

HELPS EXPLAIN
TARGET DATA
IN PHOTO'S.

Paul Steucke
FAA Public Affairs
701 C Street, Box 14
Anch. AK 99513

March 5, 1987

UNCORRELATED RADAR SIGNALS

Radar data received by the FAA and used to track Japan Airlines flight 1628 on the night of the November 17, 1986, was retained by FAA. Review of this radar data by FAA experts using identical equipment at the FAA's research technical center in Atlantic City, New Jersey, revealed that the radar system was receiving what is called an "uncorrelated primary and beacon target".

This electronic phenomena is not unusual according to Steucke who said, "It is unfortunate that the uncorrelated target phenomena occurred just when a pilot was reporting seeing something outside his aircraft.

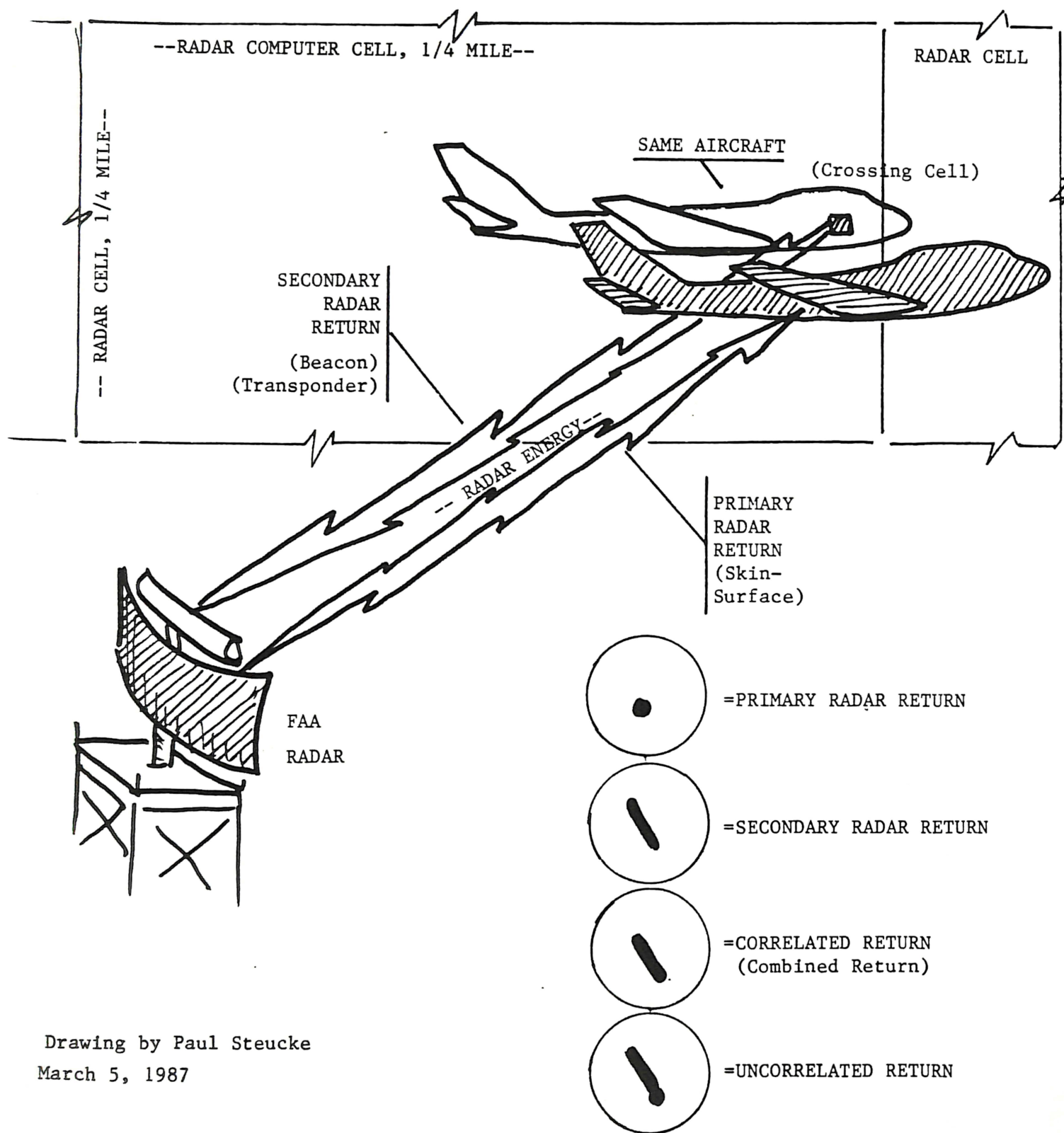
The controller's statements, released by the FAA, indicate that they thought there might be another aircraft or object in the area of the JAL flight. Steucke said, "The controllers were doing their job right because they have to work with what is right there in front of them on the screen, especially when you have a Captain that is reporting "other traffic" in his immediate area. The radar data they had was one target, moving slowly across the radar screen. They don't have the benefit of "monday morning quarterbacking" with multiple radar images as was the case in regenerating the radar data." Review of the radar data by FAA experts revealed the "uncorrelated target" phenomena.

FAA electronic technicians explained that an "uncorrelated primary and beacon target" on the radar screen occurs when the radar energy that is sent up toward the aircraft, (primary signal) returns to the radar receiver along with the aircraft transponder (beacon) signal and the two do not match up as being at the same exact location.

#

UNCORRELATED RADAR SIGNALS

An "uncorrelated primary and beacon(secondary) return on a radar screen occurs when the radar energy that is sent up toward the aircraft (primary signal) returns off the surface of the aircraft at a slightly different moment than the beacon (secondary) transponder signal and the two do not match up as being at the same place or same computer radar cell.



Drawing by Paul Steucke
March 5, 1987



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memorandum

Subject: INFORMATION: Description of Radar Split Image;
AAL-5 Memo of 2/5/87

Date: FEB 27 1987

From: Manager, Airway Facilities Division, AAL-400

Reply to
Attn. of:

To: Public Affairs Officer, AAL-5

This letter transmits our analysis of the radar targets associated with JAL flight 1628, on November 17, 1986, and supplements discussions we have had regarding what has been referred to as "split images".

We concur with the interpretation provided to you by the Alaskan Region Air Traffic Division.

The attached Analysis of Uncorrelated Primary and Beacon Targets by Dennis Simantel covers the subject in more detail, and addresses the questions raised in your letter.

Paul, I appreciate the team approach you have taken to more fully understand a complex issue. The issue is an excellent example of how "interdependent" we are. If we can provide any more information, please do not hesitate to call.

David F. Morse

Attachment

27 FEB 87 14 23
RECEIVED

ANALYSIS OF UNCORRELATED PRIMARY
AND BEACON TARGETS
(JAL-1628, 11/17/86 AKST)

Approximately 61 minutes of data was extracted from the EARTS CDR printouts relating to the November 18 incident involving JAL-1628 and the alleged UFO sighting.

Review of the data involving this incident did not show any abnormalities that could be associated with any type of target as indicated by the pilot of JAL-1628.

Radar returns from the aircraft and surrounding terrain vary with the different segments of the flight, but are considered normal for the area.

Returns relating to the incident can be categorized as three types: primary radar reinforced by a beacon reply (primary radar returns and beacon returns are both evident in the same 1/4 mile range cell), beacon only reply and beacon with an associated radar reply. Seventy-two percent of the replies were radar with beacon reinforcement (same range cell) which is normal for the Murphy dome radar system.

Approximately 25 percent were beacon only and of those that registered as beacon only, 90 percent of those had a primary only reply within 1/8 of a mile, either ahead or behind the beacon target (~~5~~ behind, ~~12~~ ahead).

3/3/87

6

13

These uncorrelated primary returns are not uncommon, due to the critical timing associated with the delay adjustments in the aircraft transponder for beacon systems and the target correlation circuitry within the radar equipment.

When an aircraft is being interrogated as it passes through the beginning of adjacent range cells the intricate timing between the two systems very often is off just enough to declare both a beacon and a radar target in different range cells, resulting in uncorrelated radar replies.

The data derived from the JAL-1628 flight is representative of the data from another aircraft in the same general area and is considered normal.

February 25, 1987

DS

Dennis R. Simantel
ZAN-AAL-ARTCC

CONCUR: David F. Morse, AAL-400

Plus: PENN'S PROFESSOR OF PETS / HERO OF STYLE: NANCY REAGAN

INQUIRER

MAY 24, 1987

The Philadelphia Inquirer Magazine

MARGUERITE DEL GIUDICE
4810 TRINITY PLACE
PHILADELPHIA, PA 19143

ENCOUNTER OVER ALASKA

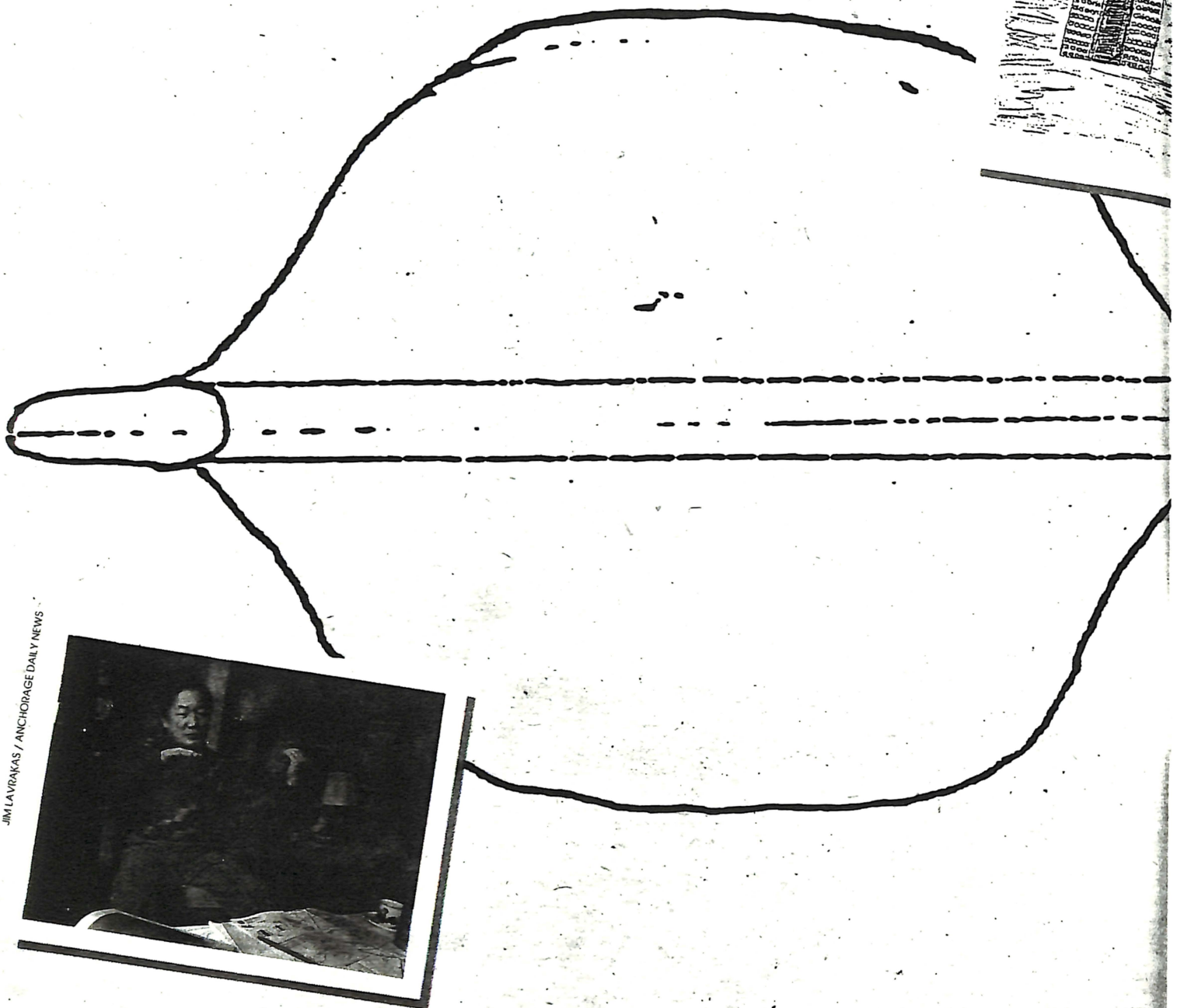
THE UFO
THAT CAN'T BE EXPLAINED.

BY MARGUERITE DEL GIUDICE



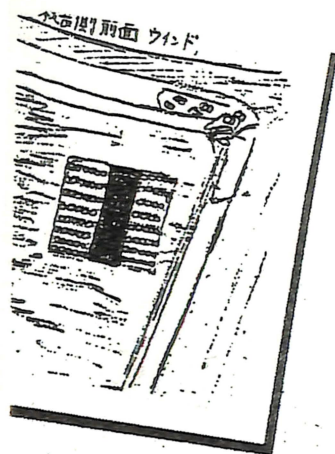
THE UFO THAT CAN'T BE EXPL

For nearly an hour, a huge, unrecognizable *something*, performing amazing maneuvers, followed JAL Flight No. 1628 over Alaska. Veteran pilots saw it. Three different radar scopes tracked it. And once it disappeared, it still wasn't gone . . .



JIM LAVRAKAS / ANCHORAGE DAILY NEWS

AINED



THE PILOT'S DRAWINGS

"Two spaceships and a mothership," is how senior JAL Capt. Kenju Terauchi described what tallied his Boeing 747. His drawings for the Federal Aviation Administration show two squarish, flickering bracelet-like objects (top inset), the lights he described as "flying nozzles," as they appeared in the windshield of his aircraft. The enormous sphere with a lip around the middle, the colossal size of two aircraft carriers, dwarfed his comparatively tiny jumbo jet.

By
**MARGUERITE
DEL GIUDICE**

people had just held a banquet and every single one of them was there, accounted for — so that blew that theory.

It was a nightmare, until some FAA employees with teenagers started coming up to the public affairs guy, Paul Steucke, saying things in the hallways like, "Uh, Paul, my kid tells me. . ."

It turns out that the teenagers had devised an inventive way to amuse themselves in the biting, dry, desperately uneventful Alaskan winter at 20 below. They would take those flimsy bags from the dry cleaners and fashion a contraption involving thin cardboard with a votive candle stuck to it and soda straws strung together in the shape of an X. If you light the candle and breathe into the bag, the thing will fill with light and float in a wavy glow all the way up to 5,000 feet. The teenagers would send up six of these over half a mile, confounding the adults with manufactured lightballs.

The news was a huge relief. Some bags finally turned up hanging off telephone wires — Paul Steucke took pictures — and that was the most captivating event to emerge from the vast Far North in many years.

Until news broke last Christmastime that would prove far more troublesome to explain:

A veteran Japan Air Lines pilot in a jumbo jet reported being shadowed for almost an hour by something that looked and behaved like nothing he had experienced in his 29 years in the skies. His report began, *Two thousand years ago, if a hunter saw a TV, how did he describe it to other people? My experience was similar to this. . . . It created many questions that a human being cannot answer.*

His name was Capt. Kenju Terauchi.

The crew was shaken but stable — and convinced they had seen something that could be neither ignored nor readily explained. But no harm had been done, and at first all the FAA appeared to have on its hands were highly credible people reporting highly incredible things — fascinating, but inconclusive. The scant files on the matter dropped quietly to the bottom of the investigation heap, and the sighting seemed destined to go down as just one of those crazy Alaskan things.

Of course, that's not what happened.

For Capt. Terauchi had unwittingly set in motion a sequence of events that would subject him to international attention — to excited curiosity and gawking and ridicule — and absorb the FAA in probably the biggest UFO controversy to be aired in the public domain since the Air Force got out of the UFO business in 1969.

Let's backtrack to that baffling Monday in November, around suppertime in the northern skies of Alaska, where the sun disappears until the middle of March. . . .

MARGUERITE DEL GIUDICE is an Inquirer staff writer.

THE OTHER UFO MYSTERY

out of Alaska happened some winters ago when the citizenry of Anchorage erupted with reports of wavering lights floating high in the night sky. The duty officers at the Federal Aviation Administration were going wild. The public affairs guy was up all night on the phone. The wavering lightballs were being reported everywhere — it was weird, and people were getting zooley.

Somebody called up the control tower at Anchorage International, and the tower said, Well, they look like balloons to us. So the reporters immediately went to the hot-air-balloon people and said, Have you been flying balloons?, and it just so happened that all the hot-air-balloon

JAPAN AIR LINES FLIGHT NO. 1628, a Boeing 747 — a "heavy" — left Iceland bound for Anchorage on the afternoon of Nov. 17, flying above 30,000 feet and under a nearly full moon. It was the middle leg of a Paris-to-Tokyo cargo delivery. A big load of Beaujolais wine had been picked up in Paris the day before, along with Capt. Kenju Terauchi, First Officer Takanori Tamefuji and Flight Engineer Yoshio Tsukuba — who rode with the wine to Iceland and spent the night at a new hotel where the beds were too small.

The next day, they took the fuel-efficient Great Circle Route over the pole. An unstable air current shook the plane for about two hours; otherwise, the flight was uneventful. But then they crossed the Canadian-Alaskan border and headed toward Fort Yukon.

Thirty-five thousand feet below, Carl Henley was placing them on his radar scope. The FAA's Anchorage Air Route Traffic Control Center hummed with a calm intensity and glowed in radar green — the climate of an inner sanctum. Henley's a big, mustachioed fellow from Arkansas with wavy black hair and seven years' experience as a controller. This was his sixth day of work, an overtime shift. He directed 1628 to fly directly to Talkeetna, and it was at this point, as the plane turned left in response, that the crew headed dead into their curious close encounter.

At first, whatever it was looked to the crew just like a couple of lights, moving off in the distance. The lights could have been fighter jets or special aircraft on special missions. The crew ignored them.

But the lights didn't go away, so First Officer Tamefuji radioed to ground control to find out whether anybody else was up there with them. When Henley told him no, Tamefuji replied in halting-but-adequate English, "Ah, we in sight two traffic in front of us, one mile about." A little too close for comfort.

Henley wanted to know if it was military or civilian, but the crew couldn't tell.

They did see what looked like navigational lights, strobe lights.

Henley: Roger, sir. Say the color of the strobe and beacon lights?

JAL: The color is white and yellow, I think.

Now that was odd. White and yellow, but no red, the international color for aircraft beacons.

THERE WERE THIN AND SPOTTY clouds near the mountain below the plane. The air current was steady, the sky was clear as a windshield, and Terauchi thought the flying conditions were quite pleasant.

Then the two lights started maneuvering like two bear cubs playing with each other, Terauchi would write later. He had to try to take a picture of this — maybe someone else would know what it was.

Flight Engineer Tsukuba handed Terauchi his camera bag, and a comedy of errors began. Terauchi's Minolta Alpha 7000 was loaded with ASA 100 film, intended for outdoor daytime scenery on the ground, and here he was flying through the shadows of the sky, six miles up, in a darkened cockpit. It would never work.

He aimed. The autofocus lens whirled in and out, open and closed, like a dilating pupil — it wouldn't set a focus in the dark. He switched to manual focus, but the shutter wouldn't release. Then the plane started to shudder, and he couldn't hold the camera still.

I placed my camera back in the camera bag and concentrated on observing the lights.

The crew was fixated on these objects, not knowing what to think. Then the experience turned hairy — the things came at them, stopped in front of our face, shooting off lights. . . .

The inside of the cockpit shone brightly, like a small den with a big TV, and Terauchi felt warmth on his face. These things were big, at least the size of a DC-8. He thought he might be flying into the rear end of some aircraft, into a midair collision.

The ships appeared to hover in front of the jumbo jet, then flew in level flight at the same speed, slightly higher, 1,000 feet away — a stone's throw by the distance rule of the sky. Terauchi could see what looked like exhaust pipes, and rotating rows of amber and white lights in the middle of these flying nozzles.

Something about them reminded him of a charcoal fire.

No manmade machine could do what these objects were doing, Terauchi thought. Flying in tandem around a jumbo jet hurtling through space at 550 miles an hour? It made no sense.

For three to five minutes, the ships stayed in formation with the jumbo jet, then moved forward and off to the left. Honestly, we were simply breathtaken.

The fear of a midair collision had passed.

We probably would have felt more in danger and would have been prepared to escape if the spaceships were shaking unsteadily or were unable to stop themselves. But there was nothing unsteady about these airships — their maneuvers were flawless.

continued on next page

UFO

continued from Page 17

SO NOW YOU SEE WHAT the captain and the FAA had gotten themselves into.

Dozens of times, day after day, the phone rang in Paul Steucke's office: NBC in New York, Radio Hawaii, Star Magazine, Canadian Broadcasting, The Sunday London Mirror, The French News Agency, The Washington office of TRUD, the Soviet National Daily Newspaper, National Public Radio, People magazine.

Public response was so great that the FAA decided to interview the JAL crew a second time and review the radar tapes. And Steucke started thinking strategy. What was the FAA's role and responsibility? What did it *know*?

The first officer and the flight engineer again corroborated the captain's dramatic report. But the FAA decided that the radar tapes did not — necessarily. The object on radar was now thought to be an accidental split image of the JAL 747, Steucke said, and

not a separate object — a familiar radar quirk. The people at Elmendorf, meanwhile, emphasized that their radar signals hadn't lasted long enough to be confirmed, and they attributed the apparent hits to coincidental electronic clutter.

The calls kept coming. Steucke kept getting new bits of material, and the thread of the story kept wandering. He felt as if he were "blowing up a balloon" — each time he doled out a bit of information, the story got bigger. He was constantly looking for holes in the data and trying to stay ahead of the reporters — not always with success.

Hal Bernton, for one, of the Anchorage Daily News.

After the FAA explained its double radar signal as a "split beacon," Bernton tracked down controller Sam Rich, who told him that three controllers had seen a radar image of an object near 1628 that night, and "all three of us thought there was a track," or aircraft. (That would be Rich, Henley and John Aar-

nink, who had stepped in to help out.) The track may not have been very strong, Rich told Bernton, but none of the controllers at the time thought it might be a split image of the 747.

Steucke called Rich in for a chat. He made Rich aware of the awkward position he had put the other controllers in — speaking for them without their knowledge. And from then on, Rich referred interview requests to Steucke's office, where reporters were informed that Rich didn't want to talk. A message also went out over the FAA employees' "code-a-phones" at work, warning that reporters would hound them on this story and that FAA policy required them to go through public affairs.

Steucke worried that this mix-up made him look bad. One day he's saying only one controller had handled 1628, and now he finds out there were *five*, counting supervisors, and they seemed to be disputing the FAA's publicly stated position! *What in the world was everybody going to think?*

At least he wasn't handling an air crash. The subject matter was fascinating, and things kept happening. Early on Jan. 11, for instance, Capt. Terauchi again reported seeing unusual lights while flying over Alaska. Once he landed and learned the location of a reported temperature inversion, he provided an explanation: As he flew near Arctic Village, the town lights had gotten distorted by bouncing off ice crystals created when cold air got sandwiched between two layers of warm air. Not a rare phenomenon. But, initially, the information was presented as if the FAA had come up with the explanation. Terauchi complained to reporter Hal Bernton, aware that it made him look like a crackpot.

Hank Elias, the Alaska air-traffic manager, felt bad for the captain. A pilot is always seeing things in the sky, he says, because that's where he's looking all the time. "You see things," he says, "and you rationalize." That's a star, that's another airplane, that's a navigational beacon. So

the captain sees something, and it doesn't look like anything he's seen in 29 years of flying. Then, says Elias, he's "got to look at everything else real critical from now on . . . the poor guy's got to take a real hard look and say, 'Is that another one?'"

Inside the FAA offices, meanwhile, the attitude was, *I can't believe it. What is all this interest?* But the sighting also generated wonder: For all anyone knew, the United States or the Soviet Union was testing some advanced experimental craft — what better place? Or maybe there was a physical explanation, beyond our current awareness, as meteorites once were, and radioactivity, atomic fission, the anomalous motion of the perihelion of Mercury. And was it likely that in all the vast universe, only Earth would be singled out for life?

"We all carry with us the seed of the possibility that what Capt. Terauchi described could actually have been there," says Steucke. "The debunkers are trying to keep us honest. At the same time,

SURGEON GENERAL'S WARNING: Smoking By Pregnant Women May Result in Fetal Injury, Premature Birth, And Low Birth Weight.

Kings, 17 mg. "tar", 1.2 mg. nicotine; 100's, 17 mg. "tar", 1.3 mg. nicotine; Lights/Kings, 10 mg. "tar", 0.8 mg. nicotine; Lights 100's, 11 mg. "tar", 0.9 mg. nicotine; Menthol Kings, 18 mg. "tar", 1.2 mg. nicotine av. per cigarette by FTC method.

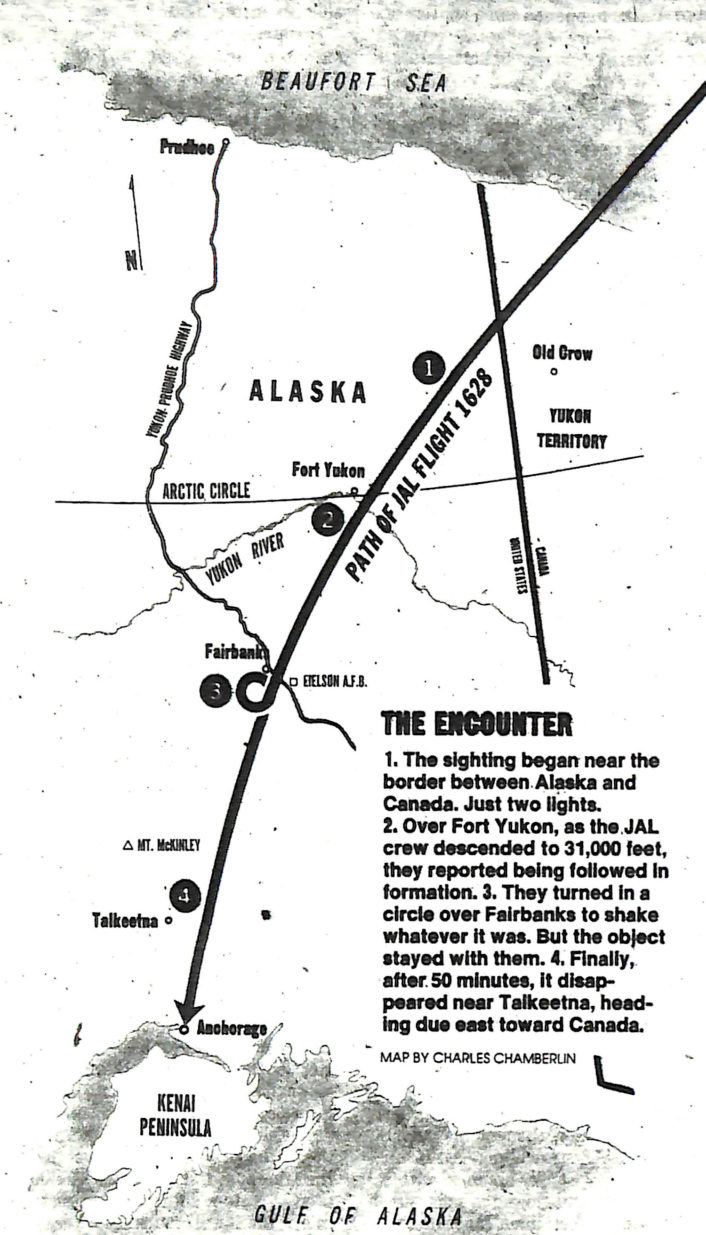
25 for the price of 20

Also Available in Lights & Menthol Kings, and Regular 100's.

Richland, USA

Suggested retail price of Richland 25's is the same as that of regular price 20's.





THE ENCOUNTER

1. The sighting began near the border between Alaska and Canada. Just two lights.
2. Over Fort Yukon, as the JAL crew descended to 31,000 feet, they reported being followed in formation. 3. They turned in a circle over Fairbanks to shake whatever it was. But the object stayed with them. 4. Finally, after 50 minutes, it disappeared near Talkeetna, heading due east toward Canada.

MAP BY CHARLES CHAMBERLIN

AS SEEN ON RADAR

The small diagonal slashes represent JAL Flight No. 1628 as it appeared on the FAA's radar scope. At first, the FAA said the tiny dots next to the slashes represented another object or objects. Then, after reviewing the radar tapes, the agency said the images looked like "split beacons" — accidental echoes of the jumbo jet itself, familiar radar quirks that just happened to coincide with the crew's visual reports.

UFO

continued from previous page

GROUND RADAR HADN'T registered anything near 1628, so nothing was likely to show up on the cockpit's weaker X-band weather scope. But the captain set the distance range to 20 miles — and to his surprise, something popped up. A large, green, round object, seven or eight miles away, in the direction of the thing outside his window.

Henley: Japan Air 1628. Do you still have visual contact with the traffic?

JAL: Affirmative... we have radar contact...

And then, so did Henley — a radar hit about five to eight miles from 1628.

He radioed Elmendorf Air Force Base, and the controller there reported picking up something, too — a weak return about eight miles ahead of 1628, at 10 o'clock. It lasted a minute, minute and a half. Radio interference, and an object seeming to register on three different radar scopes. What was this?

JAL: It's, ah, I think, ah, a very quite big, ah, plane.

Fort Yukon was diagonally below and to the right of 1628, and the setting sun painted the sky in a reddish stripe. The east side, the side where the objects were, was still pitch dark.

We had no fears so far but began to worry, since we had no idea for their purpose...

Up ahead they could see lights from Eielson Air Force Base and Fairbanks.

The lights were extremely bright to eyes that were used to the dark. How bright it was! We were just above the bright city lights, and we checked... behind us. Alas! there was a silhouette of a gigantic spaceship. We must run away quickly!

JAL: Japan Air 1628. Ah, request descent... request three one zero.

Henley: Japan... 1628 heavy. Descend at pilot discretion... Do you still have your traffic?

JAL: Still, ah, coming, ah, ah, right formation, in, ah, formation.

Henley: Japan Air 1628 heavy... deviations approved as necessary for traffic.

When we checked our rear, there was still the ship following us... We had to get away from that object. A globular craft with a lip around the middle, the colossal size of two aircraft carriers laid end to end.

What could it possibly want — the Beaujolais?

Henley: Japan Air 1628 heavy. Sir, I'm going to request you to make a right turn, three six zero degrees, three-hundred-and-sixty-degree turn. And advise me what your traffic does then.

JAL: Right turn, three sixty.

We... set to turn right on a 30-degrees bank. We looked to our right forward but did not see any light.

It had disappeared.

We were relieved... We returned to level flight. But when we checked to our rear, the object was still there — in exactly the same place.

On the ground, Carl Henley was glued to his radar scope. You're not supposed to have unknowns in air traffic control.

There isn't much room for error, and the system relies on an unquestioned mutual trust between controller and pilot. A controller has feelings about an airplane, even though it's just a little slash on a scope. When he's talking to a pilot, he's inside the cockpit with him. This 747 was reporting unidentifiable aircraft, and Henley's job was to get him safely away. He and the other controllers assumed they were tracking a second aircraft.

"I never thought of it as a UFO," he would say later.

VETERAN CONTROLLER SAM RICH returned from a lunch break and took over communications with the military so Henley could devote all his attention to 1628. Elmendorf radioed over that "on some other equipment here we have confirmed there is a flight, size of two," around 1628.

Rich: Is he following him?

Elmendorf: It looks like he is, yes. Oh, God...

Henley radioed the news to JAL and asked if the crew wanted the military to scramble on the traffic.

JAL: Negative, negative.

Uneasy as he was, the pilot didn't want to chance someone else getting hurt trying to help him and his crew. *Even the F-15 with the newest technology had no guarantee of safety against the creature with an unknown degree of scientific technology. We flew toward Talkeetna... The spaceship was still following us, not leaving us at all.*

The FAA shift supervisor, Erland Stephens, a lean, older fellow with a graying reddish beard who is given to string ties and cowboy boots, thought a lost aircraft might be following 1628's lights into Anchorage.

"His radio and navigation might have quit," Stephens figured.

So he followed procedure and alerted the U.S. Customs office at Anchorage International, and somebody called Hank Elias — the transplanted Oklahoman who's in charge of the FAA's air traffic division in Alaska.

Elias couldn't know whether it was a system failure or a life-threatening situation. And the proximity of the Soviet Union was always a factor — it could be an exotic experimental craft, or a defecting jet. The U.S.S.R. is so close to the United States up there that two guys in eight months had illegally walked across the frozen Bering Strait from the Alaskan island of Little Diomed to the Soviet island of Big Diomed. The Soviet Union likes to send its Bear bombers into Alaskan air space, carrying electronic snooping devices and sometimes missiles, and the United States likes to send its latest F-15s to intercept and escort them off. They listen to each other's radio transmissions, obtain radar frequencies, try to determine the capabilities of each other's aircraft. Sometimes, a Soviet fighter will tuck in so tight behind the tail of a commercial airliner that the pilot never even knows. And if the Soviet jet shows up on radar, he'll register, sporadically, only as a little dot — looking just like "a split beacon," an accidental split image, of the airliner. Shadowing, it's called.

Over the phone, Elias grilled the fellow who called: What did the pilot do, say,

see? Did the center have any flight plans on anybody this could be?

Henley: Do you still have the traffic?
JAL: Affirmative. Nine o'clock.

WHATEVER HAD SHOWED UP ON the military radar wasn't there anymore. And Henley wasn't seeing much, either. He had never really gotten a good track on whatever it was. United Airlines Flight No. 69 had just taken off from Anchorage; it was in the same air zone as 1628. Henley radioed the pilot to go take a look around 1628, and a Totem C-130 military flight with extra gas offered to fly over as well.

Up in the JAL cockpit, 1628 could make out the United airliner. The two planes flashed landing lights at each other, and the United pilot advised ground control that he could see 1628, set against a light background.

We were flying the east side of Mount McKinley. . . . We knew that they were watching us. When the United plane came by our side, the spaceship disappeared suddenly, and there was nothing but the light of the moon.

Neither United nor the Totem C-130 saw a thing, other than the JAL jumbo jet.

Whatever it was had split — instantaneously, it seemed to the crew — toward the east, toward Canada.

THE STUNNED CREW of Flight No. 1628 landed about 6:25 p.m. on Runway 6R at Anchorage International, ending a 50-minute ordeal that was terrifying and fantastic. Henley immediately took a breather to clear the knots out of his gut. With "questions in my mind that I couldn't answer," he sat down to write

his report, as the head of security for the FAA pulled up in his Lincoln Continental.

This would be Jim Derry, a steely, bulky, bearded man without hair, who was once an adviser with the Army's Special Forces in Vietnam. He, security agent Ron Mickle and James Wright from flight standards ran the crew around the block a couple of times on what they'd seen. "We weren't really sure what we had," Derry said later. "Was it a security situation, or a violation of air space? It was just a strange thing."

Derry judged the captain to be "a very stable, competent professional." He was sure he was concerned. "It's like driving down the highway on an empty road and all of a sudden four lights come up over your left windshield and follow you for an hour," said Derry. "It gets your attention."

The first officer and flight engineer hadn't had as clear or sustained a view as the captain. "But what they saw, they saw pretty much the same," Derry said. He made notes, judged the crew to be *normal, professional, rational, no drug or alcohol involvement. . . .*

It didn't seem to Derry that any further investigation would be warranted by security. "There was nothing there," he said, "to indicate that anything was insecure." If anybody decided to do anything, it would have to be the people at flight standards, or air traffic control.

Finished at the airport, Derry drove over to a hotel in Anchorage where a security guy from Washington was staying — Dave Smith, manager of the FAA's Investigations and Security Division, who was in town to talk about drug-monitoring programs. Derry had spent the day showing him around. He took Smith for coffee, told him all about the sighting, and the two men mused over the bewildering things that sometimes happen in the vast open terrain of the far Far North, in America's last frontier.

FOR WEEKS, NOTHING happened.

The FAA inspectors already had their hands full with far more pressing cases, crashes in which people had died, and the JAL sighting got banished to the bottom of the investigations pile. Out of sight, it was out of mind — until the day before Christmas, when Paul Steucke got a phone call from

Shokichi Kibe, an Anchorage restaurateur and correspondent for the Kyodo News Service of Japan.

It seems that Capt. Terauchi's spell-binding report was the talk of the cockpit among Japanese pilots. The London bureau chief for KNS, Hiroshi Iguchi, had gotten wind of it from some Japanese fliers he was friendly with, and he had interviewed the captain at the Forum Hotel, a JAL haunt, when Terauchi flew through London in December. Soon KNS was dispatching Shokichi Kibe to confirm the story with Steucke. The forgotten JAL sighting was about to be raised from the dead.

"Somebody had picked up pretty good information," said Steucke, a lean, silver-haired career government employee, like his father before him, who drives a white Porsche and keeps a jar of M&M's on his organized desk. Kibe wanted to know if it was true.

Steucke looked back five weeks in his files and told him, "Yeah." It had completely slipped his mind. Kibe was welcome to come over — Steucke would give him whatever information was available. After all, this was Alaska. You ask a straight question up here, you tend to get a straight answer.

Steucke had no idea what he was about to get into after the holidays, even after Jeff Berliner of United Press International in Anchorage called, wanting to know about this JAL sighting that was making the papers in Tokyo. Steucke got the file out again. Berliner talked to Jim Derry, probed a little deeper and filed a story that night that was transmitted nationwide.

The next day reality set in. The phones rang and rang and rang. It reminded Steucke of the first big story he had handled three weeks after taking this job in 1983, when a Korean Air Lines Boeing DC-10 taking off on a foggy day had taxied down the wrong runway, in the wrong direction, and run over a Navajo twin-engine commuter flight with eight people on board. The office was inundated with inquiries, day and night, until Steucke could get the news out that no one had been killed.

But this story was far more idiosyncratic

— and trickier to shake. Steucke was going to have as much trouble getting rid of it as the JAL crew had with whatever those tenacious lights were that had shadowed them.

Of course, most inquiries came from reporters. But Steucke just took that as a reliable reflection of genuine curiosity among average citizens — the reporters were only acting on their behalf, as scouts.

Before long, Steucke started hearing rumblings from afar that higher-ups in the FAA were queasy about any association with unidentified flying objects. The agency's image might be tarnished.

Steucke had split for Alaska 12 years ago, to get away from the commutes and hassles of the East Coast, and word of the honchos' uneasiness made him yearn to go paint pictures — his avocation. He started to wonder where he was treading, how far he should go.

Like Capt. Terauchi, Steucke had entered the dangerous arena into which are cast all those who dare to publicly involve themselves with unidentified flying objects. *UFO* indicates just that, a flying object that is simply unidentified, regardless of speculation about its origin. But to many, the term has come to suggest the flying saucers of supermarket tabloids. Those who show interest risk being labeled as true-believers in visitors from outer space, intellectual flyweights, or just birdbrains with plenty of room upstairs to rent. To avoid ridicule, most serious researchers have retreated to the shadows and keep their mouths shut about what could be going on in the seemingly infinite universe.

Capt. Terauchi probably would have been wiser to do that; he could have spared himself the phone calls, the rubbernecking, the mockery. But by all accounts he is an honest and forthright man. By doing his duty, by reporting in good conscience something in the sky that wasn't supposed to be there, he brought public controversy upon himself and embarrassing scrutiny within a profession that is highly conscious of image.

The FAA, meanwhile, did not want to encourage public hysteria by cavalierly releasing information whose meaning it could not ascertain. It also did not want to cast aspersions on the crew — it had no reason to — or create the impression that it had anything to cover up, because it didn't. The FAA just didn't know.

It was a lose-lose situation.

THE AIR FORCE HAD spent 22 maddening years investigating UFO reports before closing down the last government watchdog, Project Blue Book — and the FAA had no interest in picking up where the retreating Air Force had left off. The UFO issue had lent itself too readily to fantasy and hoax; it was impossible to control. Its history had been protracted, complicated and attended to by myriad panels and projects that passed the hot potato around without settling anything — a scenario laid out in *The UFO Controversy in America*, a 1975 book by Temple University professor David Michael Jacobs.

Ground control: Do you still have the traffic? JAL: Affirmative. Nine o'clock.

Project Blue Book had been preceded by Project Sign, Project Grudge, Project Twinkle, with the high point of Air Force involvement occurring in 1952. There had been a tremendous number of UFO reports that year — including radar scope sightings, later deemed inaccurate, that led the Air Force to scramble jets to intercept UFOs above the nation's capital. So the CIA convened a panel of five distinguished nonmilitary scientists — the Robertson Panel — to examine whether the sightings threatened national security. After 12 hours of study over three days, the panel concluded that the real danger didn't seem to be the UFOs. The real danger was the UFO reports — seemingly more credible because of the Air Force's sustained interest — reports that could expose the public to "psychological warfare" and "skillful hostile propaganda" that might "induce hysterical behavior and harmful distrust of duly constituted authority." The Russians would surely get us.

Informed critics argued that the government was going about the investigation all wrong, that investigators were preoccupied with the potential threat to national security — this was the '50s, after all, the height of the Cold War — and not with serious scientific analyses of the thousands of cases from all over the world.

But no matter what the Air Force people did, certain UFO quarters routinely suspected them of orchestrating elaborate cover-ups.

The flying-saucer business was the biggest public-relations headache in Air Force history. Finally, the Condon Committee, an academic group convened in 1966 to come up with a nonmilitary read on the situation, said exactly what the Air Force wanted to hear — knowledge wouldn't be advanced by further study, and Project Blue Book should be put to sleep.

It was, in 1969, and the examination of UFOs passed into the hands of independent researchers and private organizations such as MUFON and CUFOs — the Mutual UFO Network based in Seguin, Texas, and the J. Allen Hynek Center for UFO Studies in Glenview, Ill. The vanguard of current research centers on increasing reports of abductions that involve traumatic medical examinations on members of different generations of the same families — hair-thin needles inserted up the nose, plugs of skin taken from backs, arms, legs.

No — the FAA had no interest in arousing history's tendency to repeat itself. The government had learned its lesson well: The emotional, ungainly issues related to unidentified flying objects were in no way conducive to bureaucratic control.

continued on Page 24

Every time the public affairs guy doled out information, the story ballooned.

the believers are trying to keep the possibility alive."

THE INQUIRIES KEPT COMING — mostly from the media and some from independent UFO investigators like Richard Haines, a compact, precise, polite California scientist in wire-rimmed bifocals who still pulls out chairs for women. When people called Steucke with scientific questions, or wanting to know about other pilot sightings, he sent them to Haines.

During the day, Haines works at NASA's Ames Research Center in Mountain View as chief of the Space Human Factors Office — they're helping design the interior of the space station as well as new space suits. At night and on weekends, at his own expense, he tries to keep track of and explain high-altitude sightings like Capt. Terauchi's — his hobby for 20 years.

He thinks pilots make good subjects: highly stable, highly trained, highly motivated, scientifically inclined, and unlikely to make casual reports of strange sightings, because of the potential to be embarrassed among their peers. Plus, an airplane comes with instruments that can record phenomena — "a flying laboratory," says Haines.

Over the years he has looked into 3,000 pilot-sightings and explained 2,500 of them as illusions or misidentifications of atmospheric phenomena. "But nonetheless," he says, "I have quite a few that are very unexplained, I would say 500." The Alaska sighting is one of them — but he says the only really unusual thing about it was the publicity. "People tend not to know about the others."

Like the dozen or so UFOs that six Brazilian jet fighters chased for half an hour last May after the objects registered on radar in Sao Paulo. Or the young Australian pilot Haines has just written a book about — who in 1978 reported a strange craft in his vicinity, then disappeared, while flying in a Cessna to buy some crayfish for a party.

Haines heard about the JAL sighting and proceeded to educate himself about the relevant radar systems and the dynamics of the Boeing 747. He got hold of wind aloft charts and weather photography. He worked the phones: Elmendorf, Steucke,

Derry, JAL, the pilot and first officer of the United jet. And he interviewed Capt. Terauchi for three hours by telephone with the help of a Japanese friend who is a pilot with a Ph.D. in engineering.

When Haines asked Terauchi how the two objects he first saw had moved in space, the captain said, "They move together as if they have a common center of gravity, and they oscillate slightly with a random wavering motion." The instant he flashed his landing lights at the United jet, whatever was following him disappeared.

"Whaddya mean, disappeared?" Haines asked. And Terauchi said:

"The lights went out."

IT WAS SOMETIME AFTER Haines spoke with the captain that Philip Klass, another noted independent UFO investigator, advanced a widely published theory that the captain had actually been looking at Jupiter, and maybe Mars.

It was late in January by then.

For many years, until his semi-retirement last June, Klass had been the senior avionics editor of *Aviation Week and Space Technology Magazine*. And for more than 20 years, his hobby has been to investigate "seemingly mysterious or famous UFO cases," he says.

"I have emerged — it sounds immodest, but I think it's true — as probably the leading skeptical UFO investigator in the country, if not the world," he says. "After 21 years, I have yet to find a case that I did not believe could be explained in prosaic or earthly terms. Because of this position, if there is an important new UFO case, I cannot afford to ignore it, if you will. It's sort of as if Sherlock Holmes were a real person living today, he couldn't afford to ignore Jimmy Hoffa's complete disappearance or other such seemingly mysterious crimes."

Klass didn't interview the pilot, because after hearing him on Larry King's late-night radio show, he says, "it was evident that he is not too skilled in English, and I don't speak Japanese." But his FAA contacts enabled him to "read and make extensive notes" of a transcript of the taped conversation between the cockpit and the ground. Then he approximated the southeasterly direction in which the captain and crew were looking, consulted "a professional astronomer," and worked out a theory:

Jupiter was extremely bright and visible in the direction of the reported UFO, and Mars was just below and to the right of Jupiter, which could explain the pilot's initial report of two lights.

"Jupiter was only 10 degrees above the horizon, making it ap-

continued on next page

MASSACHUSETTS

OVER 300 VACATION PACKAGES AND 146 PLACES TO CHOOSE FROM.

THE SPIRIT OF MASSACHUSETTS GREAT VALUE GETAWAY GUIDE

PLAN A GETAWAY.

To find the best vacation values in Massachusetts, you'll want to turn to our new *Great Value Getaway Guide*. It's filled with special savings on everything from friendly bed and breakfasts to glittering 5-star hotels. From Boston to the Berkshires. From Cape Ann to Cape Cod and the islands. You'll find affordable packages from one night to one week. And the best value of all is — it's yours free. Send coupon below or call now.

1-800-892-MASS x628

FREE. Yes, please rush me my Massachusetts Great Value Getaway Guide filled with great vacation values.

Name _____

Address _____

City _____

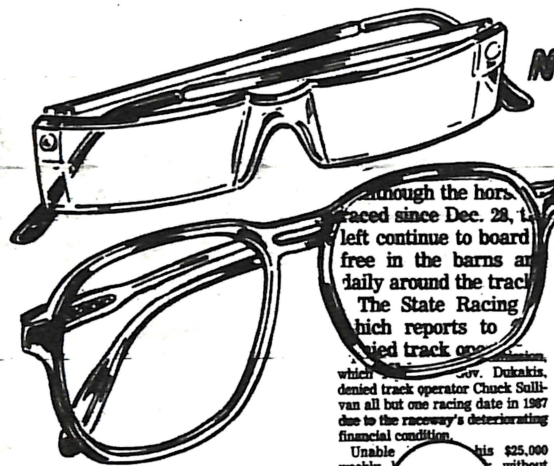
State _____ Zip _____

Please mail to: Spirit of Massachusetts, P.O. Box 1987, Canton, MA, 02021. Or call 1-800-892-MASS X628.

The spirit of Massachusetts is the spirit of America.

READING GLASSES

by
MAGNIVISION



Although the horse races since Dec. 28, the left continue to board free in the barns and daily around the track. The State Racing which reports to the track one... which Gov. Dukakis, denied track operator Chuck Sullivan all but one racing date in 1987 due to the racetrack's deteriorating financial condition. Unable to pay his \$25,000 weekly income without Sullivan up the has until 1200

- End Blurred Close-Up Vision
- Available In Eight Styles
- Nine Magnification Powers

Quantity Rights Reserved

CVS

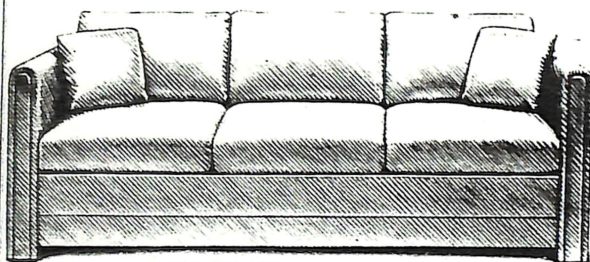
TODAY'S NEIGHBORHOOD DRUGSTORE

Available In Most Stores (Except Rhode Island & New York)

CUSTOM ORDER SALE

on EVERY sofa, sofabed & chair

\$699 Reg. \$1100



DELIVERY IN JUST 4 WEEKS

ALL sofas available as Sealy® Sofabeds for just \$100 more!



We give you what you can't buy anywhere else.™

KING OF PRUSSIA 153 South Gulph Rd., 100 yards East of

Howard Johnson's (215) 337-9533

CHERRY HILL Opposite Cherry Hill Mall at 216 Haddonfield Rd. (609) 662-4422

SPRINGFIELD (Delaware County) at 529-31 Baltimore Pike.

1/2 mile North of Rt. 420. (215) 544-6650

HOURS: Mon, Wed, Fri 10-8:30; Tues, Thurs Sat 10-6; Sun 12-5

SYLVAN POOLS

America's #1 Pool Builder!

CALL NOW FOR INFORMATION OR OUR FREE FULL COLOR BOOKLET
SYLVAN POOLS, DOYLESTOWN, PA (215) 348-2250

HOME MARKETING PLAGE

PERSONALIZED CARTOUCHE

Your name on a Hieroglyphic Pendant. Handmade in Egypt.

Silver from \$40

18k Gold from \$150

1-800-237-3358

Call for Information

Allow 6-8 wks Delivery

Discoveries

207 Ramsay Alley

Alex., Virginia 22314

(703) 548-9448 (In Va.)

REACH NEW HEIGHTS IN YOUR SCHOOL AND COLLEGE ENROLLMENTS

Schedule

INQUIRER

THE PHILADELPHIA
INQUIRER
MAGAZINE

Call

854-5416

Mothers Work™

EXECUTIVE MATERNITY
BOUTIQUE



Softly tailored suitdressing, classic suits, contemporary sportswear and elegant dresses for a great image during pregnancy (and after!) For free catalog call 625-9259.

GRAND OPENING:

MAY 15 - THE COURT AT KING OF PRUSSIA

MAY 15 - 1714 WALNUT OUTLET

JUNE 15 - 1714 WALNUT BOUTIQUE

Can't Climb Stairs?

Now's the time to install stairlifts/elevators in your home!

• Purchase • Lease • Rent



Rentals
As Low
As \$1.50
Per Day

- Easy to Operate
- Installed with No Damage
- Smooth Riding
- Immediate Installation
- Dependable Service and Maintenance
- Free Cost Estimate

Visit Our Showrooms

United Lift Rental Company

The Area's Largest Distributor Since 1978

800-662-0111

In New Jersey call collect (609) 234-5050

We Feature Cherry Products

UFO

continued from previous page

pear to the pilot to be roughly at his own 35,000-foot altitude," Klass wrote in a report for the Buffalo-based Committee for the Scientific Investigation of Claims of the Paranormal, of which he is a founder.

HAINES COULDN'T buy the theory. It focused only on the very end of the 50-minute episode, and did not take the crew's entire experience into account.

"There's no way it could be a planet," he says. "The autopilot was flying the airplane in a straight line. Terauchi tells me that the object first appeared at 12 o'clock, then moved out rather quickly to 10 o'clock or 10:30 before it came back again."

That's not Jupiter, he says, because Jupiter doesn't move. "If the airplane is stable ... and Jupiter is stable, it doesn't explain this business" of the objects moving back and forth. Besides, he says, the objects were way too big to be planets.

When the story about Klass' Jupiter theory came over the wires at the Anchorage Daily News, Hal Bernton called up Terauchi. The pilot was adamant — he had recognized Jupiter during the flight, and whatever had tailed him was no planet.

Klass laughed when told that the pilot had rejected his explanation: "This is par for the course. When a person is a dedicated UFO believer, as the pilot is and was, he'll always deny a prosaic explanation. You know, of course, that he's a UFO repeater."

Klass was referring to the captain's second interview with the FAA. When asked if the Nov. 17 sighting was the captain's "first experience," the captain told of two other occasions. Once, from his home, he had observed bright lights for 10 minutes at what he judged to be 10,000 feet. And five years ago, on a cargo flight south of Formosa, "when we start climb we saw lefthand side big mother-ship." But he said it was too "weird," he wasn't feeling well, and he ignored it.

Asked to comment on these remarks, Steucke said, "The fact that he saw a couple of other things, I think, is outweighed by the balance of the fact that he's a captain for a large airline and has flown for a long time and has a great deal of responsibility."

AT A CERTAIN POINT, THE FAA decided not to release any more information until all the material had been gathered and scrutinized. While the lid was on, Elias, the air-traffic manager, handcarried the radar disc pack to Washington and picked up

Harvey Saffer, the FAA's director of Air Traffic Evaluations and Analysis. Their mission was to take a final good look at the radar returns, with the help of the staff at the FAA Technical Center in Atlantic City. The computer there could regenerate the signals into a pattern by stringing them together like pearls.

They looked and looked and looked at it. They played the radio tapes, trying to re-create the actual scenario. Five times they looked at it.

"We come to the conclusion," says Elias, "that, uh, you know ... we can't confirm nor deny. If the [crew] had never said anything, we would have said, 'We see that every day.' It would have been passed off as a split beacon or 'uncorrelated target.'"

This occurs when the signal coming off the skin of the airplane and the signal coming out of the airplane's transponder don't hit the ground at exactly the same moment. "It's just like an echo," says Elias. On the radar scope, it looks like a little dot next to the slash that represents the airplane. Elias noticed one odd thing: The dots jumped around in relation to the slash. It wasn't unheard of, but it wasn't usual either.

What may have caused the split beacon was not determined. But both Steucke and Elias agreed that the coincidence was extraordinary — a crew reporting something outside their window and on their cockpit radar, at the same time that both the military and the FAA were receiving intermittent radar signals in the plane's vicinity. Steucke passed off the synchronicity of events as "ironic."

Says Elias: "You can't be absolutely positive. That's an honest answer. ... The FAA is not saying it positively, absolutely, without a shadow of a doubt, is a split beacon. ... We neither confirm nor deny."

Elias returned to Alaska with his inconclusive results. "The Admiral," FAA administrator Donald Engen, an old jet pilot, wanted to be kept abreast of what was what, so Elias and the controller briefed him by phone. And someone on Harvey Saffer's staff briefed the presidential science adviser.

BY THIS TIME, ALL THE MATERIALS related to the Nov. 17 sighting were trickling into Paul Steucke's office from half a dozen different places, and he scheduled a news conference for March 5 in Anchorage.

He also drew up an extraordinary order form of materials related to the sighting — Terauchi's narrative report, for instance (\$1.10), or tapes of conversations between ground con-

The pilot was adamant — whatever had tailed him was no planet.

control and the JAL (\$50), or inscrutable 8-by-10 glossy blow-ups of radar signals (\$10). The deluxe package cost \$194.30 — the ultimate inside look at this increasingly bizarre little incident. A story about it ran over the wires.

There were hundreds of requests for various parts of the package. More than a few wanted the whole thing. And everybody wanted it right away.

THE FULL AND FINAL news conference that was intended to kill this story once and for all was an anticlimactic event at which the FAA released two pounds of documents and no conclusions. It took place in a spacious room with an American flag in a corner, and unfathomable diagrams of airplanes and radar signals up on the white boards that lined the room. Steucke was the only FAA person available to answer questions. He had called up the Air Force people, and "they told me three things to say": Their radar signal was clutter, there was no scramble, and there is no investigation. And none of the FAA's technical people would be there to answer questions, he said, because, "frankly, they're gun-shy as hell about it."

Besides, the FAA was not in the UFO business, would not be in the UFO business in the future, and did not intend to conduct a scientific investigation, he said. "We pursued this from what I would call an operational systems view... We were out to determine if there was another aircraft there, which we were not able to do one way or the other."

He did mention a couple of other unusual, far less-dramatic pilot sightings above Alaska, but the bottom line on this one was that the safety of the air traffic control system had not been compromised — case closed.

EPILOGUE

RICHARD HAINES HAS moved on to other sightings by pilots. The Alaska sighting "will go down as a good case," he says. "Not the best. But a good solid case" for which "there is no logical explanation." But he's afraid the publicity it generated will discourage pilots from reporting unusual phenomena — if they realize that whatever they tell

ground control could be turned over to the American public, for a fee.

Back in February he received a post card from Capt. Terauchi, who apologized for not answering Haines' follow-up letters. "Sorry for the delay," the captain wrote, "but things are getting hot" — don't call me, I'll call you.

Erland Stephens, the shift supervisor in the control room the night of the sighting, has had some medical problems and is on sick leave. He says that if he had been in Capt. Terauchi's position, he would have kept his mouth shut, or told what he had to tell as a humorous story.

Carl Henley, who handled the JAL flight that night, wants you to know he's just an air traffic controller who likes his job. He'd like to talk to Capt. Terauchi one day — he feels they've been through something together — and find out whether there was anything he could have done for the pilot that he didn't do.

Paul Steucke and his wife went out to dinner to celebrate on the night of the final news conference. Life was good. Two galleries in Alaska were carrying his artwork, he was flirting with a third in Honolulu, and he was about to be named a federal employee of the year in a competition involving 30 U.S. agencies in the Anchorage area.

And Capt. Kenju Terauchi, the veteran pilot who did his duty and reported what he saw, has moved back to Tokyo after three years in Anchorage, where he had liked to fish for red and silver salmon. The easy speculation is that he decided to distance himself from an event that had caused him more harm than good. But JAL insists the move was a routine rotation. The captain left instructions with the airline to tell anyone who calls that he stands by his account — and does not wish to give it again. Anchorage Daily News reporter Hal Bernton was left with the impression that Terauchi felt he got hung out to dry. The pilot grew more reticent with each conversation; he seemed frustrated. But he remained convinced that Flight No. 1628 had indeed encountered something highly advanced technologically, and unlikely to have originated on Earth.

"I can't understand the technology," he told Bernton, "but it was not dangerous."

If there is a next time, Terauchi said, he might try blinking his wing lights four times, then twice more — "Hi" in Morse code. And perhaps one day, someone else will see what he saw, he said, and his controversial experience will take on new meaning.

"I think," said the captain, "we have to keep this record." □

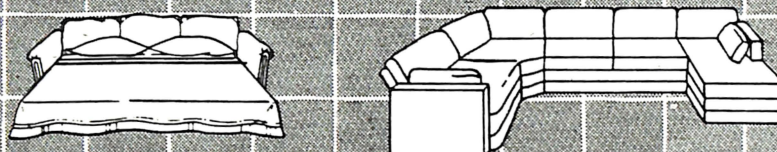
SPECIAL ORDER SALE SAVE 25%

OFF ORIGINAL PRICE

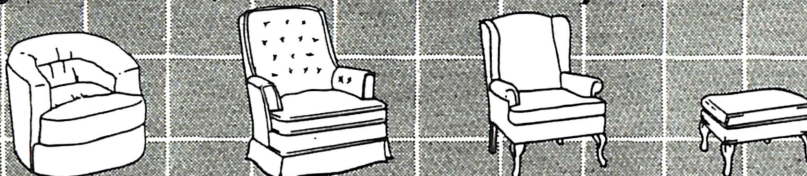
Get the sofa or loveseat you want...



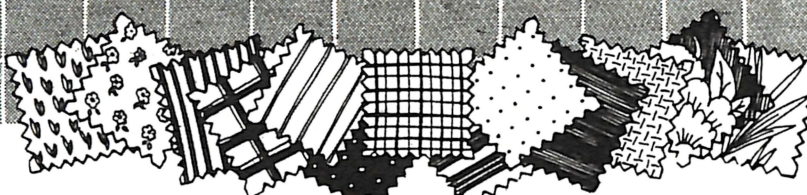
get the sleeper, or sectional you want...



get the chair, recliner or ottoman you want...



in your favorite style, fabric & price... in only 35 days.



SALE ENDS JUNE 7

Choose from over
400 frames

Choose from dozens of
sofas, love seats,
sleepers, chairs,
sectionals and
recliners at prices
ranging from
\$499 to \$1,000.
You get a...

Custom sofa at
non custom prices

Choose from over
800 fabrics

Choose from hundreds
of fabrics which
are guaranteed
against wear and
our frames
are guaranteed
for life. Now you
can get your...

Custom furniture
delivered in 35 days



WE HAVE THE SELECTION
YOU MAKE THE CHOICE.

PA.
EASTON, PA.
4007 William Penn Avenue
(215) 258-5800
FAIRLESS HILLS, PA.
Rt. 1 — 1/4 mile north
of Oxford Valley Mall
(215) 943-4390
LANEDOWNE, PA.
Noel Schmidt Furniture
32 E. Baltimore Avenue
(215) 626-3199

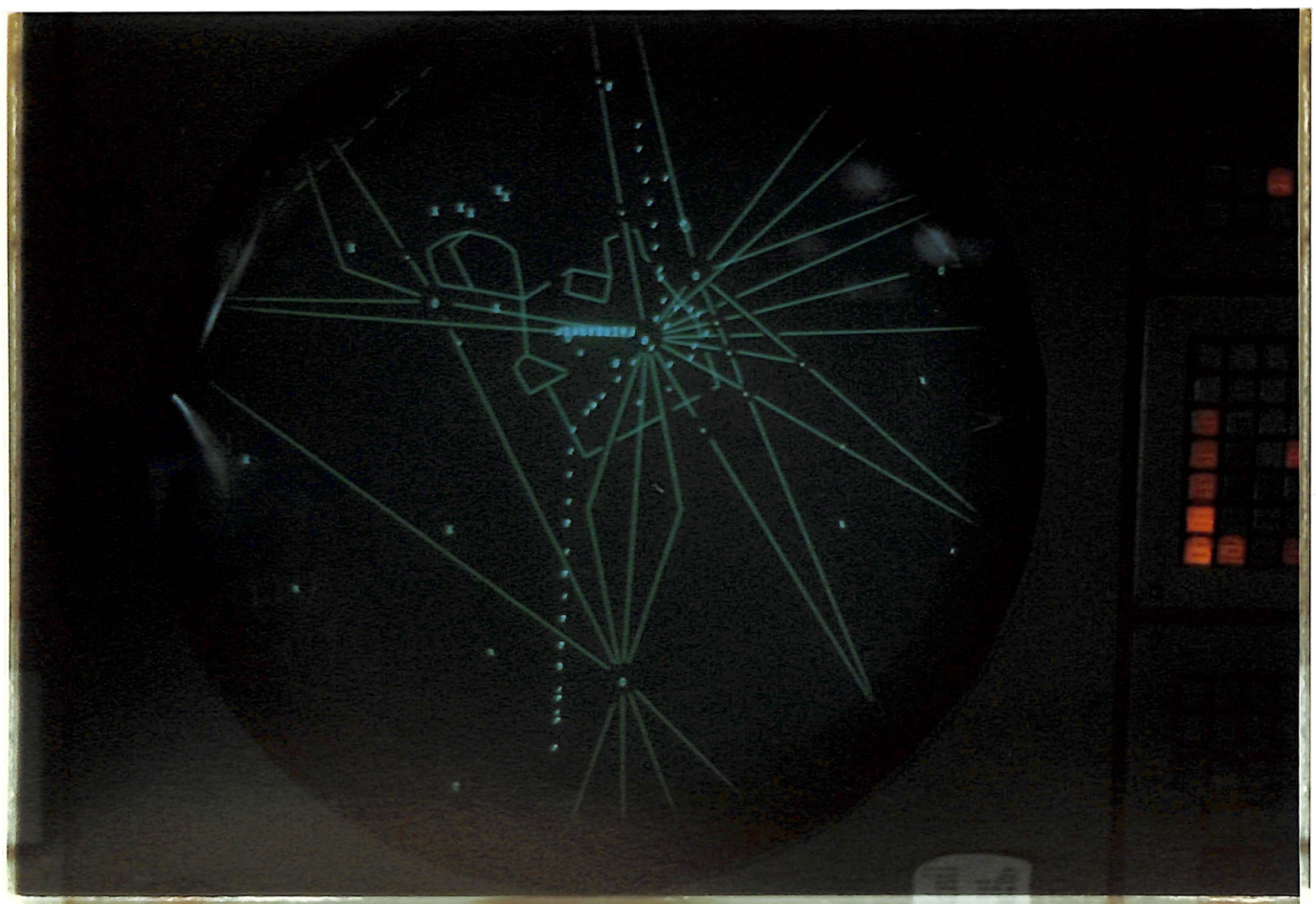
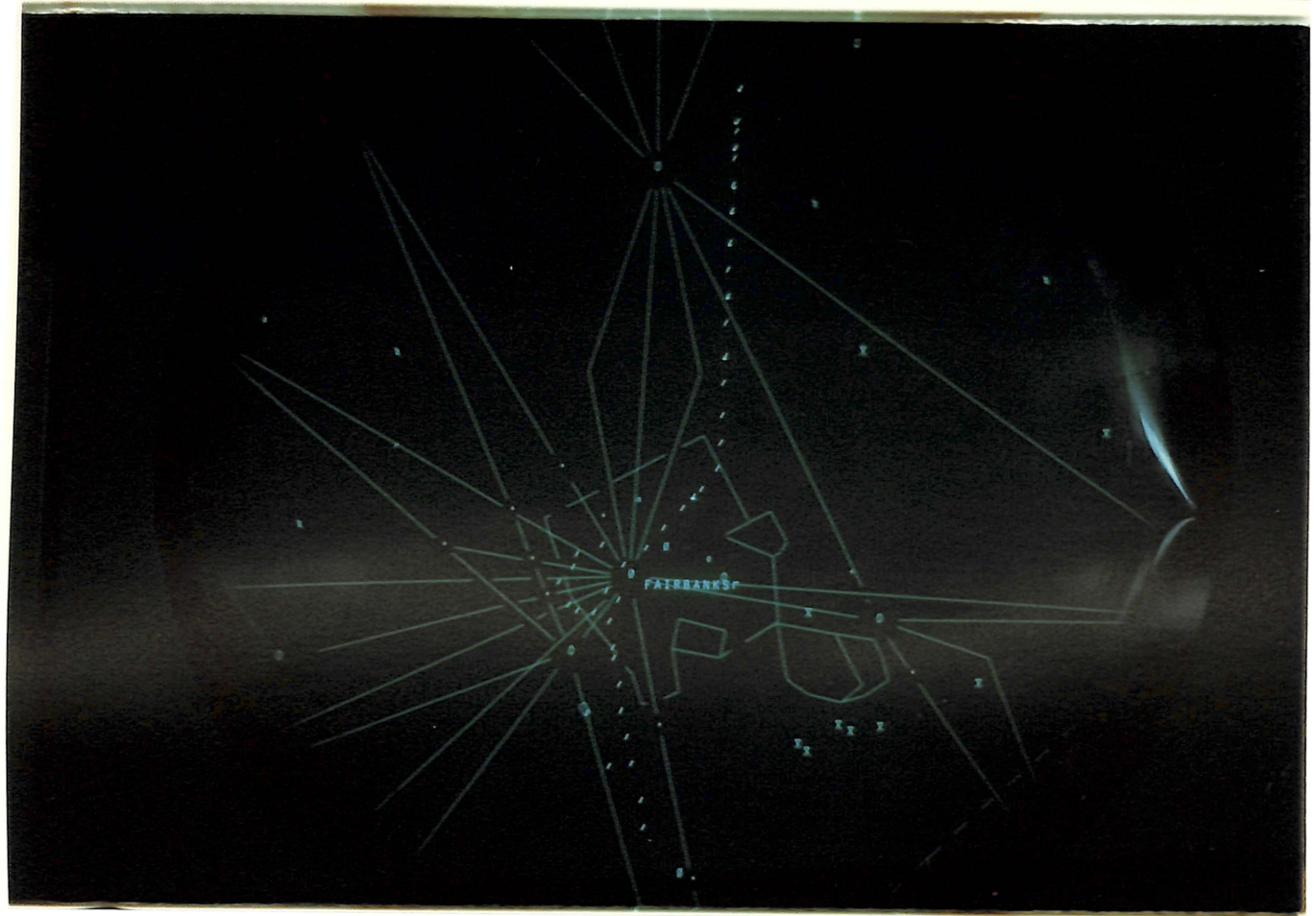
MALVERN, PA.
Rt. 30 near Rt. 29
2 miles west of Paoli
(215) 296-3431
MONTGOMERYVILLE, PA.
LBM Building
Rts. 309 & 463
(215) 362-5455
PHILADELPHIA, PA.
New Market — 2nd & Pine
Across from Rusty Scupper
(215) 925-8871

POTTSVILLE, PA.
1361 Farmington Avenue
1/2 mile S. of Halfway House
(215) 327-0922
WHITETOWN, PA.
2321 MacArthur Road
2 blocks north of mall
(215) 437-7877
DEL.
WILMINGTON, DE.
3905 Kirkwood Highway
(302) 995-7029

NJ.
BERLIN, NJ.
Dougherty Furniture
Rt. 73 & Harker Avenue
(609) 767-0041
HADDON HEIGHTS, NJ.
Kingsway Furniture
916 Kings Highway
(609) 547-4625
MILLVILLE, NJ.
R.B. Conson Co.
19 High Street
(609) 825-0041

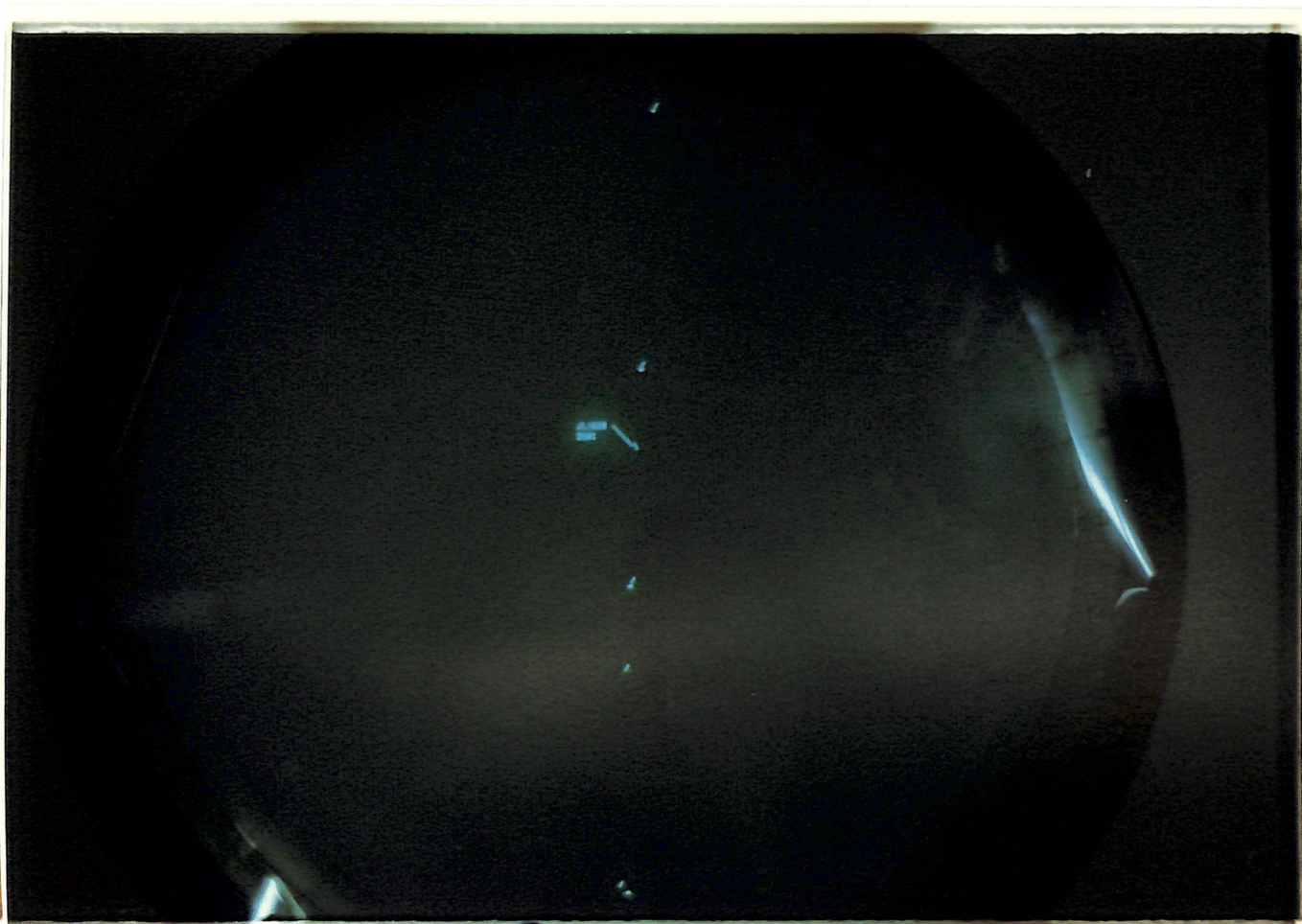
PITMAN, NJ.
Getz Furniture
27-29 South Broadway
(609) 589-0916
NORTHFIELD, NJ.
430 Tilton Road
Across from Silo
(609) 646-8998

© Copyright 1979 Choice Seating, Inc.



REGENERATED RADAR IMAGE
OF NOV. 17TH, 1986
JAL #1628, ALASKA
PHOTO BY P. STEUCKE, 1-7-87

REGENERATED RADAR IMAGE
OF NOV. 17TH, 1986
JAL #1628, ALASKA
PHOTO BY P. STEUCKE, 1-7-87



REGENERATED RADAR IMAGE
OF NOV. 17TH, 1986
JAL #1628, ALASKA
PHOTO BY P. STEUCKE, 1-7-87
(Distance between dots, bottom of photo
is 1/8 to 1/4 mile apart)

REGENERATED RADAR IMAGE
OF NOV. 17TH, 1986
JAL #1628, ALASKA
PHOTO BY P. STEUCKE, 1-7-87