

10-28-1992

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Aeronautica .....B1  
 Data Technology.....B3  
 Classifieds.....B7  
 Clubs.....B6  
 Comics.....B5  
 Diversions.....B4  
 Space Technology.....B2

# AERONAUTICA

## F-117 dates back to 1974

By Shawn McBride  
*National News Editor*

The roots of today's F-117 Stealth Fighter date back to 1974. Five major military aircraft manufacturers were asked to study the potential for developing a fighter aircraft with a reduced radar signature.

In early 1975 Lockheed asked the CIA's permission to discuss the SR-71 with the Defense Advanced Research Projects Agency (DARPA). Due to the SR-71's low radar characteristics, DARPA allowed Lockheed in.

A computer program, called ECHO I, was developed to aid in the design process and was written by Denys Overholser and Bill Schroeder.

This program used equations that predicted the manner in which a given geometric configuration would reflect electromagnetic radiation (radar waves).

Schroeder reduced the complex shapes of a traditional aircraft into finite sets of two-dimensional surfaces. These surfaces could be

analyzed reasonably using the ECHO I.

The result of Schroeder's theory was "faceting" - creating a three-dimensional aircraft, not out of smooth, gracefully curved surfaces, but out of a collection of flat panels.

Schroeder realized that if each flat surface could be angled in a way that would reflect any incoming radar beam away from its source, and if the combined shape could still create lift, a stealth aircraft might be achievable.

Lockheed built and tested a simple, idealized model nicknamed the "Hopeless Diamond". Its radar cross section proved to be far lower than any shape Lockheed had previously tested.

Lockheed began project "Have Blue". This project tested a pole mounted radar signature model. After this testing, DARPA declared Lockheed the winner in April 1976.

Security was then tightened and the administration of the program was transferred from the largely civilian staffed DARPA to the Special Projects Office of

the Air Force. To aid in flight testing, Lockheed built two small, piloted, twin-engine "Have Blue" technology demonstrators.

Their performance led to a full-scale contract for the Stealth Fighter on November 16, 1978.

The security of the project resembled that of the "Manhattan Project" in the 1940's.

A full scale wooden mock-up of the Stealth was constructed so the exact shape and fit of each critical facet panel and component could be defined.

Lockheed decided not to build any prototypes. The first five aircraft would be used as the flight test vehicles.

On June 18, 1981, less than 31 months after the contract was awarded, the first flight test vehicle emerged from its hanger.

Lockheed's test pilot, Hal Farley, flew the plane for the first time on that day.

This aircraft was known as either Aircraft 780 or Ship One and was the only aircraft to ever be painted desert camouflage.

All other flight test vehicles had a standardized gray paint scheme. The Air Force later directed the Skunk Works to paint the F-117's black.

The Skunk Works is Lockheed's Advanced Development Projects (ADP) organization.

Ben Rich commented "We painted them black because the TAC commander wanted them black. The Skunk Works plays by the Golden Rule: he who has the gold sets the rules! If the General had wanted pink, we'd have painted them pink."

On October 15, 1979, the 4450th Tactical Group (TG) was born of pilots who were interviewed and offered a chance to fly with an all-new top-secret unit that would require almost constant separation from their families.

Each pilot was given five minutes to decide.

The test aircraft were designated Scorpion 1 through Scorpion 5.



Flight tests for the Stealth fighter began in 1981. Test pilot Hal Farley made the initial flight in the aircraft.

The group was stationed at a remote desert base just outside of Tonopah, Nevada. For the first six years the F-117's operated strictly at night.

In 1988 the program was announced publicly and the operations at Tonopah increased with around-the-clock operations.

The aircraft was controlled by a "fly-by-wire" system similar to the one found in the F-16. The Inertial Navigation System developed for the B-52 was also incorporated. The primary environment controls came from the C-130.

The engine for the F-117 was the General Electric F404, the same engine in the F/A-18, but without an afterburner.

The aircraft had to be designed so that every little piece did not cause a radar signal to be reflected. This required a great deal of engineering work.

Although the aircraft normally flies under complete radio silence, it does possess radio antennas. These are retractable when not in use.

The exhaust of the jet engines is

directed slightly upward. The aircraft's wake will obstruct IR and radar returns from the nozzle area.

Thirteen months after the public announcement, the Stealth Fighter was initiated into combat. On the night of December 20, 1989, two Stealth aircraft flew in Operation Just Cause against Noriega in Panama.

Each aircraft dropped a 2,000 pound bomb adjacent to the Rio Hato barracks just before the 82nd Airborne overran the base.

It was not until April 21, 1990 that the press and public could view the aircraft up close.

The first 59 aircraft were produced on time and within the budget. The average cost per unit was \$42.6 million.

During Operation Desert Shield, the Stealth was stationed at King Khalid Air Base near Khamsir, Saudi Arabia.

This base was soon known as Tonopah East.

About 2300 hours on January 16, 1991 the engines were started, and

shortly thereafter the Stealth aircraft were airborne.

At 0251 hours on January 17, 1991, local Saudi Arabia time, the first bomb of the war was dropped by Major Greg Poost.

He also dropped the first bomb of Operation Just Cause.

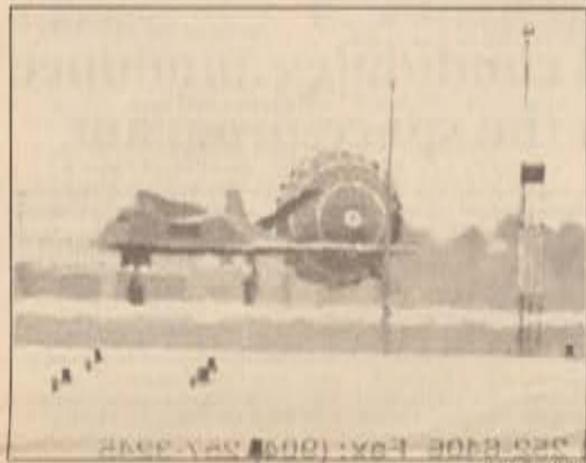
His bomb hit a radar integrated operations center 65 miles southwest of Baghdad.

On day one, only 36 Stealth Fighters were in the theater, yet they accounted for 31 percent of the targets hit.

The Stealth aircraft flew 1271 combat sorties, less than one percent of the coalition aircraft. The aircraft delivered more than 2,000 tons of munitions. These accounted for 40 percent of all strategic targets attacked.

They had a 75 percent direct hit rate.

The Stealth Fighters never experienced any damage from enemy fire. This outstanding success earned the Stealth Fighter the right to claim Team Stealth's slogan, "We own the night."



Shown here deploying its drag chute upon landing, the Stealth fighter sets down at Patrick Air Force Base.

## 18-year-old gets Learjet captain's check out

Learjet Press Release

When Rhett "E" Woods climbs out of the cockpit of Learjet 24E/D-341, he usually rates more than a casual glance.

He is one of the youngest Learjet captains in the world, having completed his type rating on July 31 at the age of 18.

Since acquiring his rating, the handsome young pilot has flown all over the U.S. with his father, Bill R. Woods and his mother, Patti Woods, who serve as co-pilots and operate Western Wings, an aircraft sales company.

Rhett "E" Woods (the quotes are part of his name) was born in Des Moines, IA in 1974 but relocated to California shortly thereafter and later moved with his parents to

Oakland, OR where he graduated from high school last June.

He started flying at age nine when his father had to pump up pillows for him to sit on in order to see out. Rhett started solo flying when he was 15 and soloed a T-34 and a Hughes 500D helicopter on his 16th birthday. He received his private license in August, 1991 and his multi-engine rating a month later in a Cessna 340.

Last June, he completed his instrument rating and obtained a rotorcraft rating in July. He went through initial Flight Safety training in Tucson but took 18 days off to finish his rotorcraft rating. Rhett returned to Flight Safety on July 23 and received his type rating as captain on July 31, 1992.

He has enrolled at San Diego State to major in aerospace engi-



Rhett "E" Woods is shown here sitting in the cockpit of the Lear 24E/D-341. He received his type rating from Flight Safety International at the Tucson facility.

neering. He plans to continue flying while in college and get his commercial and flight instructor's ratings.

Rhett has logged 560 hours and his goal is to fly a Learjet around the

world. His hobbies include scuba diving, sky diving and bungee jumping. Learjet Inc. is a subsidiary of Bombardier Inc., a Canadian corporation with 32,000 employees worldwide and annual sales in excess of

\$3 billion (Cnd.). Bombardier Inc. is engaged in design, development, manufacturing and marketing activities in the fields of aerospace, transportation equipment and motorized consumer products.

## FAA suspects bad pins in 747 crash

AMSTERDAM, Netherlands (AP) —The crash of a Boeing 747-200 cargo plane in Amsterdam this month was probably caused by a failure in the connection between the engine and the wing, the FAA says. Passenger jets may also be at risk.

"The problem is not expected to be unique to freighter airplanes," the Federal Aviation Administration said in an Oct. 19 letter to crash investigators. The letter was released Friday by the Dutch transport ministry.

The FAA said the Oct. 4 crash in which an El Al cargo jet slammed into an apartment building, killing at least 43 people and that of a 747-200 freighter in Taiwan last December were both caused by faulty pylon connections.

"While neither accident investigation is complete, the probable cause of these two accidents appears to be related to a structural failure of the number 3 engine pylon-to-wing connection," Thomas E. McSweeney, deputy director of Aircraft Certification Service for the FAA, wrote in the letter.

The number 3 engine is the inboard engine on the right wing of the four-engine jet. The pylon

assembly connects the engine to the wing.

McSweeney said it had not yet been determined which specific component had failed, and that the investigation would focus on all types of Boeing 747s.

"I want to assure you that the FAA...will mandate any corrective action we find to be appropriate for the Boeing 747 fleet," McSweeney wrote.

On Oct. 9, the FAA ordered U.S. operators of most Boeing 747s to inspect engine pylon fuse pins and assemblies for corrosion and cracking.

The pins, four to each pylon, are designed to snap should an engine seize up in flight. This allows the engine to fall away without damaging the wing and lets the plane continue flying on its remaining engines.

The FAA directive, which also was adopted by most foreign carriers, applied to all but about 160 of the more than 900 passenger and cargo Boeing 747s flying worldwide, Boeing spokesman Chris Villiers said in Seattle.

The other planes, all with General Electric engines, use a different type

of fuse pin.

McSweeney's letter, sent to Henk Wolleswinkel of the Dutch Aviation Inspectorate, was the first time the FAA referred to a probable cause of the accidents in the Netherlands or in Taiwan, FAA spokesman Dave Duff said in Seattle, headquarters of The Boeing Co.

In the Amsterdam accident, the El Al cargo plane slammed into a low-income housing complex in Amsterdam's Bijlmermeer section after losing its two starboard engines. The plane had just taken off from Schiphol airport.

Dutch investigators believe engine supports gave way, possibly because of metal fatigue or corrosion in the four fuse pin assemblies that hold the engine to the wing.

In the Taiwan accident, a China Airlines 747 crashed shortly after losing both right engines. Five crew were killed.

Crash investigators reported no sign of serious damage in either of the El Al jet's right-wing engines.

They warned the FAA the airworthiness of 747 freighters powered by Pratt & Whitney engines could not be guaranteed beyond 6,000 flights.

## Leasings will assist expansion of airlines

By Denis Blascobing  
*Aeronautics Reporter*

A large percentage of the passenger carriers in service today are rented out by leasing companies. In fact, one out of every five airliners produced are bought by a leasing company.

These leasing companies buy airliners off the production line and then bill the renters a monthly fee, not unlike a car rental agency. The air carriers are advantaged in many ways by renting. The rental fee can be absorbed as a normal operating cost, and there is no great initial outlay of money.

This means that the airline does not need a great amount of capital to enter the market.

The rental agencies can offer low monthly rates by buying from the manufacturers in bulk and then passing the savings along as opposed to an operator buying a single aircraft at a time at regular price.

Renting also allows for a ready supply of aircraft.

Most manufacturers are back-ordered for more than five years and if an aircraft is required in a short amount of time, rental is the only way to get it.

It is extremely cost-effective to rent in times of a recession. Instead of having a number of aircraft that need to be maintained, an airline's fleet can grow and shrink to fit the passenger demand.

The main disadvantage of leasing is that the renter has no financial hold on the aircraft.

It cannot be claimed as capital since the airline does not actually own the aircraft.

Renting has kept many small carriers alive during the recession and helped many of the major carriers maintain their high rank.

As long as it is financially advantageous, renting will be an available option—and right now it looks like a very feasible one.

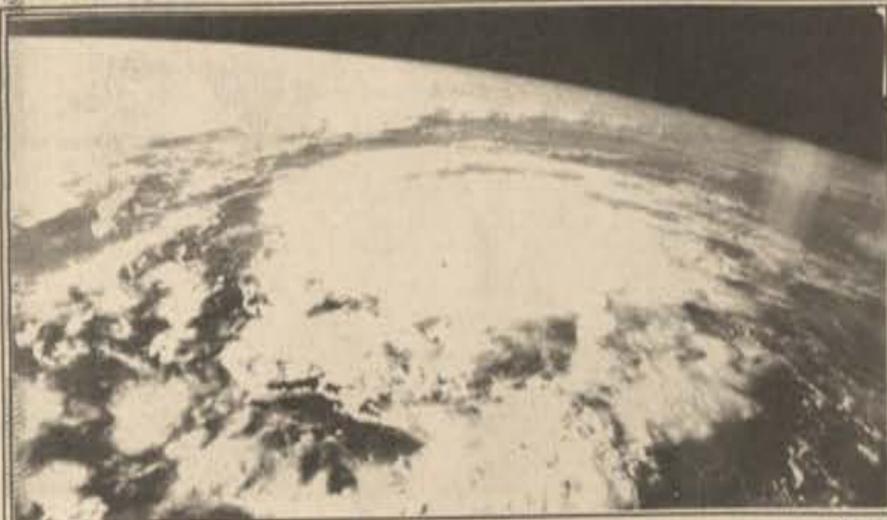
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Space storm



This photo of Hurricane Bonnie was taken during last month's flight of the Space Shuttle *Endeavour* and was recently released by NASA. Bonnie was located about 500 miles from Bermuda. The eye of the hurricane is well defined in this scene.

# Canada continues to make progress in space research

By Joshua S. Mussaf  
Space Technology Editor

On December 14, 1990, the Canadian Space Agency, (CSA) was officially established by an act of Parliament, with a mandate to promote the peaceful use and development of space for the social and economic benefit of Canadians.

Canada's experience in space began in 1962, with the launching of the *Alouette 1* research satellite. Canada was the third country in the world to design and build its own satellite. With the launching of *Anik A1* in 1972, Canada became the first country in the world to have a commercial, domestic, geostationary communications satellite network.

Canada confirmed its position as a world leader in space technology with the development of the Remote Manipulator System, or *Canadarm* which is used to deploy and retrieve satellites from the space shuttle. More recently Canada provided one of the instruments aboard NASA's Upper Atmosphere Research Satellite (UARS) program.

**Canadian Astronaut Program**  
The Canadian Astronaut Program was established in 1983 after the United States invited Canada to fly an astronaut aboard a space shuttle mission.

Dr. Marc Garneau became the



The Canadian Space Agency's STS-52 payload specialist, Dr. Steven MacLean, is the third Canadian to travel into space aboard the space shuttle.

first Canadian in space in October, 1984, when he conducted the CANEX series of experiments. Dr. Roberta Bondar became Canada's second astronaut in space when she participated in the first International

Microgravity Laboratory (IML-1) mission in January, 1992. The program currently has eight astronauts.

see Canada, page B7

## Columbia deploys Italian satellite

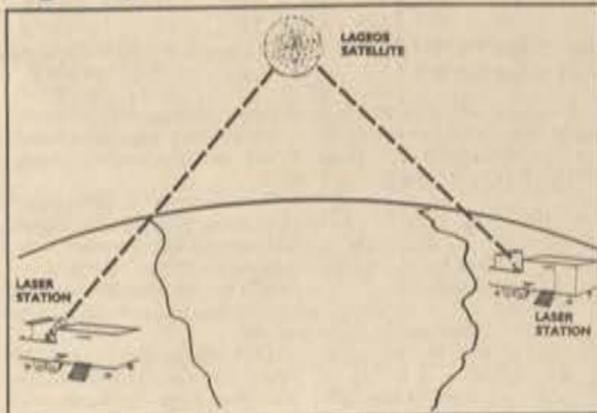
By Brian Gamage  
Space Technology Reporter

The Space Shuttle *Columbia* deployed the Laser Geodynamics Satellite (LAGEOS) II last Friday providing scientists with a second instrument for laser ranging.

LAGEOS II, like its predecessor, LAGEOS I launched in 1976, is a passive satellite dedicated exclusively to laser ranging, which involves sending laser beams to the satellite from stations on the Earth and recording the round-trip travel time.

The satellite is designed to provide a reference point for laser ranging experiments that will monitor the motion of the Earth's crust, measuring the "wobble" in the Earth's axis of rotation, collecting information on the Earth's size and shape, and more accurately determine the length of a day.

The project is a joint program between NASA and the Italian space agency, Agenzia Spaziale Italiana (ASI), which built the satellite using NASA blueprints, handling fixtures, dummy spacecraft and other materi-



This graphic depicts the laser ranging system used with the LAGEOS satellite. LAGEOS will help scientists in determining crustal movements and plate tectonics.

als provided by the Goddard Space Flight Center.

The Earth's crust is constantly moving at about the same rate as human fingernails, about six inches a year, which contributes to earth-

quakes, volcanoes, and the formation of mountains.

A space-age technique called Satellite Laser Ranging (SLR)

see Satellite, page B7

## Presidential candidates announce positions on the space program

By Joshua S. Mussaf  
Space Technology Editor

While the election is less than one week away, Bush, Clinton and Perot continue to argue and slander each other on the issue of taxes and spending. One issue that is not at the front burner is the positions of each of the candidates on the issue of space exploration and its future. The following is information available as

of Tuesday, October 27, by each candidate on this important issue to many Embry-Riddle students and faculty.

**Bush**  
Information on President George Bush's opinion was provided through his budget for the 1993 fiscal year. In the section entitled "Enhancing Research and Development and expanding the human frontier" the President's budget states:

The key to the successful exploration of space is stable and sustainable funding of a balanced program of science, applications and manned space activities. The budget provides clear evidence of the President's continued commitment to his long-term space goals and to active American leadership in space science and exploration.

The budget proposes to allocate a total of almost \$15 billion for

see Candidates, page B7



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## PC prices climb amid shortages

Computer News: Intel names new chip, memory prices go up and '486 prices rise on shortage.

By Joe Cambron  
Data Technology Editor

Well, it is time for a little computer news. Three developments are changing the IBM computing world, some only superficially, but others in the most dramatic way: monetarily.

**Pentium**  
Despite ads proclaiming the debut of the '586 microprocessor, Intel announced last week that no such chip will be manufactured, at least under that name. The fifth generation 'x86 will instead be called Pentium. Owing to its Latin origins, similar to pentagon, Pentium means literally "the fifth."

Why did Intel stop playing the numbers game, you may ask? The answer is simple. Advanced Micro Devices, Cyrix, and Texas Instruments won court approval to use variations of the 80x86 name in the name of their own chips. Intel's lawyers believe that trademark and copyright laws will allow Intel to completely protect Intel's Pentium

chip, or at least its name. One year from now the phrase "Pentium compatible" will probably become very popular in computer ads.

As for copying the actual chip, AMD (Advanced Micro Devices) may have the legal right to clone even the Pentium chip as the result of a poor deal signed by Intel executives in the 1970s.

**Memory chips**  
Speaking of computer ads, anyone trying to buy almost anything in *Computer Shopper* will find dramatic price increases on several important computer components. How did this happen? The answer lies squarely in trade protectionism. The American consumer had been snatching up computers at a record rate until very recently, while prices on hardware fell like so many stones.

Now, our government has imposed import tariffs on many imported microchips, particularly those from Korea. The price of a megabyte of memory has increased overnight from \$28 by mail to as much as \$45.

The theory was, of course, that American chip makers would be able to recapture market share with foreign competitors hamstrung by

import duties. American vendors have complied by apparently raising their prices and forgoing an increase in market share.

**'486 chips**  
Finally, if you planned to buy a '486DX chip either in a computer or on a processor board, expect to pay a lot more. Apparently, a shortage has gripped the industry in light of dramatically increased demand and shipping delays from Intel.

Prices for a '486DX-33 MHz chip have nearly doubled, adding between \$200 and \$300 to any '486 based product. Vendors claim the situation will reverse in less than a month, but it shows no sign of abating right now.

**Other shortages**  
The hard drive shortage that occurred early this year drove up prices on 40 megabyte hard drives from \$150 to \$275, but now, with several new players in the market, \$275 will buy a 120 megabyte drive.

Finally, one last shortage is still quite severe. Driven by the release of more and more software packages using a dozen or more diskettes, pre-formatted, pre-labeled diskettes are unpurchasable. An order backlog extends into next year for this type of disk.

## Cinemanita puts films on CD-ROM

Software Review: Cinemanita is from Microsoft for the IBM.

By Joe Cambron  
Data Technology Editor

*Cinemanita* is a new product from industry leader, Microsoft. This CD-ROM disk contains more movie information than you are ever likely to need. Included is *Leonard Maltin's Movie and Video Guide*, an *Encyclopedia of Film*, the *Motion Picture Guide*, the *Film Glossary* and a multimedia gallery.

**Summary**  
The *Movie and Video Guide* contains information and reviews of 19,000 movies. Detailed reviews are available for recent movies and classics. A biographies section contains information on 3,000 actors and actresses as well as a list of their works.

A topics section details film subjects, including: directing, special effects, and histories of the major movie studios.

The index section allows users to sort through the above information as well as the multimedia gallery which contains pictures and sound clips of classic movies and the award list which covers all Academy Awards from 1927 to 1991.

**Review**  
This package is not Microsoft's strongest CD-ROM offering, but it is one of their least expensive at nearly \$50.

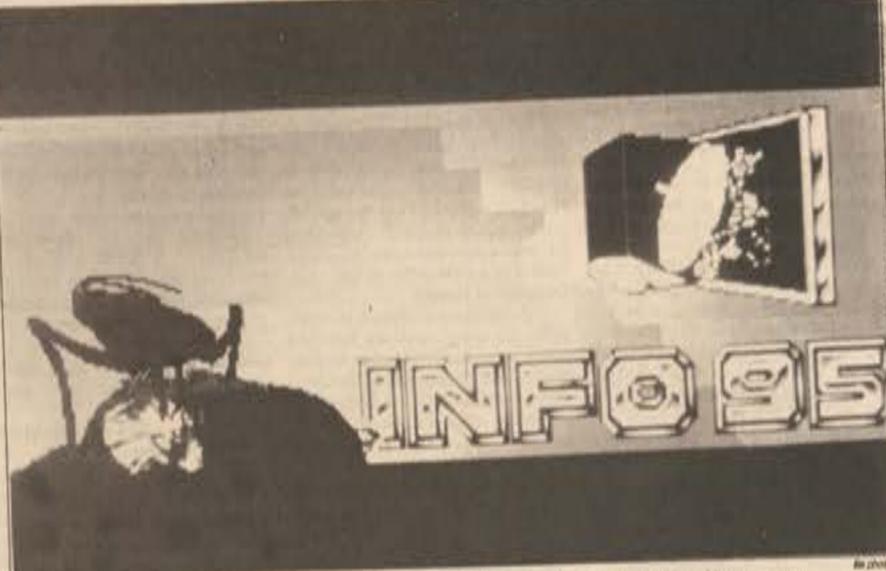
When compared to a book of movie reviews it still may seem overpriced, but it more favorably compares with a hard cover edition covering the art of film.

The multimedia section is, of course, what sets apart this program from any book, but it is lacking as a result of current technological limits.

Although the packaging says that *Cinemanita* contains animation, it is limited to the tutorial and a *Microsoft Works* Demonstration. The sound effects are of high quality and can be used to gain insight into movies that he or she may wish to see in the future.

The ultimate use of CD-ROM would have been to store whole scenes for viewing on the vast expanse of a CD-ROM, but this was not undertaken. Jumpy video is probably the cause of this oversight. Most CD-ROM players simply cannot pump video out fast enough to provide fluid movement.

**All in all**  
This is a well-done package, better than almost every other CD-ROM on the market (the better ones are also made by Microsoft). It is only limited by technology, and hopefully animated movie scenes will be incorporated in the future.



## The Sirians, spider-like creatures which live in human beings, invade the earth. Mantis challenges Wing Commander

Software Review: Mantis is a new game from Microprose/Microplay for the IBM.

By Joe Cambron  
Data Technology Editor

The *Mantis* Experimental Fighter is the earth's only chance to survive a vicious attack from the Sirians. The Sirians are a spider-like creature that nests inside human carriers until they grow large enough to emerge from the vessel's body. Using a metalized skin that the creatures have adapted into a communications antenna, the Sirians are constantly linked in a group consciousness. Nevertheless, they must be defeated no matter what the risk in order to save the earth.

**Game play**  
Although very similar to *Wing Commander* in theory, the game has its own unique style in many areas. The *Mantis* fighter uses inertia realistically unlike most space games. Maneuvering thrusters are used to accelerate, turn and stop. Constant throttle is not needed to maintain motion. The ship's inertia allows it to maintain a constant speed without running the engines.

Unlike *Wing Commander*, the *Mantis* designer dispensed with an animated character format and instead attempted to provide realistic 256 color human images. This causes some drawbacks. In order to minimize space requirements for image storage, quality of human faces is often criticized as too green and unrealistic. In my opinion, given the game's already immense size (see Requirements) this space saving attempt is welcome.

Human images are used to convey a plot line that is variable and almost randomized. One mission may end with a candlelight dinner and a young lady, while another may put you in an argument with your superior.

The combat portion of the game is anything but simple. Piloting the ship is the easiest part of the game as a matter of fact. A wealth of keyboard controls, some using awkward two-key combinations, can become tiresome without frequent pausing to reorient yourself with the controls.

Once combat begins, flying is quite smooth and does not appear to pause in mid-stream like *Wing Commander*, but only if you have enough memory available.

Even so, speed is not the game's

strong point. During game setup and in between combat, pauses are often extended. A wait, although punctuated with well-done musical accompaniment can exceed two minutes in length.

**Requirements**  
The game's most dramatic requirement is its hard drive space allocation. Including the optional speech pack, the game weighs in at almost 25 megabytes. Yes, that is over half of the average entry level hard drive. A Soundblaster compatible or Covox is not necessary, but it adds dramatically to the game (not to mention its size). Speech is used in flight and extensively between missions.

Microprose claims a '286 or better is all that is required for game play, but a '386 is required to enjoy the game with the smoothness it was intended to provide.

**All in all**  
Almost a full-length movie, *Mantis* is a viable competitor to *Wing Commander*. Faster in combat, slower "on the ground" the designers reasonably concentrated on game play over ground play. The plot is fun and involving. The opening, introductory movie is of multimedia quality.



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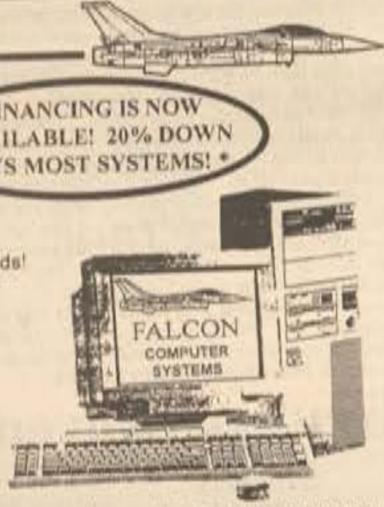
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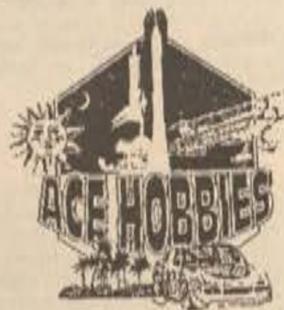
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# Universal hosts Halloween Horror Nights

By Joe Cambron  
Data Technology Editor

As you probably know Universal Studios is cooking up some fun for this Halloween. The second annual Universal Studios Halloween Horror Nights is already underway. Last weekend, Universal began its five nights of terror, and the horror builds to a crescendo this Thursday, Friday, and Saturday. Tickets are only \$22.95 in advance (cheaper with coupons from Pizza Hut or Pepsi) and that is a savings of \$10 when compared to the out-of-state price.

Like last year, Universal has rearranged its park to meet the Halloween theme. In addition to slightly altered versions of Kongfrontation, Earthquake, Ghostbusters and E.T., Universal has added numerous special attractions with a Halloween theme.

### Dungeon of Horror

The Dungeon of Horror is reputedly the most thrilling haunted house in central Florida, but its long wait (usually more than 90 minutes) make it difficult to see unless you are lucky enough to be one of the first through the gate into the park. It features chainsaw-menacing mani-

acs, deadly druids, vicious vampires and crawling vermin. If you dare enter and dare wait through the line you will be scared.

### People Under the Stairs

New for this year, People Under the Stairs is a 16,000 feet extravaganza in terror. Taken from the Universal movie of the same name, guests are teased and terrorized by oozing coffins, torn torsos and eyeless victims. There may be no escape if you become trapped under the stairs.

### Bill and Ted's Excellent Halloween Adventure

This show mixes the Wild West Stunt Show with a time traveling Halloween adventure. The bodacious buddies find themselves in the midst of musicians and bawdy bad guys from the past and the present. In a stunt spectacular, Bill and Ted must defeat evil. The show closes in a "greatest rock n' roll hits of all time. This is one of the best Halloween attractions in the park, and since the stadium can hold hundreds of viewers, the line is usually short.

### The Pendragons

These popular animal magicians have been seen on the *Tonight Show* as well as at last year's Halloween Horror Nights. Charlotte Pendragon, a master in the art of costume changes is perhaps the best female magician in the world. She was also voted sexiest magician ever by an enthusiastic crowd. The show is fast and very well-done, but quite short. It only lasted fifteen minutes. Like Bill and Ted's, the line is usually short and is well worth fifteen minutes.

### Thunderdome

See unsuspecting patron plucked from Hollywood Boulevard and dropped in boiling acid by the Queen's evil minions. Will their skeletons be able to be returned to human form? See for yourself.

### Robosaurus

Four stories of fire-breathing, car-

crushing, metalized evil towers above you. Shooting 40 foot streaks of fire from his mouth, the Robosaurus grabs cars and battles police four times nightly.

### Midway of the Bizarre

Dragon Breath, Blade Walker, Hell Cats, Bone Bender, Hex Maniac, Misfortune Tellers, Grand Illusion and The Incinerator show you their "talents." Their sets are located at street-side throughout the park.

### Rock Inferno

Rockers like Joe Savage and Wolfman Jack are on hand to spin and rock Halloween Horror Nights.

If you cannot make it Universal Studios or have ever wondered how Universal makes its ghouls look so ghoulish, the *Bride of Frankenstein* has some tips for making you look as real as the ghouls in the movies.

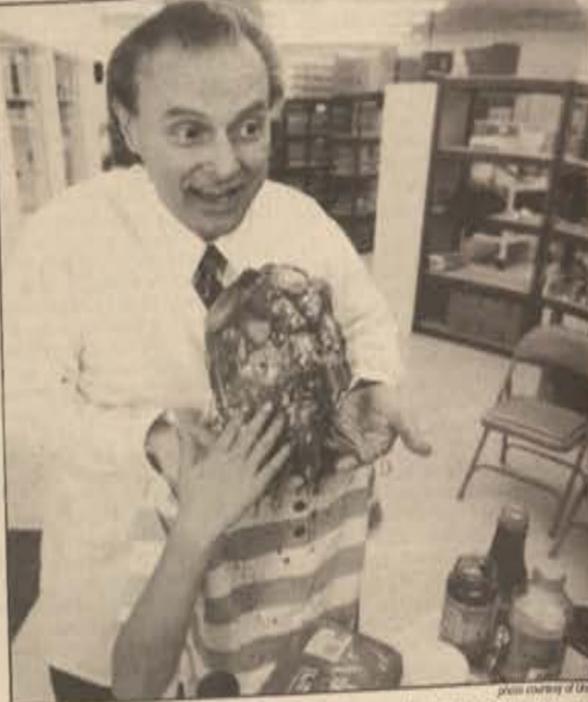
### Burn victim

Cover your hair with a plastic wrap bald cap. Spread corn syrup on your face and around one eye. Place paper towel over your eyelid. Give an inside out fig using corn syrup to paper towel over closed eyelid. Mix strawberry preserves with crushed cornflakes, coffee grounds and ground beef. Spread mixture over face and around fig. Splatter molasses and lemon curd around burn area. Press torn, pink tissues around burn area to simulate skin. Look in the mirror.

### Edible, melting man

Cut out bottom of plastic, white egg carton to simulate protruding eye. Draw a pupil onto carton with a ballpoint pen. Glue to cheek with corn syrup. Build up around eye with moldable cake frosting (so you look like Quasimodo). Build up other cheek bone and around nose with frosting.

Cover face with strawberry preserves mixed with corn flakes. Use tissue as above to simulate sliding skin. Add blueberry preserves with lemon curd for melting skin. Bon appetite!



Famed make-up master Joe Blasco transforms an ordinary mortal into the "Incredible Edible Melting Woman."

### Allen

Cover hair with bald cap and tape in place with clear tape. Use corn syrup and frosting as "give." Cut and trim purple endive, kale and Romaine lettuce leaves into large scales. Starting at the neck, alternately "glue" on endive scales and Romaine scales. Leave the nose for last. Cover your nose with a large black olive. Glaze scales with vegetable oil (for slimy look). Skip applying any croustons that might seem appropriate.

The real master behind Universal's Halloween makeup is Joe Blasco. This international

make-up artist is known in both in the area of high-fashion where he worked for Max Factor and in the area of horror makeup. Last year Mr. Blasco was responsible for Universal's *Beetlejuice* Graveyard Revue and its extensive makeup requirements. He is back this year with new creations that will startle and surprise you.

Now that you are all greased up for Halloween (*Oxy-10* may be needed after applying all that corn syrup and vegetable oil to your face) have a good time and do not forget to stop by Universal Studios this Halloween.



Universal Studios Florida "awakens" classic and modern day horror stars from *Frankenstein* and *Dracula* to *Darkman* and *Beetlejuice* for Halloween Horror Nights.

## Sand In The Vaseline: Popular Favorites 1976-1992

By Boyd Kelly  
Diversions Editor

After a depressing summer for music, bar some classic cuts, there came a large dose of compilation and live releases. The best by far is the *Talking Heads* compilation which spans every great song they ever wrote from 1976-1992.

Tape one was organized into 1976-1983 and caused a lot of trouble in the *Avion* office for those people who weren't too familiar with the *Heads* prior to MTV.

Naturally tape two interested them more and took things from 1984-1992. It is a great compilation and the liner notes are even just as worth while. There are individual interviews with Tina Weymouth, Jerry Harrison, Chris Frantz and David Byrne. There is also a brief history of each song on the album

and what it is supposed to mean. Byrne also fields some of the most asked questions.

**Do you have favorite songs?**  
"Not really. Like parents, I guess. You love 'em all. Some do better than others... some give you pain... some you might have made differently, knowing what you know."

**People called you an intellectual band...**

"Yes, is that a question?"  
**Well, they have said popular music was just a game for you... that you're dilettantes. Playing at being pop-stars.**

"Are you saying this?"  
**No, no me...**  
"Then maybe 'they' should ask it."

As you can see Byrne keeps his characteristic tone that made his songs so great throughout the liner notes.

The delectable sound of tape one takes us back with "Sugar On My Tongue," "I Want Too Live," "Love-Building On Fire," "I Wish You Wouldn't Say That," "Psycho Killer," "Don't Worry About The Government," "No Compassion," "Warning Sign," "The Big Country," "Take Me To The River," "Heaven," "Memories Can't Wait," "I Zimbra," "Once In A Lifetime," "Crossseyed And Painless," "Burning Down The House," "Swamp" and "This Must Be The Place (Naive Melody)."

Not only that but we get an explanation of "Burning Down The House."

Tina explains, "This song started from just a jam. Chris had just to see Parliament-Funkadelic in its full glory at Madison Square Garden, and he was really hyped. During the jam, he kept yelling 'Burn down the house!' which was a P-Funk

audience chant, and David dug the line, changing it to the finished version, 'Burning Down The House.'

Tape two, modern stuff, involves "Life During Wartime," "Girlfriend Is Better," "And She Was," "Stay Up Late," "Road To Nowhere," "Wild Wild Life," "Love For Sale," "City Of Dreams," "Mr. Jones," "Blind," "(Nothing But) Flowers," "Sax And Violins," "Gangstar Of Love," "Lifetime Of Love," "Lifetime Pillin' Up" and "Popsicle."

I could not ask for a better album from *Talking Heads* and your friends and family probably couldn't either. It is my recommendation that this album be considered this holiday season if you have a *Talking Heads* fan on your gift list.

I couldn't ask for anything more and besides the rest of the band in the form of the *Tom Tom Club* will be playing here for homecoming.

## Grunge proven sound from Alice In Chains

By Fred Block  
Diversions Writer

Seattle, Seattle, Seattle. Blah, Blah, Blah. By now you might be getting sick of all the grunge gossip from the Northwest. You might think Pearl Jam, Mudhoney, Soundgarden, etc. are great but let's not overdo it here, right?

Well, I agree with you to a certain extent, but then again, let's not sell anybody short. A good band is a good band, and for some reason, a lot of them have been coming out of the Seattle area lately. Alice In Chains is one of the bands who define, rather than duplicate, the Seattle sound and with their new album, elevate it.

With their song "Man in the Box" off their previous album, Alice In Chains got a brief taste of success. Their new album, *Dirt*, will undoubtedly feed them with more success than they might like, or for that matter, more than they can handle. *Dirt* is a definite step up from their previous effort and therefore dispels any notions of a "sophomore slump."

Listening to *Dirt*, you'll hear the characteristic Seattle sounds blended with a little L.A. and maybe even some Minneapolis. The songs "Rain When I Die" and "God Smack" both sport a slightly Soundgarden-ish riff while "Sickman" soaks up some processed sounds straight out of L.A. The songs "Junkhead," "Rooster," and "Hate To Feel" don't directly represent the Minneapolis sound (Soul Asylum, Husker Du, etc.), but

more the dark feelings and undertones of the area. Don't get me wrong, the band's style does not wander so far as to make *Dirt* an aimless collection of songs, but instead leads to a cohesive work of musical growth.

Like any other truly good band, Alice In Chains' songs are beaming with integrity. The music represents the pain and suffering that lead singer Layne Staley is personally dealing with and because of this realism, it touches the listeners with a sense that the lyrics are being directed straight at them.

"I have felt such frustration or lack of self control. I want to kill me and dig under, I wanna live no more."

Many of the lyrics deal with the agony of Staley's reported heroin addiction. Whereas most songs (Sickman, Would? and *Dirt*) relay the difficulty of abandoning the drugs, "Junkhead" seems to defend it in a manic display of justification and self-protection as Staley complains:

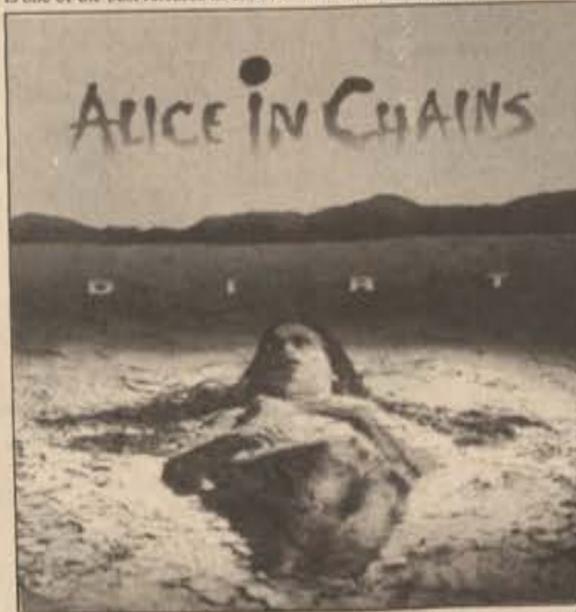
"You can't understand a user's mind but try, with your books and degrees if you let yourself go and opened your mind, I'll bet you'd be doing like me and it ain't so bad."  
"God Smack" goes even further by questioning:  
"What in God's name have you done? stick your arm for some real fun."

You can't help but to be touched by the brutal honesty of this music. It comes from deep inside these musicians in an attempt to heal themselves, not in an attempt to make a buck. Staley even goes so far as to claim:

"Money, status, nothing to me. I believe him."

In my humble opinion, this album is one of the best releases in 1992. It

combines musical power, style, and grace with truly sincere lyrics, and in doing so, overwhelms a larger majority of contemporary music. *Dirt*'s songs have stood up to my heavily repeated listenings so far, and I cannot foresee myself getting tired of them anytime soon. I'm basically in love with *Dirt*. The heavy sound, the sincerity - Alice In Chains deserve the "A."



Alice In Chains revitalizes the Seattle grunge scene through their new album *Dirt*.

### Clarke's Corner:

## Dr. Giggles makes a good Tinkle-Time target

By George Clarke  
Diversions Movie Critic

How well do you recall your childhood?

Remember when you used to sneak into the garage to steal your dad's carburetor cleaner and a pack of matches so you could blow-torch some beetles?

How about those late summer evenings, when you and the gang would wander the neighborhood like thugs, swatting at fireflies with wiffleball bats and then smearing the groggy little things into the asphalt like cigarette butts?

And can you remember when you ripped the heads off of grasshoppers to see how long they could live after being decapitated?

Yeah, I knew you'd remember that. Life was so much more innocent back then, wasn't it?

As I sat in the theater and watched *Dr. Giggles*, I couldn't help but think of those good old days—partly because you figure the main character must have done this stuff as a kid, too; but mostly because I got tired of this film before the first scene was over.

*Dr. Giggles* makes it two horror flicks in a row that have really bit, I pine for some fresh celluloid. Or is that cellulite. Ahh, it doesn't matter.

Larry Drake plays the title character in this film, whose plot goes something like this: (a) insane doctor kills and dismembers his patients in late 1950's, while (b) insane doctor's 7-year old son watches and practices dismemberment on his Visible Female plastic model kit, at which time (c) the townspeople realize that hey, aren't some people missing, so they decide to (d) stone insane doctor to death, but not before he (e) sews his son inside one of the dead bodies so the townsfolk don't stone him, too. The kid cuts himself out, but the cops catch him. He's sent away to the funny farm.

CUT TO: interior, hospital insane ward, present day. The kid is now all grown up, but he's still crazy after all these years. And he has a personal goal of following in his dad's footsteps: he's intent on nothing less than exterminating the entire town. He promptly escapes

from the institution and makes his way for suburbia...

Meanwhile, a subplot is brewing in the form of some high school kids who plan to sneak into the doctor's old house/office to have a party.

You can see where this is headed: the three couples are on a collision course with death. This is kind of sad, too, because although you never really develop any feelings for these guys, they are clean-cut and not too dumb. Plus, one of the girls is quite a hellcat.

I apologize for saying last week that *Candyman* is about as bad as you can get. *Dr. Giggles* is worse. It makes *Candyman* look like *Birth of a Nation*. Manny Coto co-wrote and directed the film, which contains really flat characters and the oh-so-typical plot structure rut that the latter *Halloween* and *Elm Street* sequels fell into; you know, bad guy goes on killing spree, while old good guy and young mentor hunt him, but old good guy gets killed and young mentor has to save the day.

Meanwhile, countless expendable characters get diced up. There are also several technical flaws, too. Scenes which are supposed to take place at night are intercut with scenes that were filmed during the day.

Larry Drake doesn't make a very memorable villain, either. He just doesn't look like a mass-murderer. He looks like a teddy bear. And his only words are these silly one-liners, none of which are funny.

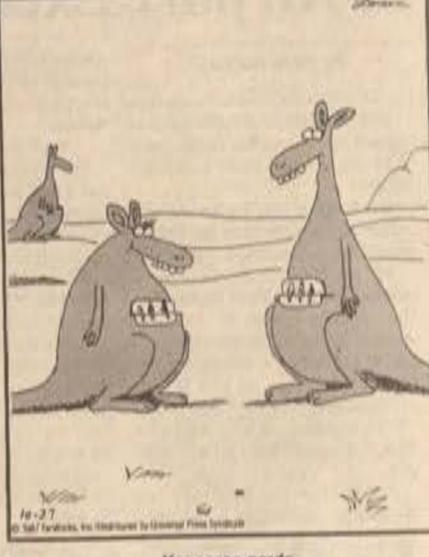
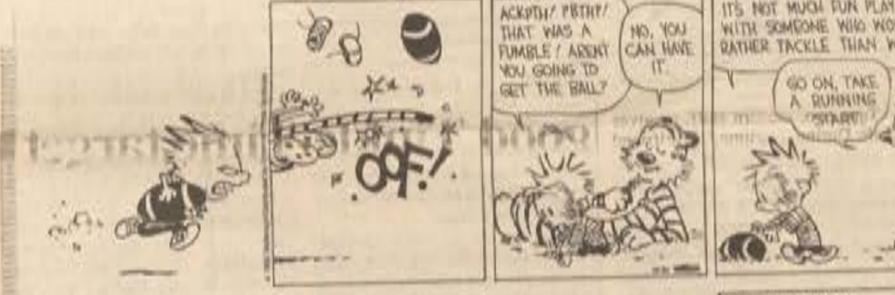
Anyway, I'm kind of bummed. Maybe I'm getting old, but I just didn't like *Dr. Giggles*. Yeah, it broke the big Movie Critic Rules for being a good flick, but my general impression as I left the theater was that this movie was just plain boring. It is geared toward a slightly younger crowd. It's not for us refined college folks. *Dr. Giggles* would make a good Tinkle-Time Target.

I hope a good movie comes along soon. I'm fixing to go crazy, see, and I've got this Visible Woman model here and I'm wringing my hands and I feel like I just have to get out of here and—

I see one of those lizards on my window screen. I think I'll rip its tail off.

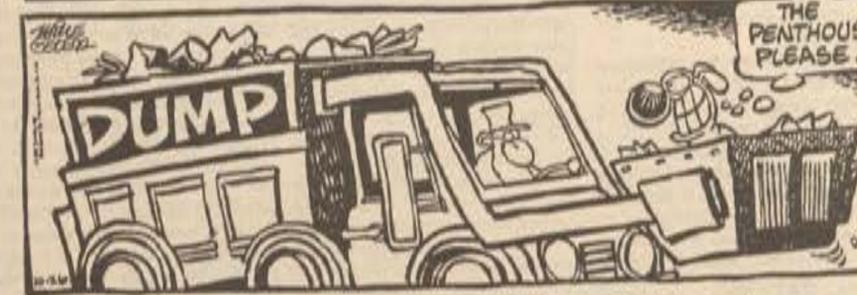
Calvin and Hobbes by Bill Waterson

Far Side by Gary Larson



Outland by Berkeley Breathed

Mother Goose and Grim by Mike Peters



# American Association of Airport Executives

By Mark Kopcak  
Member

The American Association of Airport Executives has finally made it to the Avion, after extensive delays!

Our purpose is to further the education of the students in the field of airport management and operations. We would like to thank our previous two speakers, Todd Anderson of the Greater Orlando Aviation Authority, and Dr. Boris Trnavskis, our organization's moderator, for their presentations, as well as their excellent advice to all of us.

The semester is half way over now, but we still have a lot to offer you.

At our next meeting, on Wednesday, November 4, our guest

speaker will be Luther Davidson, Jr., Director of Planning and Control of the Daytona Beach International Airport.

On Wednesday, November 18 our guest speaker will be Mack Lazenby, A.A.A.E., the Executive Director of the Titusville-Cocoa Airport Authority.

All meetings will be held in room A-109 at 7:30 p.m., and are every other Wednesday night.

Our meetings until now were held on Thursday nights, but due to Homecoming and other previously planned events, it has become necessary to move the meeting to Wednesday night.

Make these dates on your calendar, and we hope to see you there on Wednesday!



By Boyd Kelly  
Composite Catcher

Well, there is no banner this week, but we won Greek Week eight years in a row. Yeah!

Other than that let's keep things moving on a good high pace.

Friday's 70s party went off real well and we would like to thank everyone who showed up in costume. Remember girls, that's the reason we have themes. It's so we can dress up and have a little fun.

Formal formalities are being sorted out by Travis and that means he needs money so when you get a chance give him some money if you are going.

Since I'm complaining about

## SCC

By Dave DeFossey  
Communications/PFI Chairman

The Senior Class Council, the representative body of the Fall graduating class of 1992, has been very busy lately trying to get all of their events organized for the next (can you believe it) six weeks!

We have been diligently getting together fundraisers to help pay for our great, spectacular, over sobering (Not!) Senior party.

The fundraising committee is hard at work thinking of new, innovative ideas for fundraisers. Actually, it's probably going to be a raffle for some really huge, cool prizes... stay tuned!

### Clubs Policy

- ➔ All articles must be type-written, double spaced or on disk format (unformatted in Word Star or Microsoft Word).
- ➔ Deadline for submission of all club material is **Wednesday at 5 p.m.**, one week prior to publication.
- ➔ Photos may be submitted with club articles.
- ➔ All submitted material becomes property of the Avion with the exception of disks.
- ➔ The Avion reserves the right to edit all submitted copy.
- ➔ For more information stop by or call the Avion office at (904) 226-6049.

## Surf Club

By J.R. Brotherton  
Club Secretary

Over October 18, the Stormriders competed at New Smyrna Beach in the Scholastic Surfing Association's second competition of the 1992-93 season.

The school placed second overall out of eight teams that competed. Individually, Craig Tovatt placed fifth and Jason Walker placed sixth overall. Everybody who competed did an awesome job Sunday, showing off their hot maneuvers in the very windy conditions.

The high winds and abnormally high tides made it rough for the non-surfing beach goers to enjoy the day, but it was a sign that waves were supposed to be around for the weekend.

We also sponsored a beach cleanup which ran from ten o'clock Sunday morning to around noon.

The cleanup was a first start to the Stormriders efforts in trying to form a local chapter of the Surfrider Foundations, a non-profit organization which is dedicated to help protect our coastal environment. They recently won a multi-million dollar law suit against a large company in Los Angeles, California for dumping untreated sewage in the Pacific Ocean at a rate of twenty tons per day. If you are interested in helping out with our efforts to get involved

## AHP

By Jason Piper  
Historian

Another great week has gone by for the brothers at Epsilon Rho hanger. Glad to see that your still with us Tony, that wind shear can be pretty nasty huh?

The Beta Nu pledge class now consists of 11 members. Schoolwork takes priority, and controls all of us.

The 6 of you could always pledge next semester if you have the time and the GPA's you're looking for.

The pledge class held a very successful car wash last Saturday at Sears Auto Center. There was even a live band there. If you want to call them that.

Football went outstanding last Sunday. We had a horrible practice on Saturday, those of you who weren't there plan on hearing about it from Coach P.

money, pay your dues. Yes, I know I owe too.

We won second place in the Substance Awareness Display Case Contest. We were beaten out by those sharp dudes in the badminton club. Oh, yeah.

There was no second place prize originally but Becky sorted it out and we now won a small monetary fee.

Scholastic dinner tomorrow, no brown-nosers please. Halloween this weekend. Costumes, costumes, costumes!

Finally I would like to thank everyone from the bottom of me for the birthday thank you's. Hope you had a good time.

Thanks for the cake, Anna and for help from Travis.

We will be having a car wash at the Texaco station on the corner of Ridgewood and Beville on November 14th. More details will be given as they develop.

We need great ideas for our senior T-shirts. If you have any or are a great artist, please contact the fundraising committee chair, Joe Tortora at Box D225 or come by our meetings every Tuesday night in the old Career Center room (8pm).

The senior class also held their BBQ on October 23rd. (I hope!) I'm sure everyone had a great time!

Let's make some noise and show some great class spirit! Look for future events to come.

# Screaming Eagles

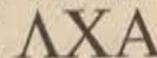
Special to The Avion

Last month was a productive meeting for both the officers and members.

The officers proposed and the members voted to make some changes to our clubs operation procedures. We will now have only one meeting and will serve refreshments, provide video entertainment, and possibly a demo.

The first of our new meetings will be November 3, 1992 in room B513 at 7:30m P.M.

Also voted on was the elimina-



By Fisher  
Member

Hey what's up? Conclave is over and I know we all had a great time. I know Luke "I can kill you a hundred ways with a toothpick!" Calhoun's Capture the Flag was a killer time.

The lecture by Cindy Crawford was unfortunately canceled so Dave took her place.

This week we have the Halloween party over at Jason's, so start working on all those costumes. (See Top Ten List Below)

Homecoming is on it's way and we're having dinner at the President's Palace.

Candy for Kids is going to be Friday October 30, which is always a good time making the kids in the hospital smile, and Eric Q. might even get a date for the party on Saturday.

The Car Wash at Hooters is on Halloween day at 11am. Brother's Vote is less than three weeks away, so get those interviews done.

As for the sports scene.

## SLDP

Special to The Avion

ERAU students support American Cancer Society: The student Leadership Development Program has been working for several weeks to organize an ERAU sponsorship in the 1992 American Cancer Society Beach Walk-A-Thon.

Thanks to the generous contributions of the clubs, organizations, departments, and individuals here at ERAU we were able to raise close to \$600 for this worthy cause.

The SLDP would like to take this opportunity to thank the following

## Scuba Club

By Bryce Buzzard  
President

The Embry-Riddle Scuba Club will be meeting tonight in E613 at 7:30 PM. This will be our third meeting of the semester, and there are many things to discuss. A briefing will be given for both up and coming dive trips.

The latest offshore Daytona dive on Sunday, October 18th has been rescheduled for November 1st, due to the "wonderful variety" of weather that we have here in Daytona Beach, and the West Palm Beach

# Aerospace Society

By Joshua Mussaf  
Club Historian

The Embry-Riddle Aerospace Society will be hosting Dr. Lance Erickson of the Aeronautical Science department tonight at 7:00 p.m. in E-611. Dr. Erickson will be speaking about his experiences at the NASA Ames Research Center in Mountain View, California.

I am happy to report that our trip to Kennedy Space Center last Saturday was a success. We first went on the Kennedy Space Center bus tour.

With the completion of our tour, we had one hour to check out the gift gantry and Spaceport's own space-man, where we had a group photo taken. We then saw the I-MAX film "The Dream Is Alive." It was a heart-pounding film that left everyone on the edge of their seats, wishing they were able to see the Earth with all its beauty. (Thanks Mr. Secretary for those inspiring words!)

We concluded our day with a walk to the astronauts memorial and a tour through the full-scale shuttle model Ambassador.

Our trip home was the best part of

tion's of dues for this semester due to our late start. So, our concentration is now on what we love to do most... Fly our planes! Go out to where ever you fly have fun, take pictures, and create memories to remember forever.

Then, on November, third bring them all with you to share and Enjoy the fellowship.

Also, so that we can communicate when and where we are flying please leave us some information. We will be issuing a more complete list of contacts at the next meeting.

Happy Flying and we will see you at the meeting.

Greekweek is over and yes we lost again, no big surprise.

The football team is undefeated, even though the inside scoop is our main defensive flaw is Deep Right still. Hockey is on it's way and we are the team to beat this year.

We are getting a Softball team together for Homecoming so all interested contact with whoever is in charge.

And now for the top ten list, the top ten costumes we will be wearing for Halloween.

10. Dave is going as the almighty Librarian.

9. Murf will be masquerading as the world famous fashion consultant.

8. Colin is going as Jackie.

7. Keith P. is dressing as a twin engine Piper.

6. Eric S. will be posing as Sledgehammer.

5. Rui will be disguised as a man.

4. Steve S. will be going as the mighty Alaskan Jackalope.

3. Tom will be going as the dreaded sabertooth Ewok.

2. Scott will be going as the medicine man of Okcechobee.

1. Who are we fooling, we'll all be going as DODDS.

groups for their help. Without them our efforts would not have been successful.

The Student Alumni Association, The Eagles Flight Team, The Soaring Club, Amott Air Society, Society of Commercial Aviation Technicians (SCAT), Lambda Chi Alpha Fraternity, The Student Leadership Development Program, The Recreation/Athletic Department, Student Accounting, The Shaw Family, Barbara Blair and Alpha Xi Delta Fraternity

You have truly shown the spirit of Embry-Riddle and again we thank you.

dive is still on for the 1st as well. Tonight (Wednesday, October 28th) is the deadline for your money to go to West Palm. This should be a great trip, and I encourage everyone interested to show up at tonight's meeting!

Remember, this is your club, so please be at the meeting whenever possible.

We're still planning to go to Crystal River in mid November, and we need your input on any future trips that we may schedule. See you tonight!

# Eagle Flight Team

By Kellene Gaetaniello  
Member

Well it's here... 1993 Regionals. Wake up boys and girls, Nationals is over and Regionals are here. So let's kick the same — we did at Nationals.

Practices were hard and groeling and competition was tough but we have the 1993 Regionals competition team. Congratulations!!! to the competition team.

The team members are as follows: David Arribas, Ari Buchanan, Evan Bogaa, Nick Nikolich, Brian Ferguson, Roger Sultan, Alan Sheppard, Keith Plumb, Lee Babey, Alan Terry, Eric Quinn, Mark Ruane, Shannon Knightly, Mark Houser and Kellene Gaetaniello (Alt).

Ground Crew: Rob Bitzer, Kellene Gaetaniello and Rob Palaz.

Coaches and Faculty Advisor: Michael Rapuano, J.P. Walsh, John Wossang, Kirk Ladeau, Bill Mason and Mason Aldrich (a/c prompt)

Regionals will be held at Deland Airport, October 29-31. Students and Faculty are invited to come join us.

Congratulations to all the new members to the flight team. We are very excited for the new and fresh ideas.

The new members are: Marc Aymard, Michael Campbell, Darin Caudle, Tom Chang, Dennis Currier, Felix D'Agostino, Gregg Delea, Sean Detty, Jason Eck, Mike Fialkowski, Andrew Fogg, Jeff Ginther, Chris Greenhouse, Doug Henderson, Ashley Hendrix, Abdias Marte, Melinda Matricciani, Justine Moyer, Brain Murphy, Nick Miroslav, Chris O'Gwen, Marc Sampson, Kim Schumacher, Dave Seaver, Joe Shade, David Sille, Aaron Simonds, Sam Smith, Ed Stone, Brain Szekeres, John Wesley, Erik Wichmann, Sean Wilson, Jessica Zock.

\*Editors Note: Good Luck Guy! Bring home a First Place Trophy for the University!



By John Pierson  
member

Greek week finished up kind of disappointing. Who cares that they won again. It just doesn't matter! We wuz robbed again!

We made a good showing in the 4-man "fish" swimming relay.

# Embry-Riddle Volunteer Network

Special to The Avion

The Volunteer Network recently held its volunteer recruitment drive, September 28 through 30.

September 30 was the Blitz Night. At this event several Circles of Interest were established. Circles of Interest are areas of community involvement.

Among the Circles of Interest established on Blitz Night were Environment, Education, Medical, The Arts and Animals.

The Volunteer Network office is open Monday through Friday, 10:00 am to 2:00 pm. The office is located in the front of the Student Center.

Anyone interested in becoming involved in any of the Circles of

The pledge class finally got their community project done and gave blood last Wednesday. Two of them passed out and one had a heart attack. If anyone notices a mound of dirt behind the ASSL, keep walking.

Anyway, back to basics. Gator Growl was last weekend. It was a great weekend with many brothers making several new acquaintances. That's all folks, until next week.

Interest or any member of any other volunteer activity in the community can contact any member of the Volunteer Network office. Anyone interested is invited to attend.

A few of the Volunteer Opportunities available are: Children's Haunted Castle at Castle Adventure on Halloween Night; Red Cross Volunteers to help with Blood Drives; YMCA; Humane Society; Teaching/Tutoring; and Law Enforcement.

Do you have a community interest that isn't listed here? There are several other areas available. Start your own Circle of Interest! Volunteering can be a rewarding experience.

We hope to see you becoming involved!

# Cricket Club

By John Fernando  
Member

Embry Riddle cricket club had their first game for this semester, last Saturday, October 17th, against the Orlando cricket club.

The Riddle team won the toss and elected to bat.

A fine performance was given by the openers John Fernando (39) and Channa Edirisinghe (9) put on 55 runs in 15 overs. But unfortunately after the departure of the opening pair, the team's middle batting order line up collapsed leaving the score at 65 for 6 wickets in 23 overs.

Another fine performance by the late order batsman Hisham Qureshi (9), Mustafa Zaidi (5) and Sumeet Beniwal (7 not out) put the total up to 90 runs.

The Riddle team went to field

with the chance of winning the game.

In spite of the fine bowling by the bowlers Rajiv Gunasena (4 wicket) the Orlando cricket club beat the Riddle cricket club by 4 overs.

I would like to thank all the players who played the game and also for their great fielding performance especially Gihan Gunasekera, Ibrahim Azeiz Mohammed Alvi, Dharsha Abeywardene and Stephen John.

The final scores where Riddle cricket club 90 runs all out in 28.5 overs. (J. Fernando 39, C. Edirisinghe 9, H. Qureshi 9, M. Zaidi 5 and S. Beniwal 7 n.o) Orlando cricket club 93 runs for 9 wickets in 26.1 overs.

The cricket club practices every Friday at 5 pm on the University Center field. All those who are interested in playing cricket are welcome.

# CLASSIFIEDS

## Autos for sale

84" Nissan Pulsar, Sun Roof, Cold A/C, Runs great, will finance if necessary. \$1300 OBO 274-1180.

1978 Honda Civic SW runs good. Call Kelly at 239-9411.

1991 Waverunner Lx 650 great shape trailer / kneeboard included \$3,200. Call Mike 760-9252, leave message.

1987 Honda XL 600R Motorcycle. New tires, battery, and chain. Good condition, 12,000 miles. With helmet and saddle bags. \$1,000 firm. Call Elvin 760-7731.

Suzuki GS 1150E for sale. Powerful bike, runs great, new battery, new tires, cover and helmet included. Contact Jon 258-5450.

## Roommates

Clean, responsible roommate needed for 3-bedroom house in Fairway Estates. \$200 a month plus 1/2 phone, electric, and cable. Junior or Senior preferred. Call Ron at 248-3259, leave message.

Roommate needed to share 2 bedroom / 2 baths Wood Forest apartment. Rent \$298 per month, washer & dryer. Prefer non-smoker. Jon 258-5450.

Roommate needed to share 3 bedroom, 2 1/2 bath apartment 2 miles from ERAU. \$200 a month and 1/3 utilities. Call Pete or Chris at 248-2962.

Female roommate needed. Pay 1/2 rent \$237.50, 1/2 utilities & phone. Must like dogs, have 1. Call Beth at 788-3419.

## Misc. for sale

Mitsubishi stereo VCR. \$300. Call Jason at 677-6396.

Enable software V2.14. Great for the student with a home computer for C3109 either 3.5 or 5.25 disk set available. Original set. Not copies. Call 226-6768 or 445-2733.

Nintendo Gameboy for sale. Almost new. Complete system includes: AI adapter, cleaning kit, case, and 15 games for \$120. Individual Gameboy games are \$10 each. Please call Dave at 322-2770 for more information.

Upgrade your PC/AT to a 386 for \$225. 386DX motherboard at 40 MHz. Installation free. Existing case must have 8 slots. Minimum Ram 1 meg. Leave message 238-7355.

Data General laptop 386, just \$1,050. 2048K Ram. 40 Meg drive, 32 gray shades VGA, 16 MHz. Leave message 238-7355.

Minoxidil: If you are losing hair, Minoxidil could be your solution. \$35 or 2 bottles for \$60. Call Diego 226-7452. X7452 if calling from Embury-Riddle.

Dishes, Corde Coming ware 8 place setting. One setting includes dinner plate, luncheon plate, saucer, cup and two size bowls. New! \$35.00. Phone 226-6768 or 445-2733.

Electric skillet 11" square, \$10.00. Phone 226-6768 or 445-2733.

Food Processor \$10.00. Phone 226-6768 or 445-2733.

3 speed girl's bike, fair condition; \$25 o.b.o. Gold colored livingroom chair, fair condition; \$15 o.b.o. Call Mary 788-0751.

Sharp 19 inch television, bought in September for sale, asking \$150. Also brother electric typewriter \$25. Contact Jon 258-5450.

4 string Gibson Epiphone bass for sale. Call Pete at 248-2962. Beat offer!

Hard Rock CD's for sale. Call Pete at 248-2962.

Raleigh Pointe Mountain Bike. Complete Shimano 200 GS system. Well kept and maintained. Seldom ridden. Asking at a bargain price of \$300. Call Lou at 226-6538. Single bed, very good condition; \$30 o.b.o. End table, made of wood and covered with leather and fabric (32 in. x 32 in.), very good condition; \$15 o.b.o. Call Mary 788-0751.

Electric steam iron, good condition; \$15 o.b.o. Queen sized, multi-colored, wool crocheted bed spread, brand new; \$50 o.b.o. Call Mary at 788-0751.

Lost! Peach colored jacket, women's. Lost on a Thursday, the beginning of October, somewhere between the parking lot between the two dorms and the U.C. If found please contact me at 252-7134 or box# 2008 (Nicki).

Multi-engine flight training or hour building. Fly at your convenience. \$85 for dual / \$75 dual block time. This is not time-sharing and is the best price in Daytona. Call Mike or Jack at 756-1494.

Professional flight instruction at reasonable rates. Fly out of Spruce creek in a C-172 or Daytona Beach in a C-150. Call Rick at 257-7009.

Professional flight instruction at reasonable prices. Recreational, private, commercial, instrument, ICC, BFR. Contact Frank Lewis at 258-5292.

Quality flight instruction: If you can design, build, repair or manage an airplane then you should know how to fly them. Get your private, instrument, commercial rating or certificates. Reasonable rates. Call David at 760-4801.

Jesus Saves, Gravy stands, he shoots, he scores!!

Don't be a jerk just because everyone isn't exactly like you  
TALBOT

ANDY,  
It'll nice to meet you! Hopefully she won't throw you around as much as me! Together we'll keep her happy!  
DUSTIN E.

SHERRY  
Here is your damn ad. You still owe me a trip to Finky's.  
YOUR UNDERSTUDY

KEVIN  
Happy Birthday, enjoy your legal indulgence.  
FROM THE HEARTH OF THE BLOODSTONE

### CLASSIFIED AD POLICY

- ➔ Non-commercial classified advertising and personals are free to the student body, faculty and staff of Embury-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.

## Personals

AB  
I can't wait till Christmas, when will you show me your black dms? CC

DONN DUVAL,  
ERAU senior CASB happy 1st year anniversary. Garibaldi's 8:00 p.m. 26 October. I love you.  
DENISE

TODD  
Even though you look kind of like Liddle Munster, we still love you. Kiss.Kiss.Kiss  
THE BETA ALPHA'S

CHAD DENLINGER  
I can't remember what I was going to say. I think it was something about Leigh. I don't know I can't remember.  
YOUR LITTLE BRO!

To the 3 great guys who started my car  
Thank you very much. If I were legal I'd buy you a beer, you all deserve it. Thanks again -  
the dry battery.

Prejudice prejudice everywhere,  
no one seems to care.  
What must I do to be like you?  
But then of course- who would want to?  
TALBOT

## Miscellaneous

Going home for Thanksgiving or Christmas break? Call Mary at 257-2500 ext. 263. For Airline: Amtrak fares and reservations.

Ohioan seeking ride to Springfield / Dayton area for Christmas (Thanksgiving?). Will help with driving and will split expenses. Contact Randy Cox at 226-7282 or box # 9206.

I am a GM certified and A.S.E. certified mechanic. I can handle your car problems for you. Dependable and honest. Call for info: Patrick 255-2132.

Multi-engine instructor ratings for only \$775 dual block time. Only 15 hours of PIC needed for this rating and no instrument work is involved. This is not time sharing, you fly all the time. Call Jack or Mike at 756-1494.

Flight instruction for private, commercial, BFR, or just to brush-up. Fly in well kept C-152, C-172, Piper Arrow, Tailwheel transition in J-3, or Super Cub also available. Call Jim at 760-1650.

Flight instruction in Daytona Beach. Lowest rates in town. \$39/hr for C-152. Includes gas and instruction. Get your private, commercial, instrument, CFI. Call Manny (407) 574-1645.

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## Satellite

(continued from page B2)

allows scientists to detect small changes in the Earth's surface over distances of many thousands of miles. This technique can be applied globally to measure the movement of many of the rigid blocks of the Earth's crust.

The LAGEOS-II satellite is a spherical satellite made of aluminum with a brass core. It is only 24 inches in diameter yet it weighs approxi-

mately 900 pounds. This compact, dense design makes its orbit as stable as possible.

The satellite has the dimpled appearance of a large golf ball imbedded with 426 nearly equally spaced cube-corner retroreflectors. These reflectors are three-dimensional prisms that reflect the laser light directly back at its source. A timing signal starts when the laser beam leaves the ground station and continues until the pulse returns to the ground station.

## Canada

(continued from page B2)

### Canadarm aboard Columbia

The Canadarm is an integral part of the STS-52 mission. An experimental machine vision system, called the Space Vision System (SVS), will be evaluated by Canadian payload specialist Dr. Steve MacLean during the mission. The SVS uses a video camera to monitor a pattern of target dots on an object to be tracked. As the object moves, the SVS computer measures the changing position of the dots, and provides information on the location and orientation of the object. This information will help guide the Canadarm in berthing or deploying satellites. It is expected

that the SVS will be adapted for use on board Space Station Freedom.

For CANEX-2, the set of CANadian EXperiments to be conducted during STS-52, a target satellite called the Canadian Target Assembly (CTA) which was specifically developed for the SVS evaluation will be carried in the cargo bay. During the flight, a mission specialist will use the Canadarm to deploy the CTA and take it through a series of maneuvers so that Dr. MacLean can evaluate the performance of the SVS.

## Candidates

(continued from page B2)

NASA. This represents an increase of nearly five percent over 1992. The budget provides increases for space activities, including research, development and operations, to continue to explore the frontier with both manned and unmanned missions.

The budget proposes a total of \$2.8 billion, an increase of seven percent, for space exploration. The strategy for these activities has four major elements: (1) build and operate Space Station Freedom to provide unique capabilities for life sciences and microgravity research; (2) continue robotic missions to explore the other planets in our solar system; (3) begin several small near-term robotic missions to increase knowledge of the Moon and to provide data for planning future exploration activities; and (4) continue work on "long pole" technology building blocks that will be needed for future manned and robotic exploration of the solar system.

Clinton  
Information on Governor Bill Clinton's opinion was obtained through an interview on the June 30

potential terrestrial applications in widely divergent areas.

### Future

Canada's major space task in the future is the design, production and operation of the Mobile Servicing System (MSS), Canada's contribution to Space Station Freedom. This next generation of the Canadarm is a crucial component of Freedom. Designed mainly for the assembly and maintenance of Freedom, it will also be used to help move supplies, and to release and dock the shuttle to the space station. The new arm will be over three times stronger than the original Canadarm, and will be mounted on a traveling base.

Space Station Freedom is a joint partnership between the United States, Canada, the European Space Agency and Japan.

logical lead, and the space program is one way to do that. I have been a long time supporter of it and I will continue to support it as president.

Host Bryant Gumbel: Can we afford it?

Clinton: We can not afford not to do it. It is such an important part of our technological base that we will argue every year about how much we can afford. We may never be able to spend quite as much in any given year as we would like to, but we need to maintain the space program. We do not need to scale it back.

Gumbel: Would you, for example, continue to pursue a manned space station?

Clinton: I think we should pursue it, yes, at what level of funding I do not want to make any specific commitments about that. I do not know enough about what the competing considerations will be. I just know that a space program, from my perspective, is an important part of our building the kind of technological and scientific base our country needs.

Perot  
Repeated attempts to contact the Perot headquarters were unsuccessful. No information on his position was available at press time.

# The People Under the Stairs

will be showing this Thursday at 8:30 p.m. in the Student Center

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