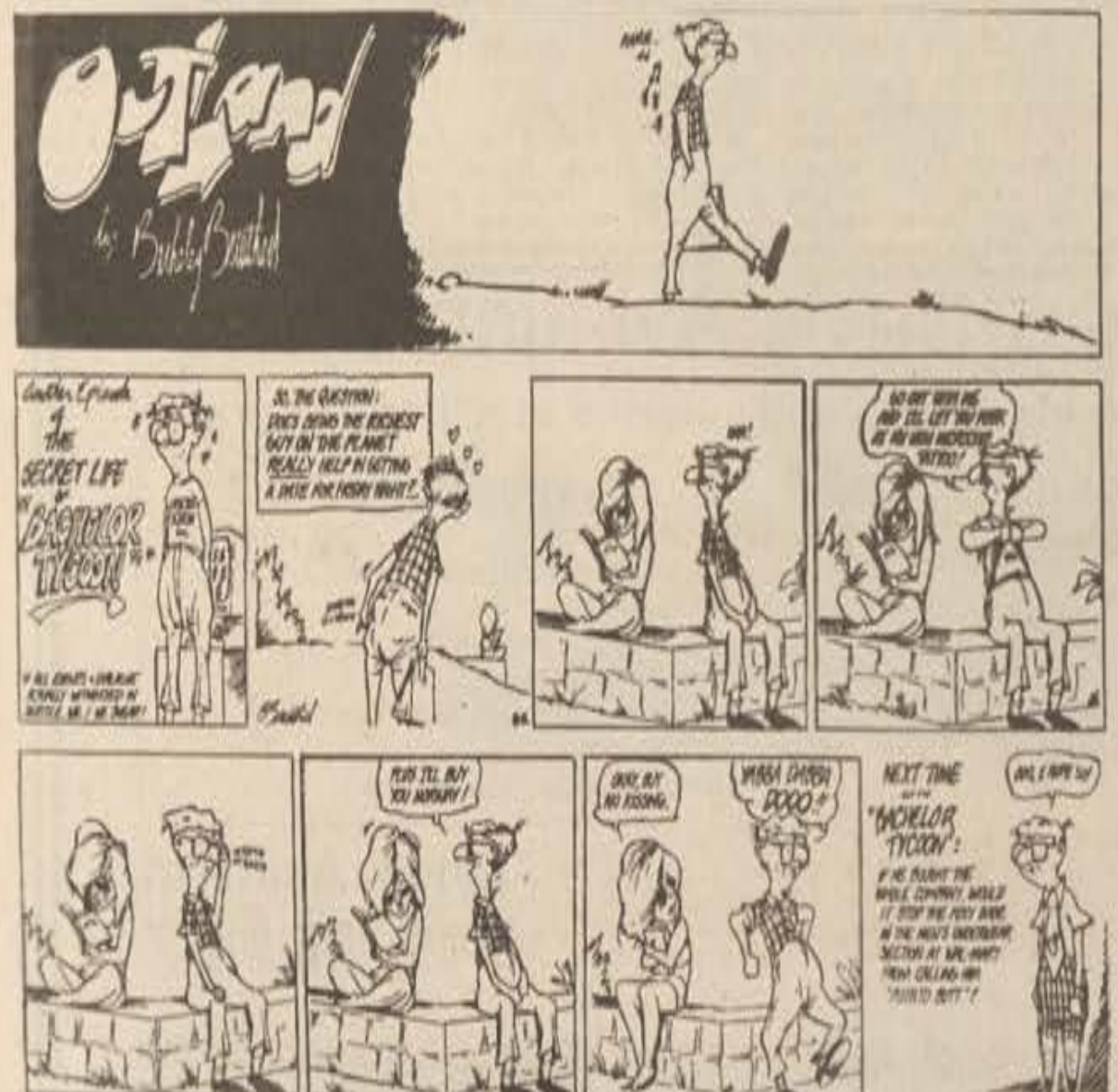
Calvin and Hobbes by Bill Waterson



Far Side by Gary Larson



Outland by Berkeley Breathed



Mother Goose and Grim by Mike Peters





## Autos for sale

1989 Mastercraft Prostar 19' for sale. Hardly ever used, only 60+ hrs. on engine. Mauve and grey with custom trailer and cover. Ford 151 big block engine. Never used in salt water. \$19,995. Contact Chris 255-6217 or 756-6458 and leave message.

1983 Audi 4000, excellent body and mechanical, "no rust", 5 spd., air, sunroof, AM-FM cassette, Pirelli tires, \$2500 firm. Call M-F days 239-9836 or 673-2097 evenings, ask for Paul.

Basic transportation \$500, '89 AMC Spirit, air, P/S, P/B, 2 dr. hatchback, good paint, 760-8029 leave message, moving, must sell.

1982 Toyota Celica, great engine, std. 5-speed, tinted windows, AM/FM, clean interior, new springs, shocks plus more. \$1995. Call 253-2557.

## Roomates & Rental

Share 2 bdrm. Apt, beachside \$280 Inc. utilities. Call 4th. 6 pm 252-8929.

Roommate needed. 2 bdrm, 2 bath, 3 miles from campus, \$247.50 per month, \$100 deposit and 1/2 utilities. Call Danny or Todd 760-8217.

Roommate needed to share house by the beach. Great location for only \$163 a month plus 1/2 utilities. Contact John 253-3129.

Town home for sale. Great opportunity! Furnished 1 bedroom townhouse. Super location, lot, 1 1/2 bath, screened porch, endunit. Ideal for ERAU student or single professional. Owner needs fast sale \$45,000. Call Barbara 252-3880.

Roommate needed for Lake Forest 3 bdrm., 2 bath apt. w/washer and dryer. Pool, jacuzzi, tennis, racquetball and fitness room. \$240/mo. plus 1/3 utilities. Must be responsible, very neat and civilized. Avail Aug. 22nd. call Sean 239-9541.

Male/Female roommate needed, 2 bedroom, 1 bath, cent. H/VAC, 1/2 electric and phone, 5 miles from ERAU. Call 761-7171, 761-9882-message, 253-9874-message.

Roommate needed for three bdrm. 2 1/2 bath, 2 story townhouse, rent \$200/mo. no deposit, split utilities, pool, tennis court. Within biking distance from ERAU. Prefer dependable, outgoing, fun. Call 254-7981 and leave message or box 3058.

Roommate wanted to share townhouse, 2 bdr., 1 1/2 bath, close to school, \$225 mo. plus utilities. Call 767-4723.

## Misc. for sale

Soundblaster \$75. Add digital sound to your IBM PC. 25% off retail. In box. Leave message 238-7355.

Graduating - various furniture for sale - cheap! Call Troy at 322-0549.

Apartment furnishings: sofa, matched bedroom set, double bed, matched coffee and end tables, some cookware, bentwood rocker, dining room table w/ chairs, too much to list. 760-8029 evenings best or leave message.

Furniture for sale, twin bed like new \$50. Interim center \$15. Pool on couch \$20. Couch \$15. 2 recliner \$15 a piece. Shelves \$10. 27" color TV \$35, 2 13" color TV \$40 a piece. Call Dennis at 760-1609.

10 speed mountain bike, must leave town 8/22, \$50 O.B.O. 767-6144, ask for Steve.

CX1a Pathfinder, new, unopened, ERAU bookstore \$90, here \$70 firm. Call (800) 369-8210 or ERAU box 5491.

19" color TV \$120, Sony 3 way speakers \$50. Call 254-0483 and ask for Joe.

## Miscellaneous

Attention student organizations. Are you looking for a fund raising opportunity? Check out Avion... You'll be surprised at what we can do! Call Nancy 1-426-7275 (Toll free from Daytona) Leave a message.

Get your CFI Fast and cheap. Best training available. Highest quality from experienced instructor. Also available, Private, Commercial, BFR, spins. Available at Daytona, Spivee Creek or New Smyrna. Call Ken or leave message 760-9265.

Quality flight instruction at reasonable rates in New Smyrna. Avoid the ARSA. Private, Commercial, intro rider and joyrides. Call Mike K. at 788-1214 or 1-421-1773.

Certified flight instructor, PVT, Comm, Inst., from \$40hr. plus instructor. Any questions please call 252-2277. Ask for Kevin Lapinacci.

Fly/Dive. Get away in the islands! Daytripper excursions. Arrive in beautiful Bahamas in just over 1 hour. Enjoy spectacular reef dives. For scuba licenses and details call Nick Scuba instructor and Alumni 441-2008.

## Personals

MRS. G  
I am truly glad we met. You keep my spirits up among other things. Please don't change. LOVE ALWAYS, LEON.

BEAR  
Don't leave like that again, unless I'm with you!  
P.C.

PETE,  
Nice to see you again!

PUSSYCAT  
I miss you very much! I know things are not the way you want them but, they will get better. Don't worry about me, I'm a survivor. You should know that by now. Only two weeks till the break, please hang on. I'll always love you!  
KITTY

RON  
Sorry you're not going home, but Happy Birthday.  
YOUR MOM

MARTY  
Thanks for screwing us big time!  
THE AVION

### CLASSIFIED AD POLICY

- ➔ Non-commercial classified advertising and personals are free to the student body, faculty and staff of Embry-Riddle with 35 word limit.
- ➔ All other non-commercial advertising is \$10 with a 35 word limit. Each additional word is 10 cents.
- ➔ Commercial advertising is available through the Avion advertising department, at 226-6051.
- ➔ Classified advertising is carried out by filling out a classified ad card in the Avion office.
- ➔ Only one classified ad per card. Name and address of advertiser must be included for the ad to run.
- ➔ Only paid ads will run for two issues and may be renewed by filling out another classified ad card.
- ➔ No classified ads will be accepted over the phone.
- ➔ For more information, stop by or call the Avion office at (904) 226-6049.

Need to sell a 10 gear Huffy mountain bike. Excellent condition, must ride, asking for \$85 O.B.O. Call 788-6679, ask for Sachin.

Moving sale: 1980 200 SX, runs good \$300. Sony stereo \$200, livingroom chair and table, double bed, all cheap. Baseball cards also. Call sean 238-3966.

New 386 SX 25MHz IBM compatible, 14" VGA monitor w/graphic card, 80 MB harddrive w/stacker, 3 1/2 floppy drive, 5 1/4 floppy drive, serial mouse, 6151 enhanced keyboard, minitower, software included, Windows 3.1 and games. Asking \$799 O.B.O. Call Nathan at 322-4788.

2 place Softroom, new, unused. Expansion jack, voice recorder jack, battery backup, digicam lighter adapter. In Sponty's \$100, here \$70 firm. Call (800) 369-8210 or ERAU box 5491.

## Notices

### Flight Instructor Application Forum to be held August 6th

For anyone interested in being a flight instructor at Embry-Riddle the flight department will hold an open forum. This will be held Thursday August 6, at 1900 in room G-105. Mr. Wiggins who is in charge of hiring, will explain the requirements and procedures needed to become an flight instructor here, and will answer questions fielded by the audience.

### Fall Activities Fair needs helpers

The Department of Student Activities is in the process of planning the Fall 1992 Activities Fair scheduled on Wednesday, September 9, 1992, from 10 a.m. to 4 p.m. in the Student Center. We are in search of volunteers to help plan the theme and other logistics for this event. If you are interested, please contact the Student Activities office in the student Center, ext. 6039, to sign up. Thank you.

### Summer '92' graduates!

Any request for Official Transcripts with August 15, 1992 graduation information may not be available for approximately two weeks after the completion of Summer B 1992.

### December '92' graduates!

Applications are being accepted at this time. We will try to process as many as possible with a Preliminary Graduation Evaluation before this term is over.

This may be done at the Records & Registration Office located on the second floor of the UC annex.

### Avion to take a break

The first issue of the Avion for the Fall semester will be published Wednesday, September 9, 1992. All classifieds, notices and club articles are due by Friday, September 4, 1992.

### Hunt Memorial Library Library exam hours

Wednesday, August 12th	7:15 a.m. - 1:00 a.m.
Thursday, August 13th	7:15 a.m. - 1:00 a.m.
Friday, August 14th	7:15 a.m. - 1:00 a.m.

### Library break hours

Saturday, August 15th - Sunday, August 16th	CLOSED
Monday, August 17th - Friday, August 21st	8:00 a.m. - 5:00 p.m.
Saturday, August 22nd	8:00 a.m. - 5:00 p.m.
Orientation Only - No Services	
Sunday, August 23rd	CLOSED
Monday, August 24th - Tuesday, August 25th	8:00 a.m. - 5:00 p.m.

## Sea

(Continued from page B4)

Well I should have waited until after the ride to say that.

The ride began and I have only one thing to say about it. It was TOTALLY UNREALISTIC. I immediately felt as if the whole scene on the screen was fake. Not to mention the fact that it was out of sync with the wild gyrations of the ride. I remember one scene where the ship is racing down a trench. Remembering how big the ship was supposed to be and, comparing it with what was on the screen, I remarked out loud that this could never happen.

Being a pilot, one who has never been nauseated while in any simulator ride, I can say that the out of sync ride, combined with lousy, fake looking backdrops and computer generated images, started to make me very sick. Needless to say I was one of the first people off that ride, one who was eagerly searching for a piece of reality that the creators of this ride forgot to put in.

My recommendation, go to Sea World, see the spectacular shows and presentations but avoid Mission Bermuda Triangle. You might lose your fear of the dreaded area, but you might lose your lunch in the process.

## Freedom

(continued from page B2)

system and in the environmental control and life support system of the space station.

Verifying the integrated systems (such as the data management systems, electrical power systems, thermal control systems, audio/visual systems, etc.) as they span the entire 18-step space station assembly - and verifying their functions at each step along the way - presents a major challenge. This problem is being tackled by distributed system architects. These architects are responsible for the verification of each of the systems previously mentioned. Because these systems are provided by more than one developer, the distributed system architect must use a variety of tools to accomplish this verification. System test beds - labo-

ratories in which the function of a major portion of the system is replicated - have been created, but are limited by what's contained in the end-to-end systems. The distributed system architect must determine how much of the end-to-end system must be included in the test bed, how much can be accomplished by interface verification and what must be done at other sites to provide the comprehensive verification program required for each system.

This only completes half of the functional verification process. The other half consists of verifying the system-to-system interactions, such as how the data management system interacts with the thermal control system. Where these interactions are physical, they will be treated as part of the element verification process or as part of the demonstration of flight-to-flight connections. Where

### Last week's puzzle solution



these interactions are functional (electronic or driven by software), they will be verified in the Central Avionics Facility or the Central Software Facility. These facilities are being developed at the Johnson Space Center.

Prototypes of the electronic processors, their connecting data bases and the sensors and effectors they interact with will be arranged in an electronic replication of the flight configuration and will be tested using flight software.

Once the flight elements are delivered to the launch site at the Kennedy Space Center in Florida, they will undergo four to six months of additional testing.

The first Space Station Freedom element is scheduled to be launched aboard the space shuttle in 1996. 17 shuttle flights over four years will be needed to assemble Freedom.

is paid for in part by proceeds from the sale of auto license tags that commemorate the Space Shuttle Challenger, which was destroyed by an explosion that killed its crew.

The space agency will have no permanent facilities at the launch site other than an existing paved pad. Rockets will be brought to the site from the National Guard armory in Apalachicola. A van, containing all equipment necessary for launches, will be driven to the site from Spaceport Florida headquarters in Cocoa Beach.

Hundreds of such rockets are launched every year around the world, primarily to gather weather data.

Spaceport Florida also plans to launch the suborbital rockets from Cape Canaveral starting in October.

Showing this Thursday  
at 8:30 p.m.  
in the Student Center



