

# aerial photography

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## Going Beyond All Maps and Boundaries

### Aerial Cartographics of America Exceeds Expectations

During holidays almost everyone looks forward to a break from work, except the flight crews at Aerial Cartographics of America, Inc. (Orlando Florida) This air-craving crew's motto is, "If it's clear, we fly!" ACA President Jim Humphrey knows that's the attitude that built ACA's strong reputation and helped the company become a top aerial mapping firm in the U.S.



ACA's New Cessna Grand Caravan 208 aircraft.

"Our mission statement 'Going Beyond All Maps and Boundaries' describes our commitment to every client we serve," Humphrey said. "Our dedicated staff puts that statement into practice each and every day."

#### The Most Advanced Technology

ACA's new Cessna Grand Caravan 208 aircraft is equipped with two sensor system port holes that allow ACA to provide multiple services to clients on the same mission. They can simultaneously shoot LiDAR, Hyperspectral, or even color and black and white film using multiple Leica RC-30 aerial cameras.

"The unique configuration in this aircraft allows ACA to produce cost effective and accurate solutions on many projects, in half the time. We are excited about the tremendous service and value this brings to our clients," explained Humphrey.

ACA also uses an Applanix POSAV 510 Inertial Measuring Unit (IMU) on their Leica RC-30 cameras. This advanced technology provides real-time aerial triangulation of the imagery by measuring pitch, roll and camera movement over 200 times each second during flight. Combined with Airborne GPS, the Applanix unit collects accurate data for hard-to-survey swampy or forested areas.

Track Air, the latest in flight planning software and hardware tools help reduce ACA's operational costs by streamlining the planning and execution of their photo missions. ACA was so impressed with the system that they have become the exclusive distributor for it in the US.

#### The Right Film for the Job

ACA specializes in LAMP (low altitude mapping photography) for local and state governments using a helicopter equipped with a Leica RC-30 camera. The helicopter flies at low altitudes, providing high vertical accuracy of the road surface below. This unique service was first implemented in 1997 by ACA.

# American Aerial Surveys, Inc.

## Conventional and ABGPS Photography Specialists

Founded in 1968 by the late Roland Holmes, American Aerial Surveys thrives as a family owned and operated business. At the helm is Curtis Holmes, son of Roland Holmes, who manages production and his mother, Marilyn Holmes, who manages the office.

American Aerial is located at Eagle's Nest, a private airport east of Sacramento, California. A recently constructed 9,000 square foot facility houses the company's offices, photo lab, and three aircraft, alongside a mile of paved runway.

### Past Performance

From the early 70's through late 90's American Aerial devoted the bulk of its energy to mid to high altitude, large, out of state photo projects. Two of the larger customers were USGS and USDA/FS. American Aerial photographed all or the majority of twenty states for USGS and over fifty national forests for USDA/FS. After successful completion of over 20,000 projects, the company never had an awarded project taken away and has never been involved in any legal disputes. Since the late 90's, American Aerial does less direct government contracting. The focus now is to stay closer to home and available to fly for private aerial surveying and mapping companies.

### Customers Request Agfa

Northern California is a very competitive area in which to operate. Within a hundred miles of Sacramento there are more than 20 mapping firms and at least nine other large format photo-flight operations. The bulk of American Aerial's work comes from these companies. The "mapping only" firms utilize American Aerial's services because they find it more cost effective to outsource their photo acquisition. Also, flying competitors outsource to American Aerial when they are disabled or overloaded.

Customers are particular about their images and often specify their preferred film type. The most common request is for Agfa X-100 and Pan 80 films.

American Aerial's lab manager, Kevin Bergmann, appreciates Agfa films for their consistency in film speed and color balance from batch to batch. These features, and the fine grain in Agfa X-100 and Pan 80 make fantastic prints, diapositives and scans.

### Old Fashioned Skill Meets Hi-Tech Equipment

American Aerial owns and operates three twin-engine aircraft. Two are Riley-converted Cessna 310's and one is a Merlyn-converted AeroCommander 500S. All three have been extensively modified to larger-than-standard, turbocharged, fuel injected engines and long range fuel systems. All have surveyed GPS antennae for airborne GPS and utilize GPS for navigation and for computer camera triggering. All three aircraft are capable into the low 30,000' altitude range.

The company's chief pilot David O'Hara characterizes American Aerial's style of flying as old fashioned, map-in-hand, drift meter visual, mixed with effective use of modern GPS guidance. O'Hara's usual flight partner is Curtis Holmes. Holmes

has been onboard the majority of

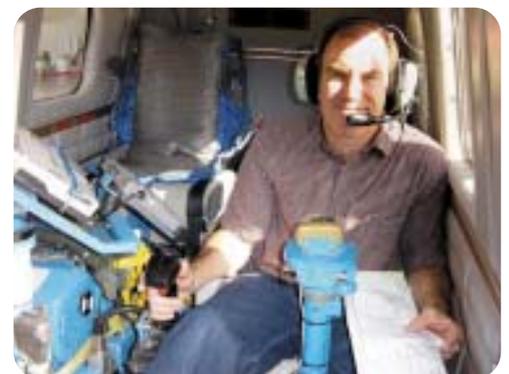
flights made by the company as pilot or photo-navigator. Unlike most owner/operators, Holmes prefers to take the back seat before the camera goes on. He feels that the workload is better balanced when the photographer shares responsibility for airspace coordination, weather monitoring and flight planning. Help from the photographer frees up the pilot so that he can concentrate on flying and traffic avoidance.

American Aerial's primary crew flies about 1,200 projects per year. With this workload, the aircraft and crew stay instrument flight ready. They cannot be stuck on the ground due to poor local weather while projects elsewhere are in the sunshine.

The company uses three Zeiss cameras; one Top 15 and two RMK-As. All three aircraft are equipped with company designed and manufactured universal camera



The American Aerial Surveys crew with their fleet.



AAS President, Curtis Holmes, takes the controls.



mounts and triggering systems. Any of the cameras can be repositioned to any of the aircraft in about five minutes. This allows for efficient in-flight camera swaps when different focal length cameras are required during the same days work.

“The advice and support we receive from our Agfa Senior Technical Sales Rep. Wayne Florence, is invaluable,” said Holmes. Florence also used to work with Holmes as American Aerial’s General Manager and flight crew member. “With the continued support of Agfa and our many great associates, American Aerial Surveys looks forward to a productive future serving the mapping and GIS industry,” Holmes added.

For more information visit [www.americanaerialsurveys.com](http://www.americanaerialsurveys.com).

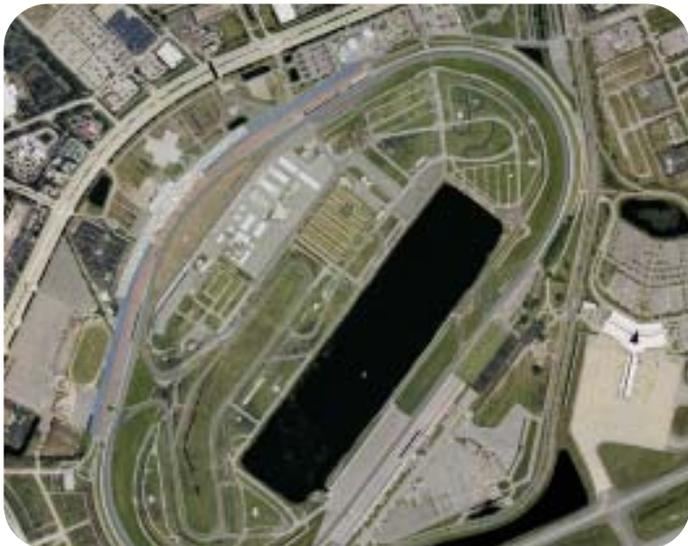
## ACA Inc. (continued from cover)

It provides their clients, such as the Florida Department of Transportation, a safe alternative to highway mapping, with reduced liability.

It’s hard to find a film that produces excellent results for images taken at low altitudes. Image grain, motion and dense shadows can complicate the mapping effort. After extensive testing, ACA chose Agfa’s PAN-80 for the task.

“We chose Agfa film because it passed the test! It produced the sharpest detail without the appearance of grain. It also showed more detail in the shadows with no image motion. PAN-80 film provides the best product for our customers,” said Humphrey. He also added that Agfa’s service and support was second to none.

“Agfa has a total service attitude. They give us A-1 support and a quality product to match. It’s hard not to be totally satisfied when your aerial provider is #1 in the field.”



The Daytona International Speedway, Florida.



ACA’s LAMP Platform.

### Taking Aerial Imaging Further

ACA was the first aerial mapping firm in the US to purchase Agfa’s new digital printer, the :Grand Sherpa 64 Universal. The installation allows ACA to offer prints and murals to customers up to 64 inches wide. It’s not a typical machine for an aerial firm, but then again —



Large format digital printing is produced with the :Grand Sherpa 64 Universal.

ACA isn’t a typical aerial provider. Land developers, planners, engineers, surveyors and others having a need for presentation products and displays can now depend on ACA to provide these products.

ACA’s response to client demands echoes its mission to go beyond all maps and boundaries to satisfy customers. It’s what helps the ACA team to steadily grow and what keeps clients coming back.

For more information about ACA visit [www.aca-net.com](http://www.aca-net.com).

# Q&A

by John Brandes



**Question:** With all the new technology evolving in aerial imaging, will film remain a competitive choice?

**Answer:** Agfa is convinced film will be a viable choice for image capture for many years to come. In industrial applications, film still remains in wide use, not only in aerial imaging but in printed circuit board imaging, aircraft manufacture, and high speed imaging to name a few. As I have mentioned in past newsletters, aerial film emulsion technology continues to evolve with improved granularity, sharpness and speed, both black and white and color. But, there are other reasons why film will continue. Film-to-scan-to-digital workflow is an ideal system offering the best of all worlds. Film remains the king of archiving and still cannot be equaled for amount of information captured on a single 9" square sheet. Digital imaging has great potential and certainly will continue to evolve but it is still in transition. In recent meetings, digital camera manufacturers agree that digital cameras will not totally replace analog film cameras. Obstacles still to overcome are things like calibration standards, ANSI standards for CCD's and file format standards. Currently, all digital aerial cameras are unique in their design and specifications. Until standards are established, confusion will exist on setting specifications.

Digital images are not accepted in courts of law and in surveying work, which could be a potential problem if images are contested. There is no way to tell if a digital image has been altered. The minute you compress a digital image you have altered the format. With film, you can always go back to the original negative for reference. This is why some types of digital surveillance cameras use a film back-up system for legal requirements.

The majority of issues and questions come not from the aerial companies using film for data capture, but from the end users of the imagery. They remain confused by the popularity of the marketing of digital cameras, software and output devices in the consumer market. The fact remains, that comparisons should not be made between the type of imaging done in the consumer market and type of imaging done in the aerial mapping market.

For the latest update on aerial products visit  
<http://aerial.agfa.com>

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