MARSHALL STAR

Serving the Marshall Space Flight Center Community June 19, 2003

Italian partnership leads to date with 'Destiny' for Marshall Center managers

International Space Station's 'Node 2' ready for processing

By Lori Johnston

To reach Destiny, you must go through Torino, Italy, an industrial city tucked behind the snow-peaked Alpines. There, an international contractor, Alenia Spazio, has some out-of-this-world business.

They have just designed, built and integrated Node 2, a utility hub for working spaces and living places on the International Space Station, which will lay the groundwork for other international partners in space. Alenia designed and built Node 2 as part of an agreement between NASA and the European Space Agency (ESA).

Managers from the Marshall Center have often visited Torino to work with Alenia Spazio on one of the Space Station's major components: Node 2, which will allow the Station to expand by adding science laboratories from Europe and Japan. For some, the visits to this Italian city will soon be over.

Photo by Lori Johnston for Nodes 2/3 program

Node 2, the second of three connectors between International Space Station modules, awaits final preparation in Torino, Italy, before it was shipped to Kennedy Space Center in Florida earlier this month. The project is managed by the Marshall Center.

"This will probably be my last trip to Torino for a while," said Kenny Mitchell, the Nodes program manager at the Marshall Center. "The people of Torino are wonderful, and the Italians have made an important contribution to the International Space Station."

Mitchell and his team from the Flight Projects Directorate have been working with the Italians on Node 2 for six years. In late May, Mitchell's Node 2 team visited Torino for the last time and certified that the nearly 30,000 pound piece of hardware was

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Your name could make a 'Deep Impact' on a comet

NASA Headquarters/JPL release

People worldwide may celebrate July 4, 2005, as the day their names reach a comet. NASA is launching a campaign to send hundreds of thousands of names to comet Tempel 1.

The names will be carried aboard NASA's Deep Impact spacecraft, the first deep-space mission designed to really reach out and touch a comet. Mission scientists are confident an impact on a comet's nucleus will answer basic questions about the nature and composition of these celestial wanderers.

"This is an opportunity to become part of an extraordinary space mission," said Dr. Don Yeomans, an astronomer at

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King 'inspired' by Marshall Center's future

Director's Corner

It is my honor to be your center director.

When I was first informed that I had been chosen as the new center director, my mind was flooded with so many thoughts, the first of which was how humbled I was to be taking the helm of the NASA field center that was responsible for landing the first humans on the moon, and what an honor it is to be following "our" leader for more than four years – Art Stephenson.

Art has truly made a difference at Marshall. The best way we can thank him for all he has done is by continuing to embrace the Marshall Values. Art built for us a great foundation by which we do business. His legacy of instilling the values of people, customers, excellence, teamwork and innovation will continue to be our guide. When you see him around the Center (or the golf course), please take a moment to thank him for his dedication and years of service to NASA and the Marshall Center.

Marshall Imaging Services

King

As I begin my role as the center director, I am filled with inspiration about the future. The Marshall Center has a super record of excellence and I believe we will continue to play a significant role in the future of space flight. The road ahead will be exciting as we work toward the Return to Flight. The road to Return to Flight will be busy, and at times arduous, as we prepare for this important and historic moment. I'm counting on everyone's support and dedication to get this job done for our nation's space program. It is imperative that we execute on our current programs and projects and deliver on our promises. Effective and genuine leadership at all levels, and a sincere commitment to teamwork, openness, honesty, and a strong work ethic, will lead us forward.

On a personal note, I want to address the anxiety that can be brought about by a change in leadership. I recently spent time walking the halls of Washington, D.C., with our customers, and I believe Marshall has plenty of work ahead.

I also want to let you know that although I do plan a few changes here and there, they will not be sweeping. Changes will evolve as needed, and will be based upon deliberate and well thought out evaluation.

I would like to thank you ahead of time for your hard work and dedication to the Marshall Team. I look forward to leading us to the countdown of STS-114.

—Dave King

Marshall Center Director

Impact

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NASA's Jet Propulsion Laboratory in Pasadena, Calif., and a member of Deep Impact's science team. "When the craft is launched in December 2004, yours and the names of your loved-ones can hitch along for the ride and be part of what may be the best space fireworks show in history."

Deep Impact's larger flyby spacecraft will carry a smaller impactor spacecraft to Tempel 1 for release into the comet's path for a planned collision. The flyby spacecraft will take pictures as the 816-pound copper-tipped impactor plunges into Tempel 1 at about 22,990 mph. The impactor is expected to make a spectacular, football field-sized crater, seven to 15 stories deep, in the speeding comet.

Carried aboard the impactor will be a standard mini-CD containing the names of comet, space and other enthusiasts from around the world.

"This campaign will allow people from around the world to become directly involved with Deep Impact and through that get them thinking about the scientific reasons for the mission," said University of Maryland astronomy professor Dr. Michael A'Hearn, Deep Impact's principal investigator. "We particularly hope to capture the interest of young students, as they will become the explorers of the next generation."

People may submit their names for this historic one-way mission by visiting NASA's Deep Impact Web site, now through February 2004, at http://deepimpact.jpl.nasa.gov/.

The collision between the impactor and Tempel 1 is not forceful enough to make an appreciable change in the comet's orbital path around the Sun. The comet poses no threat to Earth.

Deep Impact was selected in 1999 as a NASA Discovery mission. The goal of the Discovery Program is to launch many smaller missions with fast development times, each for a fraction of the cost of NASA's larger missions. The main objective is to enhance our understanding of the solar system by exploring the planets, their moons, and small bodies, such as comets and asteroids.

Partnership

Continued from page 1

ready for its first flight — to the Kennedy Space Center in Florida, where it will be prepared for delivery to the Space Station.

Marshall manages the Node 2 project for NASA. Marshall managers provided technical insight to Alenia Spazio in developing the program requirements for Node 2 and ensuring all were met.

"The employees of Alenia Spazio built the bones, muscle and skin, and NASA provided them with the organs and gave it life," Mitchell said of his Italian co-workers. "If you could peel away the shell and see the complexity of what they integrated, you would see it was no small feat."

The Italian and Marshall engineers began working together in March 1997, when Walter Cugno, a manager at Alenia, was told to pack his bags for Huntsville to meet with NASA managers. Cugno and his employees were given the task of designing and building two distinct modules, called Nodes, for the Space Station.

"We didn't get a complete understanding of the complexity until a few weeks later when we really started looking at what NASA wanted, Cugno recalled. "It was a real technical challenge."

And that wasn't the only challenge.

Photos by Lori Johnston for Nodes 2/3 program

Marshall Center team members visit the Torino, Italy, facility where international contractor Alenia Spazio is readying Node 2 for shipment. From left are Larry Gagliano, Harry Dean, Al English, Steve McClard and Kenny Mitchell, all of Marshall, and Walter Cugno of Alenia Spazio.

There were different cultures and mentalities to consider.

Cugno said he found Americans are much more straightforward than Italians. Perhaps that's what has led to much more than a working relationship between his team and NASA.

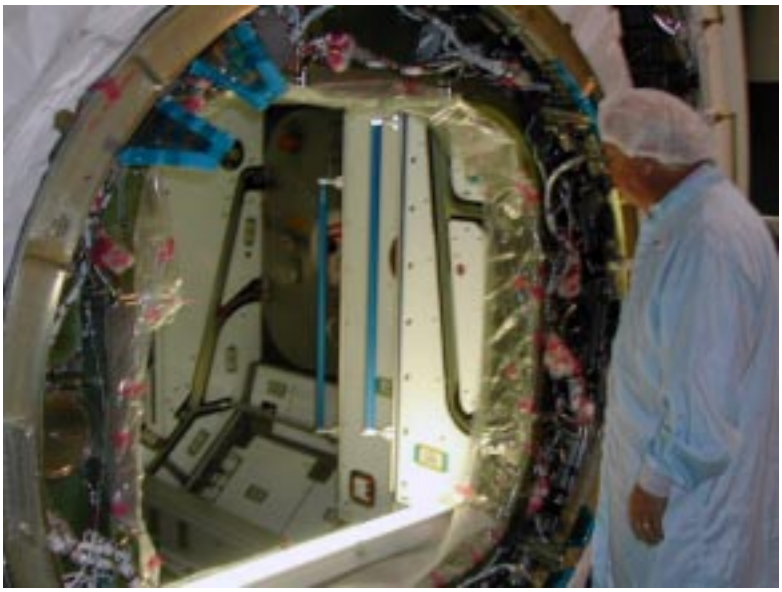
"Ciao" is an Italian greeting used between old friends, the word Cugno uses as he shakes hands with Mitchell and other members of the NASA team.

Although Cugno and Mitchell didn't meet in the 1970s, they feel they've known each other that long because as young engineers, they both worked on Spacelab – a laboratory that carried international science missions inside the Space Shuttle's payload bay. Now, the two men are more like family than co-workers. They've all become close personal friends. In fact, many of the Marshall team members can now speak a fair share of Italian to their Alenia counterparts, which illustrates the great mutual respect these groups, born of different cultures, have toward each other.

Node 2, or "Nodo 2" as the Italians call it, is one of three connectors on the Space Station, providing power, heating and cooling to the various international laboratories and other elements that will attach to it. Node 1, or Unity, built by the Boeing Company in Huntsville, was delivered to the Space Station in December 1998, and connects the Destiny, the U.S. laboratory, to the Zarya Russian control module.

The Italians will continue to work with the Marshall Center as they complete Node 3, which will house the Environmental Control and Life Support Systems (ECLSS) – a sophisticated system that Marshall engineers are designing and testing. It will purify and recycle the Space Station's water and air and will reduce the amount of water that Shuttle routinely

*See **Partnership** on page 4*

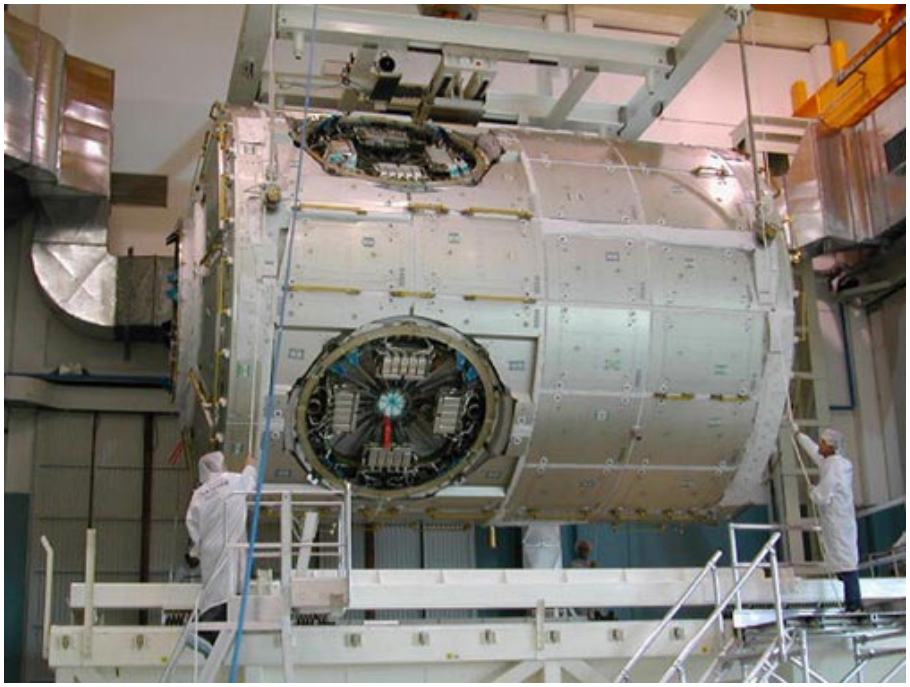


Kenny Mitchell, Marshall project manager for the Nodes 2/3 program, peeks inside Node 2 to check on the progress on the closeout panels, or interior walls, of the Space Station utility hub.

Continued from page 3

delivers to the Station.

Once Node 2 is connected to the Space Station's Destiny Laboratory, several elements or facilities will attach to one of its six docking ports, including the Japanese Experiment Module named "Kibo," or Hope — the research laboratory developed by the National Space Development Agency of Japan; the Columbus Module – a general purpose science lab designed by the European Space Agency; and the Centrifuge Accommodation Module – a U.S. laboratory dedicated to gravitational biology research. The Node distributes electrical power, heating and cooling to those facilities, as well as to three logistics modules — "moving vans" that carry cargo and experiment racks to and from the Station — that will also use specific



Photos by Lori Johnston for Nodes 2/3 program

Node 2 weighs approximately 30,000 pounds and is more than 20 feet long and more than 14 feet wide.

Alenia Spazio workers install the "floor" inside Node 2. The node contains eight racks, which will provide air, water and other conditions to support life on the International Space Station.

docking ports on the Node 2.

In addition, Node 2 will allow docking of the H2 Transfer vehicle — a Japanese rocket similar to the Russian Progress supply ship, which carries supplies to and from the Station. And when the Space Shuttle "stops by" for a visit, a pressurized mating adapter attached to Node 2 will be its new primary docking location.

"Our office adopted the theme of 'Accommodating Nations for Life in Space' because Node 2 is the critical component that enables the Station to expand and open the door for the rest of our international partners, "Mitchell said.

Node 2 is an engineering marvel. In designing and building the most complex module to date, there are plenty of masterminds at Alenia who have sifted through thousands of charts – approximately 40,000 – which contain the integral make-up of the Node. They used computer animation and graphics to put together all of the pieces and made sure each wire had a place to connect — and it all fit.

"The Node is not only a beautiful element, but it is technically sound," said Al English, Node 2 lead systems engineer. "It has been thoroughly tested and there is no doubt that it will perform perfectly when it meets 'Destiny.'"

"The Node 2 represents what we call 'core complete' status for the International Space Station – signifying that the Space Station is ready to accommodate the international science laboratories," said McClard. "The Node 2 project has demonstrated a tremendous team effort and cooperation between multiple NASA centers and two international agencies," he added.

"We were one big team – Italian Space Agency, NASA, Alenia and Boeing all working together on this very complex module," said Maria Cristina Falvella, Nodes deputy manager for the Italian Space Agency. "It was exciting to see how very different cultures and technical approaches can merge giving their best for one goal."

After an eight-hour trip from Alenia to Torino's airport May 30, a Beluga airbus aircraft carried the Node to Florida, where it was officially signed over to NASA at its Acceptance Review Board meeting June 17.

And that's where the journey ends for now — until Node 2 is assigned a date for its Space Shuttle launch to "Destiny."

The writer, an employee of ASRI, supports the Media Relations Department.

CaER awards reception gives team members chance to 'clown around'

The annual Customer and Employee Relations Directorate awards ceremony was held June 10.

Individual and group awards were presented to Marshall team members.

The event's theme was a "summer carnival" and included singing, activity booths and a clown dress-up contest.

Mike Herston delivers a "granny shot" at the basketball booth while entertaining as a clown at the CaER reception as Sandra Williams, right, plays referee.

Larry Lechner, dressed as "Loretta" gives former Marshall Director Art Stephenson a hug after Lechner was named winner of the clown contest.

Photos by David Higginbotham, NASA/Marshall Center

Vance George of the Center Operations Directorate tries his hand at the bean bag toss.

Tereasa Washington, center, with microphone, director of the Customer and Employee Relations Directorate, leads team members in a song.

Vernotto McMillan spins a Hula Hoop.

Appreciation reception honoring Art Stephenson is June 26

The Marshall Center will honor former Center Director Art Stephenson at an appreciation reception June 26. The event will be at 2 p.m. in the Center Activities Bldg. 4316.

Tickets cost $5 per person and are available from administrative officers through Tuesday.

Job Announcements

MS03C0108, GS-0861-15, Flight Projects Directorate, Flight Systems Department, Multi-Use Payload Group. Closes June 20. Contact: Carolyn Lundy at 544-4049.

MS03C0110, Executive Support Assistant. GS-303-11, Office of the Director. Closes June 24. Contact: Kevin Plank at 961-0157.

MS03C0112, AST, Electronics Engineer -- Team Lead. GS-855-14, Engineering Directorate, Avionics Department, Control Electronics Group. Closes June 24. Contact: Jim Bramblett at 544-3398.

MS03C0113, AST, Engineering Project Management, Systems Management Office. Closes June 30. Contact: Carolyn Lundy at 544-4049.

Photo by Emmett Given, NASA/Marshall Center

Students prepare rockets for launch

Tameka Greer, a student at Johnson High School in Huntsville, checks the L-610 motor for the rocket her school team recently built as part of NASA's Student Launch Initiative. Four Huntsville-area high schools took part in this year's program. Two schools launched their rockets in May. Other launches are being scheduled. Sponsored by the Marshall Center, each student team, under guidance from Marshall engineers, built reusable rockets designed to carry science payloads to an altitude of one mile.

Obituaries

Ella B. Eason, 50, of Huntsville, died June 5.

She retired from the Marshall Center in 1995 where she was a supply clerk.

She is survived by one brother, Heyward Eason.

Elbern C. Lentz, 84, of Huntsville, died May 29.

He retired from the Marshall Center in 1983 where he was an electronics technician.

He is survived by one son, Ronald Lentz of Croston, Md.

Willard A. Satterfield, 77, of Hazel Green, died May 21.

He retired from the Marshall Center in 1979 where he was an aerospace engineer technician.

He is survived by his wife, Dessie C. Wimberly-Satterfield; and five children.

David N. Smith, 50, of Athens, died June 10.

He retired from the Marshall Center in 1989 where he was a quality assurance specialist.

He is survived by his mother, Evelyn Smith; and one brother, Bill Smith.

Photo by David Higginbotham, NASA/Marshall Center

Safety performance awards presented

Greg Young, third from left, and Ron Carpenter, second from right, both of ATK-Thiokol, recently were presented with a Level 1 Safety Performance Award. Making the presentation are, from left, former Marshall Director Art Stephenson, Safety and Mission Assurance Office Director Amanda Goodson, and Procurement Office Director Steve Beale.

Center Announcements

Center Director's Update will be July 1

Marshall Director David King will host a "Center Director's Update" at 10 a.m. July 1 in Morris Auditorium.

Dial-in and VPN require security registration

Marshall team members who use the Virtual Private Network software to connect to the Marshall Private Network, or who dial directly into the network from home or TDY, must apply for a MSFC RSA SecurID Token in June. For more information, including frequently asked questions and an updated schedule to apply, go to http://www1.msfc.nasa.gov/INSIDE/announcements/dial_in_token.html.

Thrift Savings Plan closes June 30

The Thrift Savings Plan open season closes June 30 for employees who want to begin, increase or decrease, contributions to their account. For more information, see "Inside Marshall" or call 544-5654 or 544-7536.

Chandra X-ray Observatory Symposium set for September

The Chandra X-ray Observatory Program will host a three-day symposium Sept. 16-18 at the Huntsville Marriott. A banquet will be Sept. 17 at the U.S. Space & Rocket Center. The Marshall Center's Chandra Program is sponsoring the event. For more information, go to http://mi.msfc.nasa.gov/chandra/index.html or call 544-5468 or 544-0570.

Joint Propulsion Conference July 20-23

The American Institute of Aeronautics and Astronautics has provided a special registration discount for Marshall civil servants employees attending the Joint Propulsion Conference July 20-23. To register, visit http://www.aiaa.org/events/jpc-nasa-marshall. Employees will need to submit a MSFC form 1265 to EODD/CD20. Deadline for registration is July 1. For more information, call Chris Robinson at 544-1422.

Marshall Association scholarship applications due July 31

The Marshall Association will award two college scholarships to dependents of Marshall employees or retirees in August. A technical and a non-technical scholarship will be awarded to incoming September freshmen. The association will accept applications until July 31. To receive or submit a completed application form, call Cliff Bailey at 544-5482.

IFMP Business Warehouse open house in June

For answers to Business Warehouse reporting questions, visit the open house on Tuesdays, Wednesdays and Thursdays throughout June from 1-3 p.m. in Bldg. 4200, Room 600. Bring SAP/BW ID and password. For more information, call Lee Harp at 544-7271.

Revised guidelines for Foreign National Visitors

The revised NPG 1371.2A guidelines for Foreign National visitors are now in effect. Visit "Inside Marshall" for more information.

IFMP Purchasing information event open in June

For answers to purchasing-related questions, an IFMP information event is open every Tuesday, Wednesday, and Thursday throughout June from 9-11 a.m. in Bldg. 4200, Room 600. Bring SAP ID, password and relevant purchasing documentation. For more information, call Lee Harp at 544-7271.

American Red Cross blood drive will be Friday

The American Red Cross will hold a blood drive on Friday at the Center Activities Bldg. 4316 from 8 a.m.-1:30 p.m.

Management Operations retirees will meet June 26

The Management Operations Office retirees meet the fourth Thursday of each month at the Cracker Barrel restaurant in Madison. The next meeting will be at 10 a.m. June 26. For more information, call 539-0042.

Shuttle Buddies to meet Monday

The Shuttle Buddies will meet at 8:30 a.m. Monday at the Clock Towers restaurant on South Memorial Parkway in Huntsville. For more information, call Deemer Self at 881-7757.

Auto shop closes June 30-July 7

The Marshall Center auto shop will be closed June 30-July 7. For more information, call Billy Mayo at 544-7564.

Disabilities awareness training mandatory for Center employees

Disabilities Awareness Online Training is a mandatory course for all Marshall civil service employees. The course is designed to heighten awareness and knowledge of regulatory requirements under the Rehabilitation Act and to help employees understand special needs of disabled co-workers. The training must be completed by July 31 and is available at https://solar.msfc.nasa.gov.

Full Cost Initiative Web site available

The Full Cost Initiative Web site has answers to questions on "all things Full Cost." For the latest information, go to https://fullcost.hq.nasa.gov.

Marshall Retirees Association offering university scholarship

Students who are direct descendants of a Marshall Center retiree can apply for the NASA-MSFC Retirees Association Scholarship at the University of Alabama in Huntsville. The $1,000 scholarship will be awarded for the academic year beginning in the fall. For more information, call UAH Financial Services at 824-2755.

Employee Ads

Miscellaneous

★ Picture framing pneumatic V-nailer, $1,200. 881-0533
★ Commercial greenhouse, 16'x48', w/ heater and shutters, $1,000. 828-5091
★ Bass boat. 18.5' w/175HP outboard motor, full flipping deck , all tournament riggings, $5,000. 881-6049
★ Kenmore large capacity washing machine, $100. 881-8130
★ Dialyseas for saltwater aquarium, monitors pH, salinity, temperature, ORP, eliminates water changes. 337-5112
★ Two sugar gliders (flying Australian squirrels), male & female, cage, all for $325. 931-937-8978
★ Cherry bedroom suite, bed, rails, triple dresser, mirror, chest, night stand, $150. 830-5663
★ Executive desk, solid mahogany, antique brass hardware, file drawers, $300. 881-3527
★ Barroom pool table, one piece, 3/4" slate, rolls well, $400. 656-9201
★ Jenny Lind crib w/Kolocraft mattress, $75; Graco highchair, $15. 858-0272 after 6 p.m./468-9874 cell
★ One, two and five-gallon almond plastic flower pots w/saucers; redwood chair, rocker, chaise lounge. 881-6040
★ Barbie jeep, $150 firm. 256-462-1518
★ Assorted decorative lighthouses, one is a lamp, $20 for set. 890-0755
★ Macintosh clone, G3, 2GB HD, internal Jaz, CD, Modem, Office, lots of software, $350. 961-7586
★ Spode Trade Winds red china, Caladon gray porcelain w/tall ship w/U.S. Flag design w/gold rim. 882-6832
★ Cherry acoustic guitar, parlor size, Art/ Lutherie by Seagull, mint, padded gig bag, $200. 256-852-7633
★ Fifth wheel hitch, 2002 Reese Model 15K, P/N 30046, $299. 883-5955
★ Pool table, 8' w/1" slate, Kasson Victorian, 2 yrs. old, $1,990. 880-6563
★ Murray Explorer go-cart w/6HP Tecumseh motor, $650. 837-9403
★ Infant car seat w/locking base, $15; infant to 5 yrs. car seat, $20. 256-723-4983
★ Three Metallica Summer Sanitarium tickets, Atlanta, Turner Field, 7/11/03, general admission, $80 ea. 256-505-0895
★ Black plastic pipe, 1-1/2" I.E., 113 feet, never used, $20. 536-4506
★ Dining room table & 6 chairs, teak, $600; dining table, large white oval, $200. 534-2025
★ New reproduction oriental rugs, 5'x7', 3'x5', 2'x6', all three for $65. 533-7800
★ Reese 15K 5th wheel hitch w/new mounting rails and hardware. 931-732-4742
★ Play Station 2, new, controller and NCAA college football game, $100. 256-348-3228
★ Oak dining table w/4 chairs, seats 6 w/ ext. leaf, $400 firm. 355-5871
★ Rickenbacker electric guitar w/case. $1,450. 306-0700 lv. msg.

Vehicles

★ 1992 Chevrolet Silverado xtended cab, one-owner, 104K miles, 5-speed, power cruise, ABS, $5,500. 722-8221
★ 1994 Thunderbird LX, silver, all-power, 160K miles, $2,495. 353-8229/Decatur
★ 2002 Ford Escape XLT, leather, sunroof, towing package, 4WD, loaded, 13K miles, $21,000. 830-1844/655-2056
★ 2003 Mercury Grand Marquis LS, Ultimate Edition, heated seats, leather, 1,500 miles, consider trade. 852-6952
★ 1967 Chevelle convertible w/395 engine. 316-1880
★ 1983 GM S15 Jimmy, V6, auto, good engine & transmission, $1,500. 882-0055
★ 1991 Honda Accord, 4-door, 154K miles, a/c, am/fm/cassette, good tires, $3,500. 883-6496/683-7015
★ 1998 Ford Escort ZX2, 96K miles, one-owner, $3,200. 325-0672
★ 1990 Toyota Celica ST, Pioneer CD player, 130K miles, $2,900. 256-739-2160
★ 1998 Ford Explorer Limited, 4x4, 73K miles, loaded, moonroof, one-owner, $12,500. 653-9124/534-7791
★ 1995 Toyota Camry, 6 cylinder, 143K miles, $4,975. 353-3229
★ 1993 Toyota SR5, V6, auto, X-cab, AC, AM/FM cassette, camper shell, $5,500. 256-233-7483
★ 1994 Toyota truck, X-cab, 4-cyl., auto, bedliner, sliding window, red/gray interior, 118K miles, $4,950. 536-4326
★ 2002 Honda Civic LX, 4-door, auto, PW/PL/PM, cruise, 34-41 mpg, 21K miles, $12,400. 828-6213
★ 1989 Nissan Pulsar, $1,800. 509-2466
★ 1999 Ford F150, 6-cylinder, automatic, $8,000. 534-5398
★ 2002 Ford Escape XLT, leather, sunroof, towing package, 4WD, loaded, 13K miles, $20,500. 655-2056
★ 1997 Buick Lesabre Limited, maroon 84K miles, $7,700. 256-655-3243/830-0757
★ 2000 Nissan Frontier crew cab, auto, PW/PDL, cassette, tilt/cruise, 79K miles, silver, bedliner, $12,900. 880-9025

Wanted

★ Medela Pump-In-Style dual electric breast pump and attachments, reasonable price. 931-433-0004
★ Independent house cleaner with references. 536-9771
★ Wild plums. 931-732-4742

Found

★ Ring in ladies bathroom, Bldg. 4200, second floor. Call 544-3623 to claim/ identify

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