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AERONAUTICA

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McDonnell Douglas refines plans for MD-12

LONGBEACH, CA — The Board of Directors at McDonnell Douglas granted its Douglas Aircraft Division authority to make formal offers to sell the MD-12 to airlines around the world. This is the first step leading to the production of the company's next-generation jumbo jet. The next steps include arrangements with MD-12 investment partners and selection of a final assembly site. Nine communities are under consideration for the final site, which will be selected in early 1992. They are Belleville, Ill.; Fort Worth, Tx.; Houston, Tx.; Kansas City, Mo.; Mesa, Ariz.; Mobile, Ala.; Salt Lake City, Utah; Shreveport, La.; and Tulsa, Ok.

To support the launch of the MD-12, McDonnell Douglas is considering alliances with partners in other parts of the world, principally in the Asia/Pacific Region. McDonnell Douglas is talking to potential partners who offer low cost, high quality production, and access to markets in their region.

The MD-12 is designed with the highest space-limited payload, lowest trip cost, and largest cargo volume, more than 70 percent greater than that of a 747, in the industry. An all-new, advanced technology wing design and three engines, with an average thrust of 76,000

pounds, will give the MD-12 a non-stop range of about 9,200 statute miles with a full load of passengers and baggage. Typical routes would include Los Angeles-Hong Kong, Dallas-Tokyo and Singapore-Paris.

Among the features planned for the MD-12 are a redesigned landing gear, a new horizontal tail and a new auxiliary power unit, as well as other advanced systems. The long-range trijet will carry about 375 passengers in a three class configuration, or up to 520 passengers in an all economy choice.

Also being considered by designers are a Panorama Deck for seating below the main deck, lower level galleys, lounges and crew rest stations.

The MD-12 will be designed using an Integrated Product Definition (IPD) concept for coordinating and managing design efforts. IPD is a systematic approach to design that relies on a computer database network for storage of parts specifications and other data. It is an approach that McDonnell Douglas has used successfully for several military aircraft development programs.

McDonnell Douglas is expecting a formal launch of the program in 1992, allowing for start of initial service in 1997.

McDonnell Douglas MD-12 Specifications:

Flight Crew - Two

Passengers - 375 (3-class configuration) or 520 (maximum version)

Lower Deck Cargo - 6014 cubic feet

Wingspan - 213 feet

Engines - 2(GE 90, PW4484 or RR Trent 775)

Weight Limited Payload - 154,200

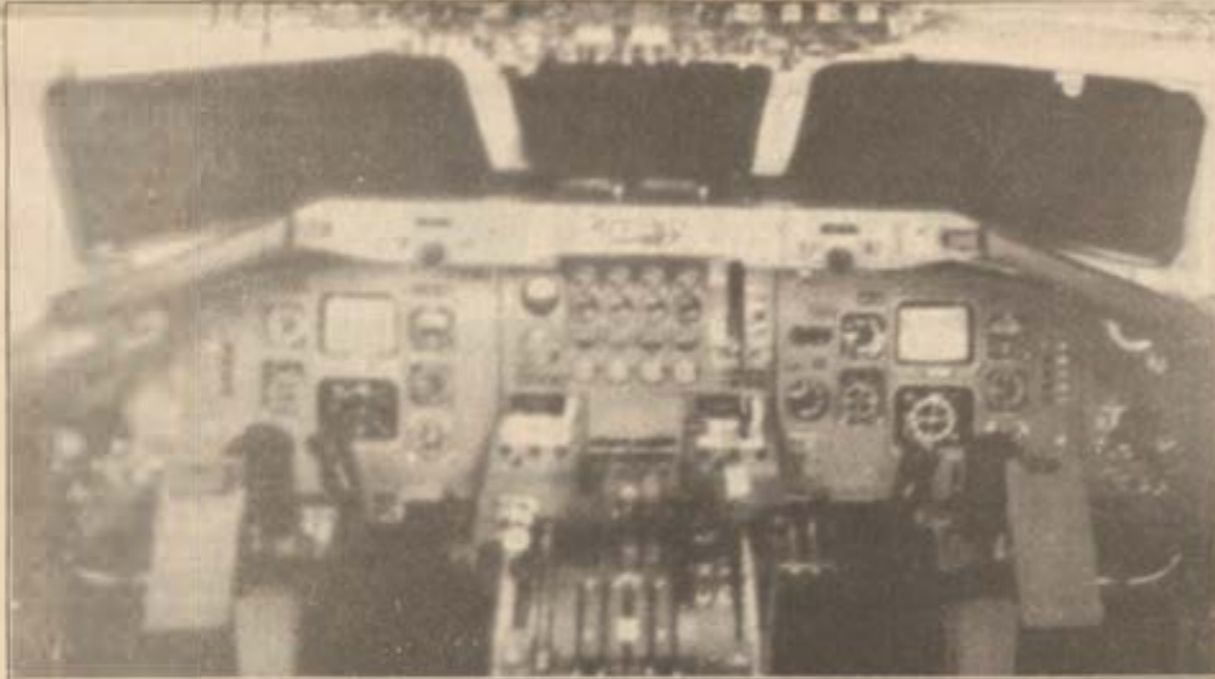
Maximum Level Flight Speed - Mach 0.88/594.7 (31,000 ft)

Maximum Takeoff Gross Weight - 897,000 pounds

Maximum Landing Weight - 610,000 pounds

Range - 8,800 statute miles (445 pax/bags)

FAA Landing/Takeoff Distance - 7,600 / 10,500 feet



Smooth as glass . . .

This Collins EFIS display will allow the DC-8 to be flown by a crew of two with ease, unlike the original DC-8 (released during the 1950s) which required a crew of four.

DC-8 gets Collins EFIS package

HOUSTON - A retrofit digital avionics system manufactured by Collins Avionics and Rockwell International Corporation, certified aboard a DC-8 aircraft will standardize United Parcel Service's DC-8 fleet.

The avionics standardization of UPS' DC-8 fleet will provide more effective crew transition and training, increased reliability and

improved maintainability. The Collins digital avionics system installed on the DC-8 includes the EFIS-86 Electronic Flight Instrument System, APS-85 Digital Autopilot System, ADS-85 Air Data System, WXR-700 Weather Radar System and updated navigation sensors.

Integrated airspeed on the EFIS-86 Electronic Attitude Director

Indicator increases crew efficiency by decreasing pilot scan. The system's advanced APS-85 Autopilot offers digital control and extensive self-diagnostic capabilities.

The Collins system will be installed on UPS' fleet of 49 DC-8 aircraft. Installation is being performed by Dee Howard of San Antonio, Texas.

McDonnell Douglas launches new version of Harpoon missile system with new software

ST. LOUIS — The U.S. Navy has successfully completed the first ship-launch test flight of a Harpoon anti-ship missile with Block 1D system improvements Oct. 21 at the Pacific Missile Test Center at Point Mugu, Calif.

The test flight, which was the third success in as many launches, was designed to demonstrate the new re-attack feature of the Block 1D capabilities. During flight, the missile executed a pre-planned way-point maneuver before approaching the target, an Mk33 sea-powered target.

The missile's radar seeker searched the target area, acquired and guided the missile to the target. After flying over the small target, the missile performed re-attack maneuvers until the missile ran out

of fuel. The Block 1D improvements include guidance software changes that will allow the improved Harpoon to re-attack a target by flying a cloverleaf-shaped pattern if the missile does not hit the target on the first approach.

In addition, the block 1D Harpoon has a 2-foot fuel tank extension that approximately doubles the range of the current Harpoon Block 1C missile.

Two more Block 1D Harpoon test flights are planned before the end of the year. Upon completion of the flight test program and certification, the Navy plans to retrofit Block 1D system upgrades to many Harpoon missiles currently in inventory.

McDonnell Douglas Missile Systems Co., a division of

McDonnell Douglas, has produced the Harpoon since 1975. McDonnell Douglas Missile Systems received a \$9.8 million contract in 1989 to develop and implement Block 1D improvements.

Harpoon can be launched from aircraft, surface ships, submarines and mobile land-based launchers.

Other Harpoon variants include the Standoff Land Attack Missile (SLAM). SLAM combines the Harpoon airframe with a new guidance system to allow precision strikes against land and ship targets.

McDonnell Douglas Missile Systems builds the Harpoon and SLAM at its production facility in St. Charles, Mo. McDonnell Douglas has produced more than 100,000 guided missiles for the Department of Defense.

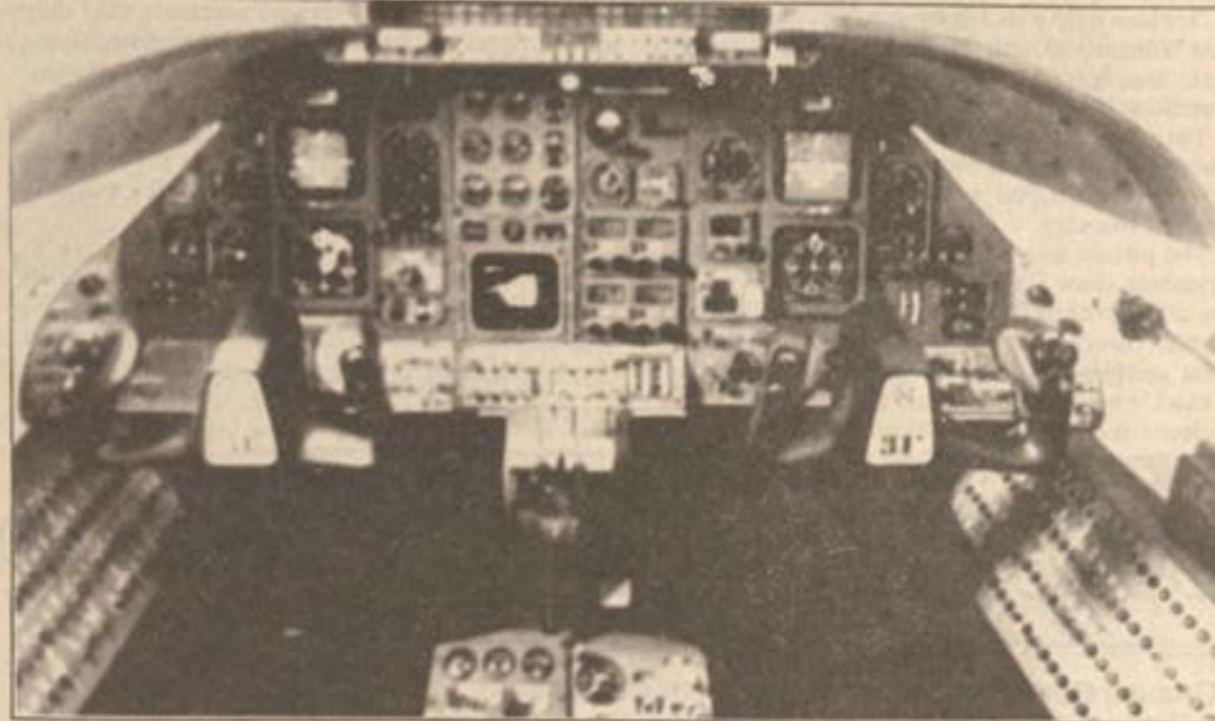


photo courtesy of Learjet

Lookout analog . . .

This Learjet 31A features latest state of the art Bendix/King avionics as standard, making it the best equipped light jet on the market today.

Learjet 31A completes certification process

Learjet's newly certified, high performance Learjet 31A makes its first NBAA appearance today at Ellington Field. A fully operational cockpit mockup is also on display in the Learjet exhibit at George R. Brown Convention Center.

Brian Barents, Learjet president and chief executive officer, said that interest in the Learjet 31A has been phenomenal since it was announced a year ago. Since receiving FAA certification, the company has been pursuing certification in Brazil, Germany, Canada and several other

countries.

Barents emphasized that the Learjet 31A is the best equipped business jet in this segment of the market, featuring new state-of-the-art, digital Bendix/King avionics.

Included in the new standard avionics package are dual KFC 3100 autopilot-flight directors, a five-tube EFIS, Series III radios and dual Mode S transponders. The KFC 3100 system is a digital, three-axis autopilot flight director system with controls conveniently mounted on the glareshield.

The 31A retains all the in-flight handling characteristics of its forerunner, the Model 31, including high-speed/high altitude stability, docile slow-flight control and lower landing speeds. Single-point refueling is standard on the Learjet 31A.

Speed of the Learjet 31A has been increased to .81 Mach. V_{mo} is 325 KIAS. Other improvements include a re-engineered flight deck display and control panels, a digital nose wheel steering system, an electrically heated windshield and new adjustable cabin seats.

Embraer delivers two additional Brasilias to commuter Comair

Embraer-Empresa Brasileira de Aeronautica S/S delivered two EMB-120 Brasilia regional airliners to Cincinnati, Ohio-based Comair Inc. on September 30, 1991. These latest deliveries pushed Comair's Brasilia fleet to 29 aircraft and were the first financed by the new export financing scheme supplied by Banco do Brasil under the Proex program.

Comair is the Embraer customer with the single largest commitment for the Brasilia - 80 aircraft (40 orders plus 40 options). It originally ordered the Brasilia in September 1987 and received its first aircraft of this type in November the following year, putting it immediately in operation in the Orlando, Florida, route network in support of the Delta Connection System as part of its agreement with Delta Air Lines.

To date, Embraer has delivered 232 Brasilias to 21 airline customers in 14 countries. This fleet has so far clocked over 1.3 million flight hours and 1.45 million landings, having carried in the same period more than 20 million passengers. Average fleet monthly utilization is currently 40,000 flight hours and 45,000 landings.

The EMB-120 Brasilia is the best-selling commuter-liner in category with 480 aircraft marketed worldwide. It seats 30 passengers in a comfortable 7 psi pressurized cabin with a three-abreast layout at 79 cm (31 in) seat-pitch. It is also the fastest aircraft in the category, with a maximum cruise speed of 583 km/hr (315 kts) at 7,620 m (25,000 ft), and lightest turboprop transport in the market today at a maximum take-off weight of 11,500 kg (23,353 lb).

A hot and high version of the EMB-120 Brasilia, powered by Pratt and Whitney Canada PW118A engines with an output of 1,800 SHP up to 42 degrees Celsius at sea level, has been available since late 1986 and an improved version, designated EMB-120ER (Enhanced Range), will become available late this year.

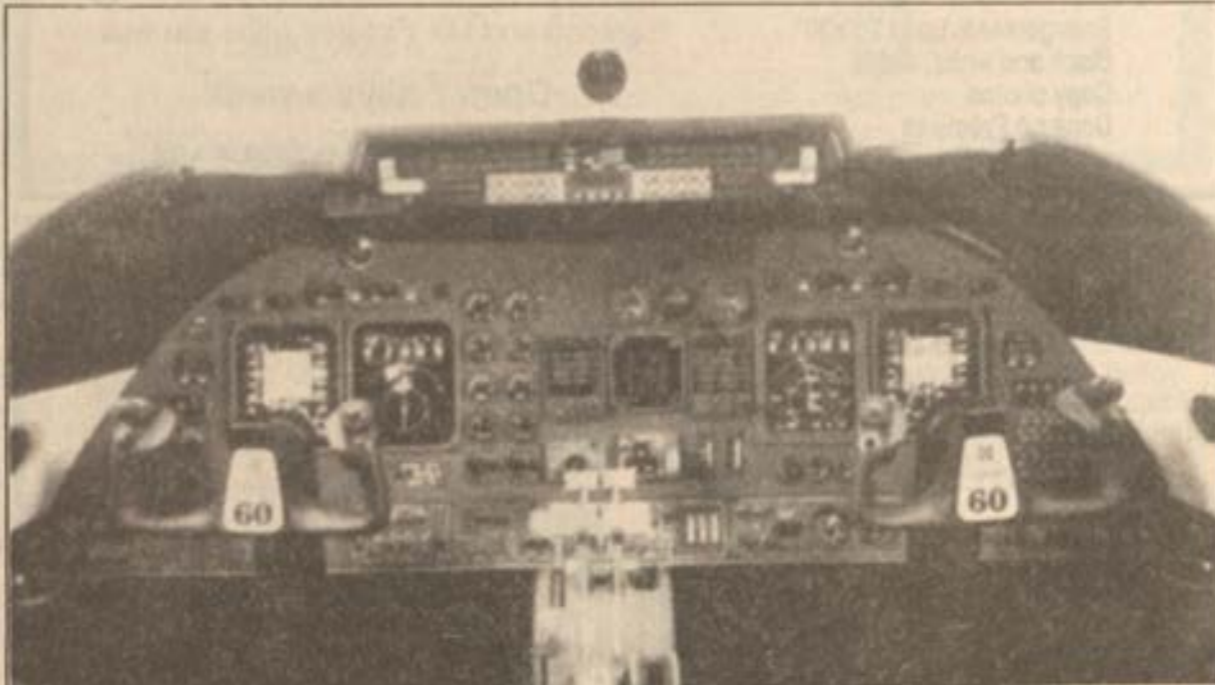
The EMB-120ER Brasilia will have a full-passenger payload range of approximately 1,666 kilometers (900 nautical miles) as compared with the standard Brasilia's 926 kilometers (500 nautical miles). The aircraft will be able to fly four 185 kilometer (100 nautical miles) sectors without refuelling as against three in the basic Brasilia.

This extension in range was obtained by increasing the aircraft's maximum take-off weight from 11,500 kg (25,353 pounds) to 12,000 kg (26,455 lb.) and was attained without any major structural or aerodynamic modifications to the basic airframe.

The EMB-120ER variant is an answer to the requirement by some customer airlines to fly longer routes and also makes up for growth in the aircraft's basic operating weight to cope with new certification rules.

These require an increase in allowable passenger/baggage weight from the present 91 kg (200 lb) to 97.5 kg (215 lb) and the adoption of new equipment such as flight data recorder and traffic/collision avoidance system.

Current Brasilia operators will be able to bring their aircraft up to EMB-120ER standard through a retrofit program that will be offered by Embraer.



Active flight controls . . .

This Collins EFIS-84 has been certified aboard the Beech 1900D regional aircraft. It is an avionics package including a four-inch EFIS, dual flight directors and weather radar.

Beech 1900D gets certified for full EFIS

HOUSTON - EFIS-84 Electronic Flight Instrument System manufactured by Collins Avionics, Rockwell International Corporation, has been certified aboard the Beech 1900D regional airline aircraft.

The latest Collins EFIS offering, the four-inch EFIS-84 is standard equipment on the Beech 1900D and

was also named today as standard equipment on the newest Beech King Air model, the C90B.

An EFIS-84-equipped Beech 1900D will be featured as part of the Beech static display at Hedrick Beechcraft at Houston Hobby Airport.

With the capability of Collins five and six-inch EFIS, the compact EFIS-84 provides CRT display of electronic attitude director indicator and horizontal situation indicator functions.

Weather radar is integrated with the navigation map for a total look at the aircraft's navigation situation.

Asteroid photo a boost for Galileo's troubled mission

PASADENA, Calif. (AP) - The technical wizardry that let the Galileo spacecraft take the first closeup picture of an asteroid raises hope NASA can fix an antenna that threatens to cripple the \$1.4 billion mission to Jupiter.

"It's been quite a shot in the arm," said William J. O'Neil, Galileo project manager at NASA's Jet Propulsion Laboratory.

The spacecraft's first black-and-white photo of Gaspra, taken from a distance of 10,000 miles, was released Thursday.

The picture and two unreleased snapshots show Gaspra looks like the crater-pocked "head of a salamander crawling out of space, of a great interplanetary ghou or maybe a shark's head," said Michael J.S. Belton, a Kitt Peak National Observatory astronomer working on

the Galileo project. Galileo was launched from space shuttle *Atlantis* in 1989. It is studying Venus, Earth and asteroids as it loops toward a 1995 rendezvous with Jupiter, the solar system's largest planet.

But the spacecraft's 16-foot-wide, dish-shaped main antenna failed to fully open in April, threatening to cripple the mission by reducing the promised flood of pictures and data to a trickle transmitted by a smaller antenna.

So when Galileo flew 995 miles from Gaspra on Oct. 29, it tape-recorded its snapshots for later transmission to Earth. Officials planned to order

Galileo to send the photos as the spacecraft approaches Earth in November 1992, or earlier if the main antenna was fixed. Repair efforts are planned during the next three months.

But engineers navigated Galileo to Gaspra so precisely that they knew exactly which photographic frames contained images of Gaspra. That let them transmit the photos through one of Galileo's smaller antennas, a process that took 80 hours spread out over a week, O'Neil said.

"Wow!" said Torrence Johnson, the Galileo project's chief scientist.

Asteroids are believed to be fragments that failed to clump together to create a planet when the other planets formed 4.6 billion years ago. Located in a belt between Mars and Jupiter, many asteroids were broken into smaller pieces as they collided with each other.

That is believed to be what happened to Gaspra, which measures about 12 miles by 7.5 miles by 7 miles, said Joseph Veverka of Cornell University.

Veverka said craters on Gaspra range from about 200 or 300 yards to 1.25 miles across. Its two large indentations, which measure about 5.3 miles and 3.3 miles wide, probably were excavated when big pieces of the asteroid were whacked off during collisions, he added.



On its way... The five-member STS-34 crew deployed the Galileo with in six hours of achieving Earth orbit on Oct. 18, 1989.

But the spacecraft's 16-foot-wide, dish-shaped main antenna failed to fully open in April...

When scientists saw the first picture Sunday, "we just went crazy," he said. "Everybody's first reaction was the same:

Space News...

Gamma Ray Observatory blows theories sky-high

The Burst and Transient Source Experiment aboard the Compton Gamma Ray Observatory has detected over 100 gamma ray bursts that cannot be explained by any presently held theory concerning their origin. The findings from the satellite, which was placed in orbit in April, indicate that the source of the bursts could be small, exotic objects very near the solar system or vastly distant events with more energy than that associated with supernovas.

Total Ozone Mapping Spectrometer sends bad news

Early data from the Total Ozone Mapping Spectrometer aboard the Nimbus-7 satellite indicate that ozone levels over the Antarctic measured on October 6 reached the lowest values ever recorded in the study's 13-year history.

NASA splits Office of Space Flight after study

Following recommendations made by the Advisory Committee on the Future of the U.S. Space Program, NASA Administrator Richard Truly shuffled both programs and staff. The new Office of Space System Development will supervise development of the space station, the National Launch System and other new developments.

DirecTV satellite to be launched by Arianespace

The Hughes DirecTV satellite will be launched by Ariane 4 in Dec. 1993 from the Kourou Space Center in French Guiana. The advanced satellite will deliver news, sports, movies and specialty television programming directly to households equipped with receiving antennas.

EOS-A changed to a three-platform system

Lennard Fisk, NASA associate administrator for space science and applications, announced that the first Earth Observation System (EOS-A) will be divided into three platforms. A launch vehicle will not be chosen until the determination is made as to what instruments need to be flown together to most effectively gather global climate change data.

Private rocket manufacturer takes off

by Roland Houle
Space Technology Editor

In the Chandler farmlands, a rocket manufacturing plant buzzes with activity, plotting the future of commercial space flight.

"My dream is that our firm, and others like it, will be the ones that build the 'starship' the USS Enterprise," says Scott Webster, president of the Space Data Division of Orbital Sciences Corp.

Webster's not being flip about his dream. He firmly believes the era of public space exploration is behind us.

"The tide, the whole environment has changed, and the government space program has plateaued."

Webster and two partners founded Orbital Sciences nine years ago in Fairfax, Va., to take advantage of emerging space technologies. They bought Space Data, which was founded in 1963, three years ago because of its extensive manufacturing capabilities.

Despite the impressive growth over the past three years, Orbital Sciences is dwarfed by the big aerospace companies.

However, Orbital doesn't consider itself an aerospace company because it's not in the aviation business and because it serves a niche

market using relatively small launch vehicles.

"We're the first ever pure space company," Webster said. "We're the first to bring private capital together in a big way."

Webster and his partners conceived the idea of a commercial space company while earning master of business administration degrees at Harvard in the early '80s. The idea was the topic of a group mini-thesis they wrote for the National Aeronautics and Space Administration.

But with the era of publicly funded space programs all but behind them, the trio decided to start their own company. In 1982, they made a break from their jobs and started Orbital Sciences.

In addition to borrowing on their credit cards, the entrepreneurs turned to "wealthy space enthusiasts," oil and real estate speculators who contributed \$300,000 in seed capital. A group of venture capitalists also contributed \$2 million to the start-up.

In 1983, the company raised \$50

million through a limited partnership. Among the partners were Martin Marietta Corp., United Technologies and Lockheed Corp., which served as technical managers.

Orbital went public in 1990, two years after buying Space Data.

"We had very sophisticated marketing and financial departments," he said. "They had built very sophisticated design and fabrication facilities. ... Space Data was a perfect fit."

Since the acquisition, Orbital has launched several high-profile rockets. Most impressive was its 1990 launch of an experimental Pegasus rocket.

"Our job is to drive down the cost of going to space so that others can go there," Webster said. "It (space flight) really has to be put on a commercial footing."

Of every \$1 spent on space programs, 90 cents comes from the government. The other 10 cents is spent commercially, "a fast growing sector and one we hope to capitalize on," Webster said.

Orbital ran into trouble last sum-

mer when two of its rockets veered off course and had to be destroyed. One of the rockets was insured, and the loss from the other was absorbed by the government.

Although the failures had no financial impact on Orbital, "it's the primary thing that shook our investors," Webster said.

Robertson continues to recommend Orbital's stock. In an Oct. 14 research report, he said investors should take advantage of the lower stock price by buying now. He maintains the stock is attractive because the company:

- Appears to have worked out its rocket launch bugs.

- Is well positioned to capture \$125 million to \$400 million in new business over the next three to five years, plus new contracts for its Pegasus rocket.

- Is close to winning Federal Communications Commission approval for its global messaging system, called Orbcomm.

The most immediate windfall for the company, though, stems from the Strategic Defense Initiative.

"They'd love to do the commercial (work), but what's here and now is targeting SDI missiles," Robertson said. "Someone has to produce the vehicle to do that, and Orbital seems to be that someone."

"Our job is to drive down the cost of going to space so that others can go there," Webster said. "It (space flight) really has to be put on a commercial footing."

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Tired of mysterious computer problems, there is a solution

by Joe Cambron
Data Tech Editor

Is your computer acting a little strange? Does it lock up at strange times? Does the hard drive often get obliterated after a casual reboot? Does your mouse seem to send signals to your modem? All of these things are common problems for an IBM computer, but thankfully most have simple solutions.

Hard Drive FAT Failure!!!

Two things are most often the cause of this unfortunate turn of events. The first cause has been with us since the days of the first hard drive. Many people know of it as a head crash. This occurs when power to the hard drive is interrupted while it is reading or writing, causing the heads to fall and dig into the disk surface like a rocket landing in sand.

This can cause data loss anywhere on the disk, but since the FAT (File Allocation Table-An index and map of stored files) table is accessed once for every read or write operation, it is the most likely area to be damaged. Destruction of the FAT table is akin to destroying the index and table of contents of a 2,000 volume set of encyclopedias. The data is still there, but it cannot be found in a reasonable amount of time.

A second cause of FAT failure can be a write cache. PC-Cache from PC-Tools and other hard drive caching programs (not Smart Drive from Microsoft) offer write caching as well as the usual read caching. Most of these write caches are not automatically implemented, but promise and deliver dramatic performance increase for your computer.

The problem is that every time the computer is turned off, data may have been left in the cache that had not been physically saved yet. This can cause the loss of some work in the form of a document or an image, or

even the whole file if periodic saving of the file was neglected.

The worst effect that can be caused here is the inadvertent destruction of the FAT table. The FAT table may be modified in the cache but not physically. If the computer is rebooted before the cache is purged of data, the FAT table will be fried. QEMM is a notorious cause of this problem because of its auto-reboot feature.

Solution

Often the FAT table can be saved in either of these scenarios by *Norion Utilities' Disk Doctor*, however, it is far from a sure thing. Often Disk Doctor will mull around your hard drive for hours, leaving the entire contents of your disk in one big file. It is your option before reformatting, though.

Locking Up

This problem frustrates all computers that are not fault tolerant. This includes Apples, IBMs, HPs, and Amigas. In the IBM world, this problem usually results from several completely different causes.

The most uncontrollable of these is damaged program code. Damaged files may look perfectly fine, but inside a bit has been mistakenly changed leaving the program in an endless loop.

Another cause is a simple memory conflict. This can happen when one program overwrites part of a program that is already in memory. Programs like mouse drivers, memory managers, scanner drivers, ANSI drivers, SCSI drivers and other programs that run constantly (and supposedly in concert with other programs) can result of overwrites.

The only solution to this problem is to try different combinations of device drivers in hopes of finding the problem driver. Once you have found it, call the manu-

facturer and explain your problem. Perhaps they can help you.

Windows is notorious for locking up, but so many things can cause this to happen that finding the cause is nearly impossible. The most likely thing is simply running out of memory. *Windows 3.1* should cut down on the lock-ups.

Stop Interrupting Me!

Interrupts are the method through which processor controls its peripherals. Some are as basic as the computer's clock. Others run the floppy drive, the hard drive, and all the expansion cards. Mouse echo over the modem is caused by having duplicate interrupts.

COM1 should use IRQ4 (Interrupt Request Query #4), while COM2 should access IRQ 3. Echo can be caused by either two peripherals using the same port (COM1, for instance) or the same IRQ because a port is mis-

configured. Interrupts can usually be set on the serial card through the setting of switches or jumpers.

The port used by the device must match the port designated in the software. Mouse programs usually take the form of MOUSE 1 or MOUSE 2, with the number referring to COM1 and COM2. Modems need to be similarly configured through the software they use.

If you have trouble printing, it is also possible that a printer port exists on your video card and on your serial card. If this is the case, one must be disabled. Read the documentation for each card to determine how. As your case becomes filled with cards often the same interrupt is duplicated on two devices like a scanner and a joystick port. This can cause a lock-up when one of the devices is accessed. The solution to this is to read the card's documentation and manually reset the IRQ set-

tings so that they are different from anything else. Here is a list of IRQs and which ones are available:

For AT computers ONLY:

- IRQ 00 Timer (Do not use)
- IRQ 01 Keyboard (Do not use)
- IRQ 02 Restricted (Do not use)
- IRQ 03 Port COM2 (Do not use if COM2 exists)
- IRQ 04 Port COM1 (Do not use)
- IRQ 05 Port LPT2 (Use if second printer does not exist)
- IRQ 06 Floppy Disk (Do not use)
- IRQ 07 Port LPT1 (Do not use)
- IRQ 08 Clock (Do not use)
- IRQ 09 May be used depending on your system
- IRQ 10 Available
- IRQ 11 Available
- IRQ 12 Available
- IRQ 13 Coprocessor (Never use even if not in use)
- IRQ 14 Hard Drive (Do not use)
- IRQ 15 May be used depending on your system

XT computers have only eight IRQs making things even more difficult.

These hints should make your computer a little less frustrating. Never be afraid to open your computer up; and once you have, make sure you have a technical support number to call if you have problems. If you disconnect any cables it may seem easy to remember the way they were but IT IS VERY IMPORTANT TO MARK THE CABLE AND THE CONNECTOR so you can get your computer back into one piece. When reconnecting cables, remember which side of the cable is up, or mark it like you should have, and do not let any pins escape the connector.

If all else fails, lug your hunk of junk down to the nearest \$75 per hour Mystic Computer Repair Shop and take a beating in the pocketbook.

Secret Weapons of the Luftwaffe brings dogfighting dogma to WWII simulations

by Joe Cambron
Data Tech Editor

Lucasfilm has finally released another in its World War II trilogy of fighter and bomber games. *Secret Weapons of the Luftwaffe* has now arrived on store shelves after a long wait, but it worth the wait?

Secret Weapons is the follow-up to *Their Finest Hour: The Battle of Britain*. While this game keeps the same general theme as the previous one, it offers many new options that were included previously.

Gratefully, Lucasfilm does not stoop to numbering its new releases of this game, which could conceivably leave this one entitled *Their Finest Hour 3.0*. Instead of numbering them so users may count the

number of times they have had to buy a new version, Lucasfilm has brought more than just cosmetic changes to each game in the series, while at the same improving them to keep up with technology.

This game adds the additional theme of the Luftwaffe's secret and highly developed aircraft to the European Air Theater scenario. These aircraft include flying, flying wings-as opposed to certain sort-of-flying, flying wings which cost \$1 billion each. Also, the Luftwaffe's sleek, but not very fuel efficient jets are included in a battle of wit with 1940s technology.

1940s technology, however, when viewed through 1990s technology. "Stunning VGA graphics" live up to

their billing, improving on what were already superb graphics in previous versions of the game. The explosions are particularly awesome, especially so when Soundblaster digitized sound effects are used with the game.

One of the most fun things to do in the game, although somewhat perverse, is to change to the German side. From there choose an ME-262. Next, pick a mission from the newly lengthened list that involves attacking B-17 formations.

Now you are almost ready. Set damage to none, and ammo to unlimited (virtually necessary if you are not very experienced).

What follows is a real blast. As

your jet swoops down on the not-to-defenseless B-17s, flack plows into your invincible airplane. As pieces fly off you near the B-17s. Now it is time to slow down from your 500 MPH dive and apply the flaps after throttling back. At a leisurely 200 MPH, your aircraft is at a good speed for firing on the huge B-17s. If possible, get a second person to man the keyboard, while the other uses the joystick. This simulates the effect of a weapons specialist on board the aircraft (not that you will need one with damage set to none).

Now, arm your rocket packs and get ready for the time of your life.

With a flick of the ENTER key, a stream of rockets probe ahead into a sky littered with flack and smoke.

If you are unlucky, a single rocket will probably tear part of the wing off one of the lumbering B-17s, but if you are lucky the B-17s will disintegrate into a fiery ball of smoke.

You can not enjoy your victory very long, though, particularly if your aircraft is on regular damage, because evasive action will probably be necessary to avoid the falling debris from the recently shot aircraft. If you are low enough, the smoke from your guns may also alert enemy ak-ak gunners to your position, placing your German bird in a hail of flack.

Whatever the outcome, this sequence is one of the most enjoyable in all of flight simulating, and is grudgingly worth the wait con-

sumers have endured over the last year.

The game includes a career function to allow your character to fly along through the war that should have ended all wars.

The only thing missing from the game is a little more customization in the area of weather conditions. It may be just as well, however; even in a real war pilots do not get to pick the weather.

The game even features a wonderful camera feature which allows you to capture your greatest victories and your saddest defeats.

All in all, the game is worth a reasonable monetary investment at your local software store. (The game rates **** out of *****).

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Christian Fellowship

by *Jeffrey L. Canterbury*
Public Affairs Correspondent
Are we having fun yet? The answer to that question is definitely a yes. So far, this semester has been a tremendous time of growth for the group. We have already had a trip to St. Augustine, played miniature golf, and went bowling. And, believe it or not, there is still more to come!

On the November 9, we took a trip to Starlite Bowling alley in Ormond Beach. It was a night of terrific fun. We wished that more of you could have joined us, but we do understand about that "outstanding" academic workload.

There will be plenty of other fun

events approaching in the future. We have scheduled a time for Mrs. Sliwa, the wife of the new ERAU president, to come speak to the group. We are looking forward to hearing her speak, and we know that you are too.

Anyone reading this article: Please, feel free to stop by one of our meetings. We meet on Saturday evenings at 6:30 p.m. (for any of you in ROTC, that's 1830), in the Student Conference Center, which is across from the information desk in the University Center. If you have any questions, call Jon or Steve at 238-3321 or Katie at 253-6125. We are hoping to see you there. Have a great week and God Bless!

Sigma Chi

by *Michael G. Tomlin*
Chapter Editor

Few things in my life have managed to bring tears of joy to my eyes, but when I saw the 70s cool scene at the Trash Disco Party, I broke down and cried like a spring bride. It's almost too much for words when I think about how suave and dapper (dare I say...red hot!) many of you looked on that dream-come-true evening. No doubt the Zetas from Stetson were highly impressed with the sight of our polyester attire and flowing pork chops. My only wish is that I could've stayed conscious long enough to see the glorious night in its entirety. If you missed the occasion, you missed a tidbit of nirvana. But fear not, those who are late bloomers into the highest realm of coolness, that of vinyl sportcoats and pointed oversized collars, will

get their chance next semester. For any social chairman in his right mind will throw no less than two 70s parties per semester (hint, hint). Let's not continue without thanking brother Craig for the opportunity to experience such a wondrous event (except for that plastic bottle, rotgut Yankoo tequila).

Pledges, I understand you have quite a weekend approaching. Hmm... what could you possibly have in store for the demanding needs of the brothers. Need I remind you that your very existence as a pledge class teeters on the outcome of this weekend's events? Be prepared to dig deep within your psyche to discover the solutions to many of your problems. I and others will try and focus positive energy in your direction... do something with it. Peace and guidance.

S. C. A. T.

by *Americo G. Malera*
Club Secretary

The trip to Kissimmee is set for this Sunday. Consult the bulletin board for further details. We will have the opportunity to see a Corsair which is undergoing restoration. There will also be a B-25 and possibly B-24 Liberator there, along with

numerous other other aircraft. The answer to last week's question is: Air in a hydraulic system causes spongy or jerky movement in the actuation unit.

This weeks question: What percentage of an aircraft's total breaking do thrust reversers make up?

Arnold Air Society

by *Brian Dudas*
Public Affairs Officer

The members of the Gill Robb Wilson Squadron joined AAS squadrons in over 167 schools nationwide this past weekend in a candlelight vigil in honor of the POWs and MIAs of foreign wars. The ceremony began at noon on Sunday, when the membership raised the POW flag under the American flag on the ERAU flagpole. For 24 hours cadets guarded the flag until noon on Monday, Veteran's day. Officers from the Air

Force ROTC detachment stood alongside the AAS membership as Taps was played as a final remembrance for those who lost their all. Arnold Air hopes that through commitment to honoring the POW/MIA, they truly will never be forgotten.

Congratulations are also due to all the members of the society who banded together to win the coveted Spirit Award for Homecoming 1991! Great job, keep up the spirits! Pledges, keep studying for Formals, your last big step to membership in the Arnold Air Society.

Surfing Club

by *Aaron Grose*
Club Writer

At last weekend's NSSA Sun Glow contest the ERAU Stormriders all surfed exceptionally well. With the water temperatures in the very low 60s and the air in the crisp 40s in the morning hours, this contest was for the hard-core at heart. Surf conditions were 3-4 feet glass with offshore winds. ERAU placed fourth as team out of 13, beating FIT, PAU, UNF, U of F and UCF! Outstanding performances were given by Harold Knopp who placed 5th in the final. Jason Walker placed 4th in his semifinal while Von Steimetz placed a 4th as well in his quarterfinal. Also advancing out of their preliminary heats were Sean Martin and Dave Allen. And the "Barney award of the week" goes out to Lee Major who was knocked out in the first round of competition. Finally, in the "sponge" competition, Roger Cabral also made it to the bodyboard final once

again. Not too bad for a bunch of surf bums.

And now for something completely different.

THE TOP TEN REASONS WHY CHRIS SKABO HAS NOT PAID HIS DUES YET

10. He's a Socialist and thinks that the Government should subsidize his dues.

9. Saving money for a haircut.

8. He's from California.. what do you expect?

7. Spent the big ten-spot on a babe.

6. He's saving up for next semester's dues.

5. Forgot to bring a pen with his checkbook.

4. Went out and bought Sex Wax.

3. Saving money for a 69 VW bug.

2. Spent it in Plant City.

1. Sent his money for dues to the Jeff Spicoli Fan Club.

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) 226-6079.

Theta Phi Alpha

by *Traci Lords*
Public Relations

Time is winding down, there are only about two weeks of classes left. So, lets all hit the books, the library and come out with a 4.0! Some of us (Babs), its time to start attending class! The Pledges took the National Test this past weekend. We had some rather extraordinary fun with them afterwards. Yes, girls you do have to drink that!! Deb and Mil - GREAT JOB!! Also, thanks to our faculty advisor, Katherine Wilson, for her participation.

Jeanne-stay healthy, nobody really wants to make anymore hospital visits. Thanks to Alpha Eta Rho for the hayride we went on a few weekends ago. We are all definitely aware that Babs is the oldest @#%*#@% sister!!! CONGRATULATIONS to Erica for receiving the I.F.C. Scholarship!!!! If she can do it, anyone can-not. Hope everyone who attended the brunch had a good time. Enjoy your week, girls! The American Dental Association recommends Crest Tarter Control Gel, so does Coppertone!

Alpha Eta Rho

by *Matt Hopkins*
AHP Historian

Good day everybody. This is your historian coming to you with another news flash. Listen carefully.

The pledge-brother party last weekend was outstanding! What a wonderful idea. Let's make it a mandatory annual function. Squeezers, that's all that I have to say, skeezers!

Congratulations to all who did

well on third interviews. There is only one week left so I'm sure you will all hang in there. Congratulations to Sam and Rich on their first solo flights. A special thanks is extended to Vintage Props and Jets for hosting the pledge class project.

Someone please tell me how the Tallahassee trip was. I would sure like to know. Until later my brothers, word!

Lambda Chi Alpha

by *Nicholas Colella & Marc Fisher*
Fraternity Writers

Hey! Hey! Hey! Sorry about not having an article in last week, but we've got lives too. This past Monday was the brother vote and we want to congratulate all the A.M.s that made it. This week will be one of the most remembered times of your life, so keep your eyes and ears open. For the A.M.s that didn't make it, don't get discouraged and stick around.

Last weekend we had a lot of our Alumni show up for Homecoming. We should all thank Nick, Murf and the Sheen for allowing us to trash their place with spilled beverages and a hell of a lot of popcorn. They still need a vacuum, Bob!!! Thanks to the A.M.s for putting on that great B.B.Q. at the pit. Everyone had a good time, even John Clark was there. Thanks also for that board.

We have an ad to go in this week's article. For Sale:1982 Honda Accord, Super-Super Compact, need minor body work, nice rear windshield wiper. Real cheap. Contact Brent at 555-2337-that's 555 BEER. Sports. Well we have nothing

much to say about sports because I don't feel like it at the moment.

The designed drivers for this week are: Dan "crash" Corbett, Luke "Tony the Tiger" Calhoun, Keith "B.A." Zacherl, Jeff "Homeboy" Reis and M.J.

The Top Ten list this week comes from a special Alumni. Thank Tay.

The top ten things that went through Brent's mind right before impact.

10. Hope I don't spill my beer.

9. I wonder if we can drink from kegs in Heaven.

8. If Dan dies, do I get a 4.0 for the semester.

7. I wish this damn car had airbags.

6. This stuff doesn't happen if you drive a moped through the U.C.

5. Maybe I won't have to take the performance final now.

4. I hope there's beer in Heaven.

3. I hope there's beer in Hell.

2. Looks like we get to go to exec. again.

1. I've never really told Dan, but I love him.

Only 25 days until Van Halen. Jealous?

Army ROTC

Army ROTC would like to extend praise and congratulations to the Ranger Challenge Team for their success at a competition held on November 1-3. Embry-Riddle placed first out of nine teams from Florida. The competition, held at McDill Air Force Base, included six events: marksmanship, grenade assault course, Army physical fitness test, rope bridge, M16-M60 assembly, and the capstone event - a 10k run with fully loaded military equipment. The team has been training since early in the semester and it has unmistakably paid off. The entire Eagle Battalion is proud of the Ranger Challenge Team for their

mastery of military skills and physical stamina.

The following cadets comprise the team: Scoot Barton, Marc Boise, Brett Cantor, Steve Charmon, Dean D'Ambrosio, Dallas Keller, Ray Meadows, Eric Pevey, David Rouse, Gordon Schmidt, David Smith (Team Captain), Jorge TineroFlo.

The team will continue vigorous training in preparation for the 5th Brigade championship on November 22-24, to be held at Camp Blanding, FL. This competition will involve the best trained teams from FL, Ga, and Puerto Rico. Good luck Ranger Challenge!

Riddle Riders

by *Jeff Hall*

The Riddle Riders 8th Annual Road Rally will be held this weekend. The main event will be a 80-100 mile Poker Run. The proceeds will benefit the Motorcycle Safety Advisory Council of Volusia County. Prizes have been donated by 12 local motorcycle shops. The rally will start and finish at ERAU with prizes and trophies awarded at the bar-b-que afterwards. What is a poker run? A poker run is a mapped out ride with 4 or 5 check points along a route. At each point you get a playing card. When everyone gets to the end, the person with the best poker hand wins. Speed is not important and there are prizes given out for different categories, so everyone has a chance to win some-

thing. Poker runs are a popular way for local motorcycle clubs to raise money for charities (like the toys for tots run and the Muscular Dystrophy run). Some runs get over 200 bikes participating. The Riddle Riders invites all ERAU students and faculty to attend this event, for more info contact Jerry at 761-1734.

Next week we will be leaving from the triangle parking lot with a "Key West or bust" sign on our bikes. We will join the Scuba club, and the Windsurfing/Sailing club for Thanksgiving turkey at the KOA camp ground on Sugar Loaf Key at the 20 mile marker. We will be thinking of everyone who went up north to freeze; not. If you are in the area over the holiday, drop on by.

Safe Environment

AN APOLOGY.

LAST WEEK'S "SAFE ENVIRONMENT" WAS NOT PUBLISHED DUE TO FORCES BEYOND OUR CONTROL. THIS IS A SCENE FROM THE STUDIO.



THAT'S RIGHT, FOLKS. THE STAR-TREK ANTI-DEFAMATION FRONT SNUCK IN, TIED UP THE STRIPPER, AND TRIBBLE-TREED HIM.



IF ANYONE WOULD LIKE ONE OF THESE LOVABLE PETS, STOP BY THE AVION. PLEASE HURRY, THOUGH. IF YOU DON'T GET THEM, MORRISON'S DOES!



THE AVION

RECOGNIZES STUDENT EMPLOYEES

We tell you what's going on, we enflame your sensibilities, we entertain you. The editors and staff of the Avion would like to thank all the Student Employees on campus who take our calls, set up appointments for us with administrators et al, and help keep the University on its feet for little pay.

We would especially like to recognize our own message-takers, mail separators, and staff members, who are student employees and our office secretaries.

In no particular order: Jennifer Johnson, Len Laughrige, and Jack Pollard,

Thank you!

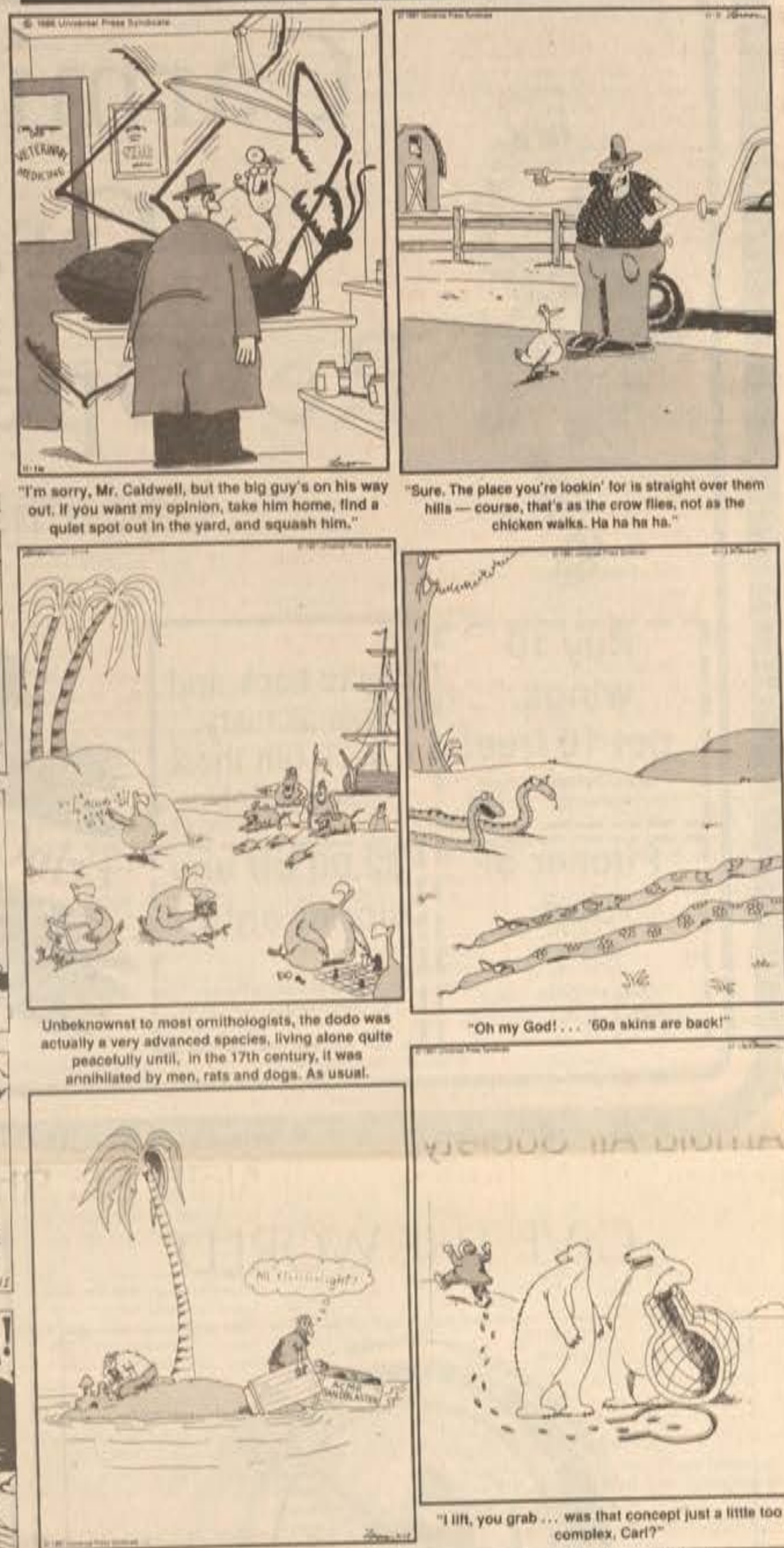
Calvin and Hobbes

by Bill Waterson



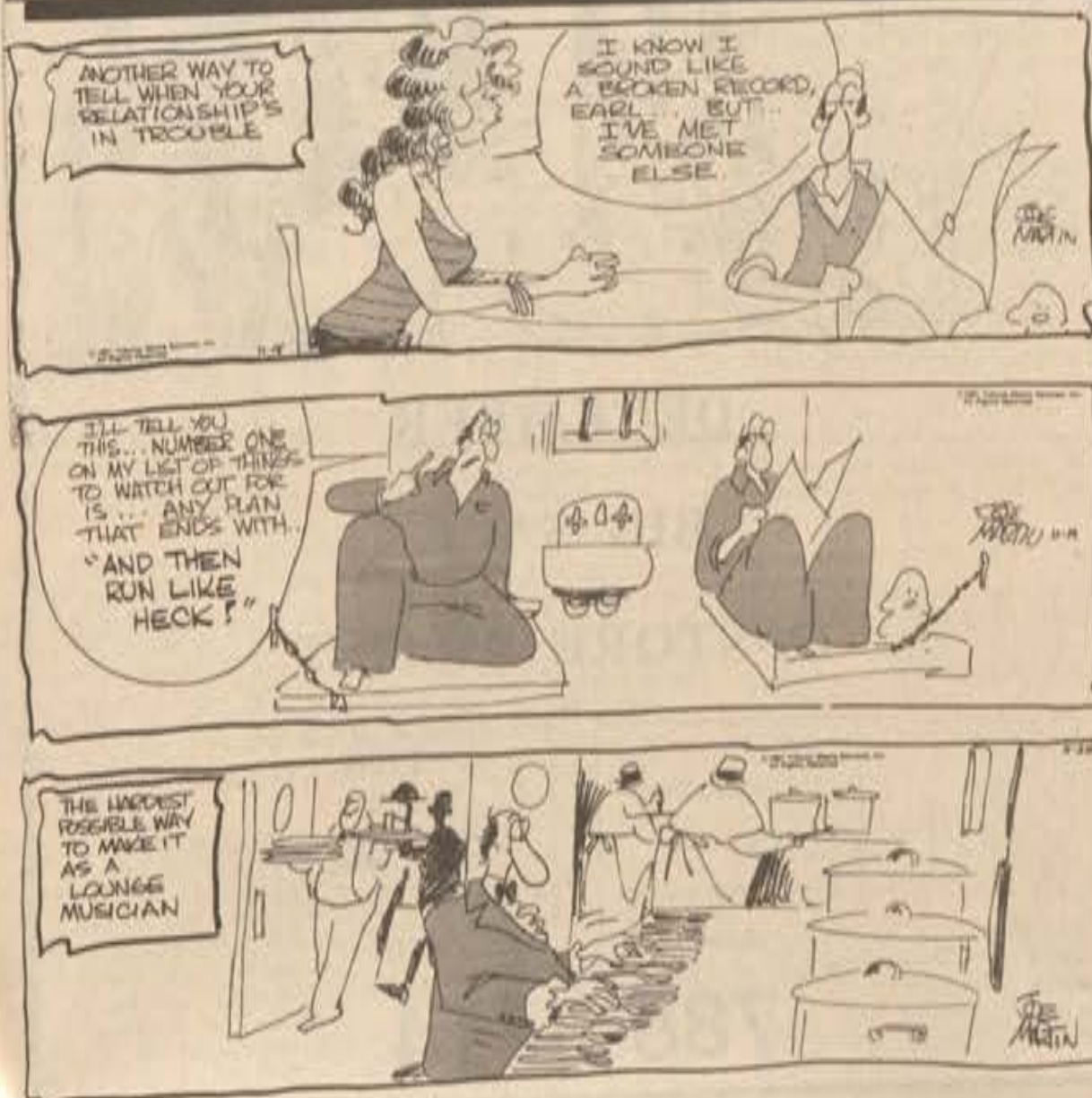
Far Side

by Gary Larson



Mister Boffo

by Joe Martin



Mother Goose and Grim

by Mike Peters



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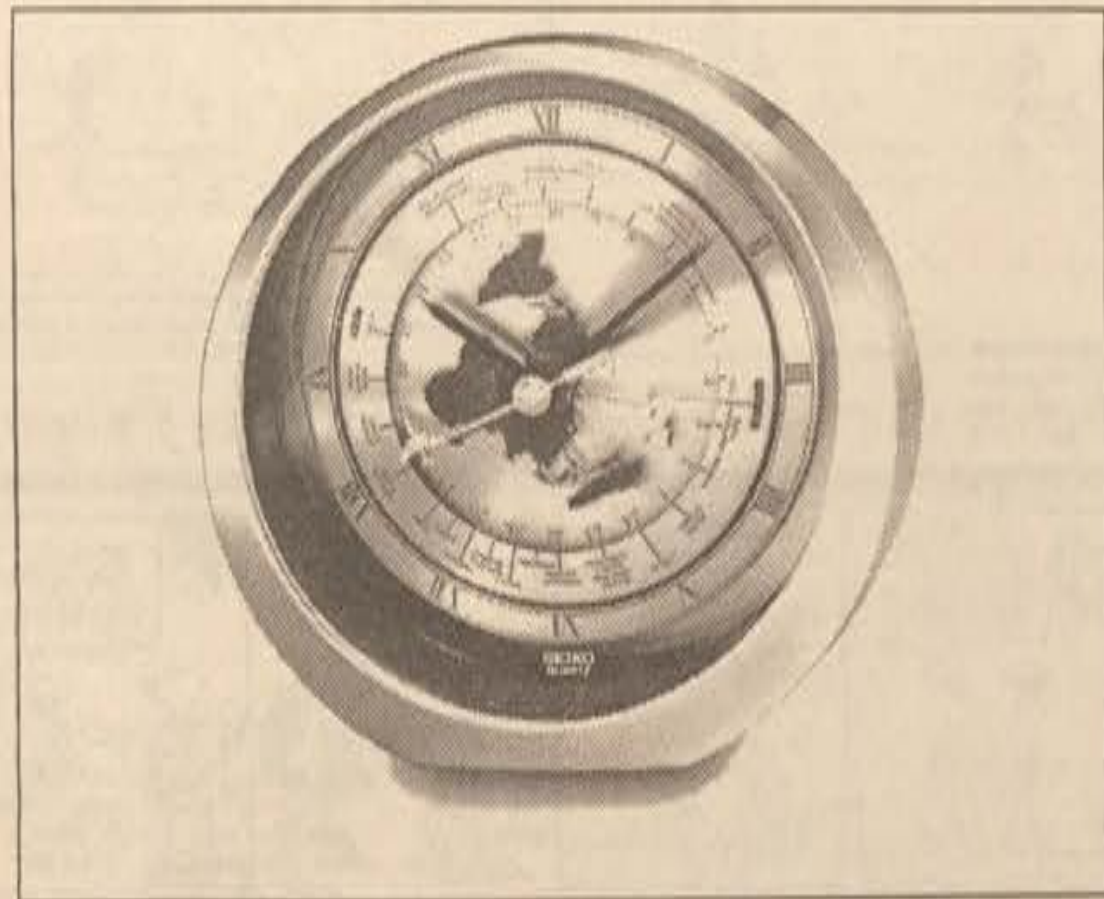


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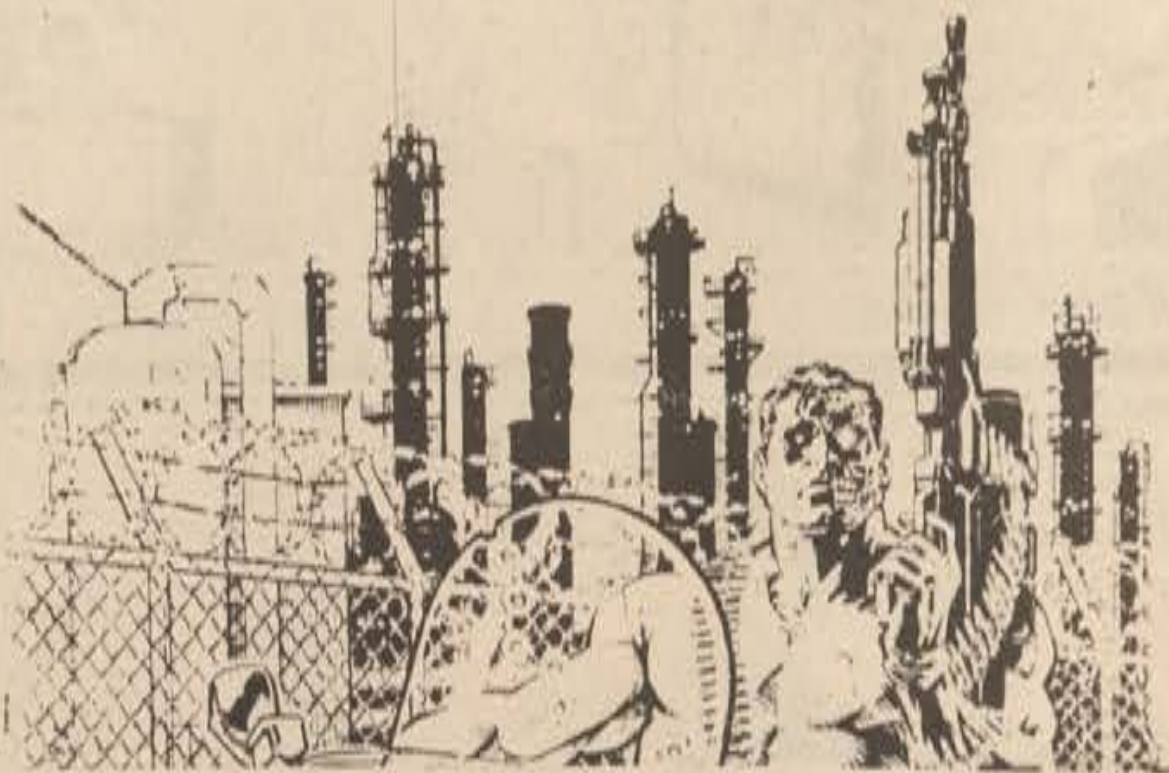
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All Nissan 240 SX Owners. I have a genuine Nissan nose mask (bra) that will fit all 89-90 models. I used it once! Paid \$105, will sell for \$70. Call Keith at 788-1240.

1980 Pontiac Sunbird 2.5L, 4 cyl, auto, sunroof, tilt wheel, new tires, exhaust, oil, filters, plugs. Priced to sell at \$500. Call Harry at 258-9688 or box 8863.

1990 Geo Metro, like new, air conditioning, 4 new tires, AM/FM stereo, cloth interior, 27,000 miles, \$4,900. Call Sue ext. 6950 or 437-1533 after 6 p.m.

1985 Pontiac Firebird, PS, PB, AC, V-6 fuel injected, 88,000 miles, blue w/ tan interior. New brakes, radiator. Call Jim (904) 252-6050, serious inquiries only please.

1971 Mustang Convertible, 76,000 miles, \$2,000. Call Craig at 255-8498.

1977 Buick Regal, runs fine, good engine, full automatic, PW, Power seat, blue color, asking \$375 OBO. Call after 1:30 p.m. everyday, Ahmed Arawahi, 761-4432.

1979 Toyota Celica GT, 5 speed, runs good, this one must go, \$350 OBO. Call Doug at 258-1094.

1981 Toyota liftback (Corolla), excellent condition, runs great, \$800 firm. Please call Anthony or Marty at 238-7872, late afternoon or evening.

Porsche 911 E Targa '71, European model 775 engine, Gullu rims, 930 front end, 3" lowered suspension, too much to list. Must sell, \$11,500 OBO. Call Chris 673-5202.

1982 Yamaha Sea, excellent condition, only 9,000 miles, \$1600 OBO, call 761-1045, ask for Chris.

Suzuki GS550E, blue/white. Yoshimura exh. system, extra jets and sprockets. Available for sale Dec. 12, leaving country and must sell by Dec. 19, \$950. Call Anthony 761-3148.

1989 Kawasaki 550 EX, \$1200 OBO, Call Pary at 226-6573.

Motorcycle for sale, first \$200 bucks gets it. Call 756-4831 for details. Ask for Mark.

Roomates & Rental

Female roommate wanted, \$142 a month plus 1/3 elec. and phone, get own room, 5 min. from school, Call or leave a message 760-9686. Available for occupancy Dec. 1.

Roommate wanted for two bedroom apartment near the beach. Own room, full house privileges, \$190/mo. and 1/2 electric. Call 226-6602 or 673-7802.

Room for rent for faculty member, nice clean quiet furnished room, lighted parking space, big historic house with all utilities paid. Could be also from Monday to Friday for \$160 a month. Regular rate \$190. \$100 security dep. Call eve. 258-5901.

Single wide mobile home for sale in Port Orange, 12'x60' with 2 bedrooms, large living room and bath. Built-in dressers. Semi-furnished. Located in Parkwood Mobile Home Park. Children and small pets welcome. On bus line and close to shopping. Only 8.5 miles from ERAU. Was \$12,500 now only \$9,500. Call Laurie at ext. 6039.

Apartment to share: own bedroom/bath. Free cable/parking. central A/C, 2.0 miles from ERAU, great for a single or couple, \$215 month, plus 1/2 electric. Write Louis box 8211.

Misc. for sale

For sale Assembly Language Textbook with disk \$20. Ladies size 7 black hills gold ring (10kt) rose design \$45. Must sell! Soundesign alarm clock radio, brand new \$10. Contact Jason at 252-9148 or box 6036.

For sale: Peavey Backstage Plus (100 watt) \$100. Ibanez tube screamer \$40. Boss heavy metal pedal \$40. Call Phil 788-4634.

Computer for sale: Samsung PC-Craft 2000 (IBM XT Turbo) 20 meg hard drive, 5.25 floppy, 4.77 8 MHz speed, 101 keyboard, mouse, Dos 3.3, (will install 5.p), software includes Lotus 123, Word Perfect, Procomm, Twin, 688 attack sub, Lotus Works, Alpha Works. \$500 OBO. Call Russ or Kelly at 767-1446.

Soundesign Portable CD player with 16 track memory, AC adapter, battery charger, and cables for connecting to stereo system. \$100 OBO. Call 248-1810 ask for Paul.

Extra long, thick single bed boxspring and mattress. \$50. Call Matt at 255-8478.

Intellivision II video game, excellent condition, includes 10 great games, asking \$50. Ray Ban Sunglasses, gold frames, brand new! Asking \$20.

For sale, sofa 3 pillows \$25, a second one for \$38, portable steam bath for losing weight \$28, 32 encyclopedia Britannica \$45, small size green jacket \$30, leather jacket \$45. Call 258-5901 evenings.

For sale, set of 4 mag wheels, 14", 5 lug pattern, \$60. Call Rob 760-4895.

RC car, Bolink Eliminator 10 rolling chassis, ball bearings, royal electronic speed control, BR 15 turn motor, charger, Putaba radio, GT body and much more, \$325. Call 756-9259 and leave message.

Zenith laptop computer, excellent condition, new battery (3 hr. cap.). Also, AC power, 10, 1/2" screen, 3 1/2" floppy, hard drive, modem. Programs include: 4.0 DOS, WP 5.1, PC Tools, Lotus 123, Pascal 6.0, Program F-19 Stealth fighter, Battle Chess, plus 20 extra disks included. \$100. Also Star NX-10 printer \$100, new ribbon, new printer, paper incl. Dorm I, Travis 252-9401.

For sale: queen size oak waterbed, full wave, includes railings, headboard and heater. Asking \$150, but negotiable. Contact Shawn 239-9493.

For sale: dining room table and chairs, excellent condition, \$150. Matching coffee and end table, \$50 and \$25. 19" color remote TV, 2 yr. old, \$175. VCR remote, 2 years old \$85. New table lamp \$20. Call after 1:00 p.m. 760-8419.

AMT starter snap-on tool kit for sale, with Ohm meter: \$400. Call 760-7717, ask for Tom.

Waterbed for sale, double waterbed for sale. Individual baffles with self insulated frame. No heater needed. Frame included. Only 1 year old. Paid \$350. Will sacrifice for \$225 OBO. Call Laurie at ext. 6039.

Smith and Wesson .44 Magnum, model 29, Pacnyr grips, \$320. Call Robert 760-4895.

3 1/2 ft. ball piathon, less than a year old. Tank and accessories included. \$715 OBO. Call Chris at 253-2391.

20" color TV, great condition \$80. Call Rob 760-4895.

Splatmaster .68 cal. paintgun, like new, \$50 OBO. Call 756-9259 and leave message.

Bell Helmet, almost new \$130. Call Rob 760-4895.

For sale: Vetter helmet (orange) \$15, Vetter gel seat (still in box) \$20, Tupperware set \$10, glass/tumbler set \$10, LaMachine blender/food processor \$10, Oneil 0123 full suit w/sleeves \$40. Call Dave 760-2075.

Alpine 7380 AM/FM cassette, pull out stereo, 1 year old. Plays like new, \$175. Call 7856-9259 and leave message

Miscellaneous

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Get your pilots license or continue with your flight training. Quality instruction at low rates. Aircraft rental \$36/hr. "block time". Train at a local airport. Contact Jack "CFII" at 756-1494 or leave message.

Anyone going to Tampa? Need company? If so give me (Eric Roy) a call at 255-4079. Will pay 1/2 gas. Thanks, Eric.

T-34B

Here's your chance to fly in a warbird! Get behind the stick and feel the excitement of the high performance trainer. \$60 per hour or \$30 for 1/2 hour. Call Dave at 756-5760.

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- 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.

Lost: a girls class ring with name Tina Wright on inside. If found please contact box 5591 or call 767-3677.

GWM 21, looking for other straight acting GM's and GP's for fun, company and friendship. I know there are more of us out there because this school isn't as conservative as everyone seems to think! Let's meet and talk instead of just noticing each other everyday on campus. Write to ERAU box 5588. Total confidentiality assured.

Driving home to NH for Christmas and possibly Thanksgiving. If interested, call Andy at 253-2479 or leave message.

Fly Right! Learn to fly with the best! Caring, thorough, inexpensive rental 36.50/hr. Private, commercial, instrument, BFR, ICC. Call Mitch CFII 761-8486.

Driving from Daytona to Rockland, NY, (20 min. outside NY City) on Dec. 14. Have room for 1 or 2 people for gas money. Car is clean and comfortable w/stereo. If interested call Mair at 257-5447 or box G-103.

Something wrong with your foreign car? No charge for diagnosis. John's Volvo repair and Mig welding. I also repair Bosch fuel injection. Call 258-5160.

Anyone going to Atlanta for Thanksgiving? I am looking for a ride there. I will pay 1/2 gas and help drive. Call Dave at 252-6050.

Lost: Theta Phi Alpha Badge (pin), gold with a circle of pearls. Plus 4 dangles of a paddle, gavel, leather pin and torch (all gold). Reward is being offered. Contact Debbie at 226-6637.

\$100 reward for information leading to the capture of parking lot vandal who smashed my truck window on 11-12-91 between 0800 and 1300 in main lot near traffic light. In confidence, box 5319.

I need a ride to Pittsburg over Thanksgiving. Will pay 1/2 gas. Contact Rob box 5238.

I need two tickets to Van Halen concert in Orlando on Dec. 14. I am willing to pay a decent price for them. Please call 274-4263 and ask for Todd.

Wanted: dead or broke cable ready VCR's, TV's and CD players. Willing to pay money. Call between 2 p.m. till 9 p.m. Mon - Thur. 760-9868.

Pa 320 Saratoga time. Fly this super, high performance aircraft, PIC for only \$30 per hr. I will leave DAB on Dec. 13 and return on Dec. 18, destination is Andrews AFB, Washington D. C. Expect to fly 9 hours. A complex sign off is required, total cost is \$270. Call Dave at 756-5760 and leave a message.

Continental Airlines (3) round trip tickets \$129 this side of the Mississippi or \$189 across the Mississippi. Leave message in box 6917 or call Richard at 258-7712.

Aircraft rentals, reasonable rates, C-150 and C-172, overnight available. Call M. C. Flyers at 767-9464.

Virginia - planning to leave for Roanoke, VA for Thanksgiving. I am leaving Monday evening 11/25 and returning Sunday 12/1. Call 761-1759 or contact box 3431. Larry

Reasonable flight instruction. Private, instrument or commercial. Best rates around the area, flexible schedule. Plane rental \$36 hr. Contact Tom at 677-6895, CFII.

Personals

TO THE POETIC PEN
Shall we meet again. Write to my box and give me your name so we can stop playing this silly game.
ROSE RECIPIENT

T3-Sorry
ICE

DEAR MORRISON'S
I took a green dump the other day. Is this abnormal?
WORRIED

To the orange bikini at the pool last Tuesday.
Just complimenting an ERAU girl on her beauty.
An ERAU guy.

DEAR 1/4 TERMINATOR
I need your clothes, your boots and your motorcycle. I have detailed files on human anatomy.
INSANELY JEALOUS, WILLING TO COMMIT ATROCITIES, HOPEFUL AND WILLING TO DO THINGS TO OR WITH YOU.

Aircraft doomed! Passengers expected to die! Airlines headed for disaster! There's a sale at Penny's.

HEY, YOU JILL LADY
I miss you!
THE MAN

RICH
On and on it's just another hole in the wall.
ALPHA TAU PLEDGE CLASS

JASON
Do you prefer log cabin or Aunt Jemimah? Rutgers likes Log Cabin. He sends his best.
ALPHA TAU PLEDGE CLASS

HEY PREPPIE
It's time to fulfill your bet. I love you!
PODDLING

KELLY
Keep your shin up! Just remember, with all this manure there's got to be a pony hero somewhere.

DEAR BIG MEOW
Happy Anniversary! I don't know what else to say, but that I'm so happy we're getting closer to being best friends. I love you!
LOVE MEOW

LEE
Get that guy's license plate number and call the cops!
ALPHA TAU PLEDGE CLASS

GUS(WHY?)
Slacking is an art shared only by the people short enough to get away with it!
MOWLANATOR

RICH THE NEEDLE
There once was a guy named wedge, a cheerleader drove him over the edge. He gave her his car, so he must ride his GSXR, seems to me he's gone over the ledge.

MR. BALOO AND KARNAGE
Interference in my operations will be met with most unpleasantness.
KAHN

FENCER #1 AND SHADOW
Help! I'm tangled in body cords and blades. AARRGH! I think I'll go electric sabre! NOT!
PC

DEAR SIMPLE SAMPLES
From the Daytona masses, we still think your machine is the biggest piece of crap on four wheels in the free world. Maybe if you towed it to a recycling plant you could make enough money to buy a bar of soap to take a shower with this semester.
YOURS TRULY, AMT

TO: "LOOKING FOR...MALE"
It depends on what "active" means. I'm open minded, love animals, have only tried hiking, enjoy canoeing (when I can), used to bike everywhere, love horses (when I'm around them), love motorcycles (riding them), and love the outdoors. I tend to play "hit the yellow ball over the 12ft. fence" after a 1/2 hour or so of tennis. I'm 5'11 3/4" and just haven't done my situps. I'm sick of Florida. Will travel. What? You expect perfection?
THE VIKING PRINCE

TO MR. "DUMP" AND "YOU KNOW WHO"
If you can't control the use of four-letter words when you write personals, then write them in someone else's student newspaper. You should try having some style.
UNIMPRESSED STUDENT

HEY BUCKY AND GOON
What's up?
PIG PEN

Hail to the Spandex Queen.

DEAR GOLD MAZDA
According to the police officer that gave you 2 tickets for improper exhaust, your car is illegal.
ONE OF THE IRRITATED MASSES BOX 6977-JIM

TO THE CHARLOTTE GIRL
I've seen you in the mail room with your cute red hair. Deliver my mail personally please. Respond in box E-243.

THE BLOND PILOT

TO ALL
Be honest... especially with yourself.

CASANDRA
Eat better and get more sleep.
GILLIGAN

BLONDIE
Do you need my handcuffs again?
GILLIGAN

AL
You canoe pretty good...NOT! You have to be good to flip after the first two minutes of the trip.
ALPHA TAU PLEDGE CLASS

DUCKSLINGER
Nice tail...feathers. How about a little bill?
SLICK
P. S. I know who you are and I'm after you.

JOEY
Have you ever seen a grown man naked?
CAPTAIN OVEUR

DEAR DEAN
You have upset our Big Chief and now you will pay.
3.0 NORTH

JARHEAD
Hey dude! The hunt is on! All gold mini vans had better watch out. Slash time!
FRISKY

DEAR MRS. MANGO
Stop breaking our plates!
POLYESTER MANAGER

DEAR BIG CHIEF
You're the best and don't let anyone tell you otherwise.
3.0 NORTH

JOHNNY
I want to know everything that's happened until now. Well, first the earth cooled, then the dinosaurs came but they were killed off. Then the Arabs came and they bought Mercedes Benz's. And Prince Charles started wearing all of lady Di's clothes.

OODLES
Hey girlie! Well, just wanted to say I love you. Can't wait for more obvious action.
BUNCHES

There's only one real Flyboy! I was wondering, doesn't this new "3rd North" realize they are sub-zero in comparison to us? T.D.R. posse forever; Slackjaws beware! Let's see, we has: girls, cars, a goober, a hair pie, police records, and they have: an Overlord? Stop! The only thing they win is the No-life award.
CENTURY CLUB CHALLENGE

YO DOBOY
Are you really 19? 'Cause your so handsome and so fine. NOT!
D-GIRL

EINSTEIN, ET. AL.
It's a shame that I should possess all this intelligence when others have to go to bed stupid.
WOODY

DEAR POLYESTER MANAGER
Stop screaming at Mrs. Mango, or we'll kill you.
TONY AND SCOTT

FENCER #1
I got nowhere to go but up! Nationals are going to wait a while.
P. C.

Responding to open minded girl who loves hiking, camping, etc. Leave your name and phone number in box E108 and we'll get together.

As I walked the winding road of life, I tripped and fell. I like salads.

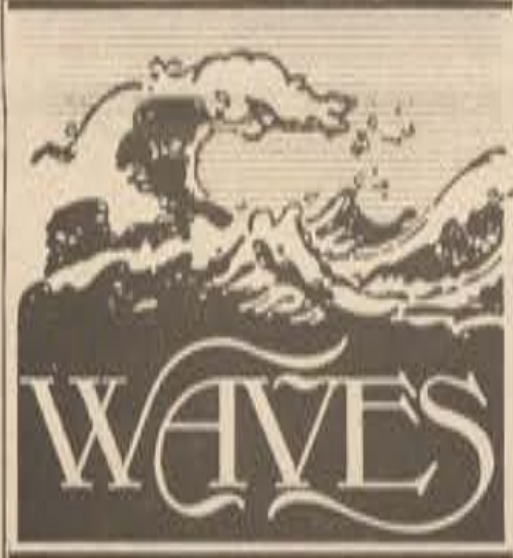

TO KELLY - The handsome, blond, engineer who works at the Coliseum. I really think you are gorgeous and really nice from the few times we've talked. I hope you are having a great day and I hope maybe we could talk again sometime.

TO ALL
Be honest... especially with yourself.

CASANDRA
Eat better and get more sleep.
GILLIGAN

BLONDIE
Do you need my handcuffs again?
GILLIGAN

Recreational Flights Leaving Daily.

	<p>Sunday</p> <p>Laser Karaoke Night.</p>	<p>Tuesday</p> <p>Two for Tuesday - \$ 2.00 well drinks until close ERAU Night - .50¢ drafts for ERAU students. \$3.50 Pitchers of Draft.</p>	<p>Wednesday</p> <p>Country Music Night with Station 98 Frog.</p>
<p>Thursday</p> <p>Drink and Drown</p> <p>10.00 cover and all-you-can drink (No bottle beer, cordials or frozen drinks).</p>	<p>Friday</p> <p>Waves Hungry Hour 5-8 PM \$2.00 Cover - Hot & Cold buffet. \$2.50 well drinks, \$1.00 draft beers, and live entertainment. Live music by "Just 2 Much" 10:00 PM - 2:00 AM. Top 40 dance & rock music. \$1.75 Coronas and \$1.00 Tequilla Shooters .</p>	<p>Saturday</p> <p>Live music by "Just 2 Much" 10:00 PM - 2:00 AM - I-100 host the "Heart Throb" game beginning October 12th.</p>	

Take a break from the books and take off to a party ... A party just for you...ERAU Night happens every Tuesday Night with contests & giveaways and .50¢ drafts when showing your I.D. But every night at waves is hot! Dance to the latest sounds, enjoy great drink prices and live music every Friday & Saturday nights - so come to Waves tonight and make the right approach to a great night out.