

# COMM CENTRAL

## HIGH TECHNOLOGY INNOVATION & SERVICE

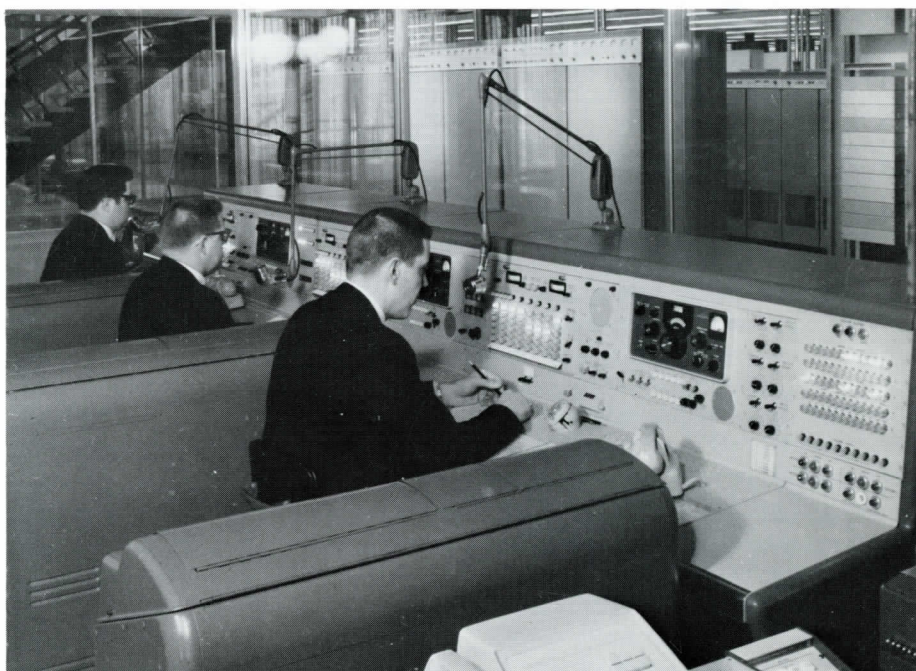
Worldwide High Frequency  
Radio Communications  
From The Midwest.

"COLLINS FLIGHT TEST", "AF3X", "RASPUTIN", "LIBERTY", "KHT", "ROCKWELL FLIGHT TEST", — these past and present call names belong to a unique communications facility operated within the Collins Telecommunications Products Division in Cedar Rapids, Iowa. It is more commonly known as "Comm Central."

Comm Central was built in 1958. The station was used to research high frequency communications in conjunction with the military Short Order Program. A display and observation booth were built around the station to showcase the developments of Collins Radio.

An interim station was built and operated in the Short Order Net from 1960 until the Communications and Data System Division designed and built a complete communications system.

In 1962, the station that many remember as "Liberty" was opened and operated from the new communications and data building. The operators called the station the "fishbowl" because of the glass walls.



*The "Fishbowl" — Comm Central in the 1960's. The operations room was enclosed in glass and became known as the "fishbowl". In the foreground is teletype equipment used with Air Force One communications. Large 45,000 watt transmitters can be seen through the glass panels.*

### PRESIDENTIAL COMMUNICATIONS

The Cedar Rapids station became known as "Liberty" during the 1960's when Communications Central was involved with the Andrews Air Force Base VIP network. Collins had a contract with the Air Force to serve as either the primary communication station or as a backup whenever Air Force One, the presidential aircraft, and other aircraft in the VIP fleet carried cabinet members or high-ranking military officers. Over the airwaves the stations' call word was "Liberty".

### SPECIAL PURPOSE MISSIONS

During the Vietnam war years, Comm Central was active in the Military Affiliated Radio System (MARS). During 1967 alone, Comm Central completed 7,122 patches from servicemen in Vietnam to friends and loved ones all across the country.

Comm Central was also involved in many special communication projects. One such project; the Rockwell polar flight, which took place in November 1965, was the first around-the-world flight to pass over both the North and South poles. The Boeing 707





**PLAISTED EXPEDITION** — *Comm Central was the link to civilization from the Arctic for this 10-man polar expedition. Their second attempt to reach the North Pole was successful in April 1968.*

established eight world records for jet transports and the crew conducted many scientific experiments. One of the 40 persons on board was Lowell Thomas, Jr. Thomas fed regular voice reports of the flight to Comm Central where they were relayed to Lowell Thomas, Sr., at the CBS studio in New York for his nightly news program. Aboard the aircraft, Collins provided long-range communication with a 618T-2 transceiver. The purpose of the Collins experiment was to obtain data on high frequency propagation conditions from many locations over a short period of time.

At no time throughout the three-day flight were they unable to make contact between the aircraft and Comm Central, even from the normally difficult propagation areas surrounding the poles.

Two 1966 around-the-world business jet flights also were supported by the Liberty station. They were the Lear jet flight which established 20 world speed records, and the Rockwell-Standard Aero Commander flight which included Arthur Godfrey as one of its

crewmembers. A Collins 618T single sideband transceiver was bolted into the luggage rack of the Lear jet, and a 26-foot wire was used as an antenna. Over 97 percent communications reliability was achieved around the world on both flights.

An Amelia Earhart commemorative flight by aviator Ann Pelegrino in 1968 was another globe-girdling mission for which the Liberty station provided nearly 100 percent communications reliability.

## PLAISTED POLAR EXPEDITION

The Plaisted expedition, which used motorized snow sleds to cross the Arctic to the North Pole in 1967 and 1968, also maintained communications with home via Comm Central.

The overland trip to the North Pole started out as a dream conceived by Ralph Plaisted and Dr. Arthur Aufderheide to launch the first surface assault on the North Pole in 58 years. Although their first attempt in 1967 failed, the team of ten Americans and Canadians tried again the next year and reached its destination on April 19, 1968.

It was with Collins communications equipment that the world learned of the achievement. The equipment was used for communications between the ice party and base camp, base camp and Comm Central, and the ice party and Comm Central. Reports from the ice party dealt with ice conditions, progress made, condition of the men, requests for supply drops, and personal messages.

Plaisted said the Collins transceivers functioned well even though they were



**AERO COMMANDER GLOBAL FLIGHT** — *Crew member Arthur Godfrey was in the cockpit while this business jet circled the world in 1966. One of two around the world flights that year which relied on Comm Central for communications.*



subjected to a severe beating over the "most miserable ice anyone could imagine."

Don Powellek, who operated the KWM-2s on the ice and back at base camp, said, "The reliability is way beyond our expectations. We were able to communicate at any time we chose, either to Cedar Rapids, or other parts of the world. We have made some fabulous contacts."

First word that Plaisted had reached the pole came through the Collins Comm Central. Charles Kuralt of CBS News was present to talk with Plaisted. The interview was viewed by millions of Americans who watched the Saturday evening news program the following night.

## MANHATTAN PROJECT

In the fall of 1969, Collins equipment aboard a huge ice-breaking oil tanker played an important role in a \$26 million gamble.

In a dramatic attempt to open the long-sought Northwest Passage through Arctic seas, two United States oil companies and a British firm combined efforts to establish a sea route to rich oil fields discovered at Alaska's Prudhoe Bay. If Arctic oil could be shipped in quantity through the ice-choked waters, the eastern United States would gain access to a vast new fuel supply. The decision by Humble Oil and Refining, Atlantic Richfield and British Petroleum to challenge the Northwest Passage captured the admiration of Arctic experts, but many were skeptical of the chances for the mission's success.

Because of the high priority given to communications and the urgent need to have the system installed, Humble asked Collins Radio to satisfy all the communications requirements of the expedition and put the system in working order within 60 days. The high frequency single sideband equipment installed included a shipboard communications system, amateur radios, a log periodic antenna and a vertical antenna. The "Manhattan" was the first known commercial vessel to use a log periodic antenna. Tanker-based helicopters were equipped by Collins with homing systems, automatic direction finders



*First 747 to London — In 1970 commercial air travel flew into the era of the jumbo jets with the Boeing 747. News reports from the first regular service flight from New York to London were heard on radio network stations in the U.S. by way of a Comm Central link.*

and two separate VHF transceivers to allow them to find a hand-held radio beacon used by landing parties. Small VHF radios were supplied by Collins for use by landing parties.

More communications message traffic was handled on the "Manhattan's" three-month voyage than most ships conduct during a lifetime. During its first month at sea, the "Manhattan" averaged 7 hours, 20 minutes of communications traffic per day. The ship made more than 5,000 logged contacts with Comm Central's maritime station, KHT, while at sea, plus additional contacts with commercial carriers handling shortwave radio traffic in the Arctic. About one-fourth of the contacts with KHT were via 100-word-per-minute radio-teletype.

Throughout the journey the "Manhattan" maintained 96 percent communication reliability between the ship and the Liberty station, despite such factors as solar flares and magnetic storms. Messages sent from the "Manhattan" were picked up by the Liberty station in Cedar Rapids and relayed to Humble headquarters by way of direct telephone lines.

## FLYING GRANDFATHER

Max Conrad, the famous "Flying Grandfather", departed Winona, Minnesota, on 30 November 1969 on a trip around the world over the poles. This was his second attempt in a twin-engine Piper Aztec named the "St. Louis Woman". Comm Central provided communications for the flight using several calls on high frequency networks. Conrad's aircraft was equipped with a Collins 618T transceiver.

## FIRST 747 TO LONDON

A single sideband link to the Liberty station in 1970 enabled Americans to witness, through radio network broadcasts, a historic new era of aviation — the first regular service flight of Pan American World Airways' giant Boeing 747 jet from New York to London.

Radio network correspondents aboard the new aircraft gave accounts of the flight. Reports came live via Collins single sideband high frequency radio from the aircraft to the Liberty station, and were fed into landlines to network headquarters in New York.

The 747 inaugural service flight was not the first in which the Liberty station maintained radio contact with a 747 across the Atlantic. When one of the transports was flown from the Boeing





*Comm Central today — The new Comm Central Facility dedicated in September 1983. Operational requirements of the station are combined with a high-technology look, while just outside the glass doors is displayed the history of Comm Central.*

plant near Seattle, Washington, non-stop to the 1969 Paris air show, the Collins Comm Central link was utilized for position and progress reports.

Comm Central was moved and redesigned in 1983 to keep pace with the changing high frequency communications technology. Yellow tablets and dial pulse control were replaced by computer terminals and printers. Integrated into the design of the new communications complex was a section dedicated to historical achievements by the various Collins divisions.

The new station features four communication consoles, computer systems, an automatic antenna

switching matrix, and the Collins line of HF-80 communications equipment. A remote-controlled station in Newport Beach, California, is controlled by the station in Cedar Rapids via computer.

Comm Central is licensed as an experimental high frequency research station, an aeronautical flight test station, and as a limited coast maritime station. The radio traffic handled by the station includes communication and phone patching to aircraft, drill rigs, and tankers on the high seas. Comm Central also serves as a "testbed" and display area for Collins high frequency products. Nine operators keep the station manned 24 hours a day, seven days a week.

**Comm Central — Further evidence that Collins Telecommunications Products Division of Rockwell International is dedicated to continuing innovation, excellence, and leadership in high-frequency communications.**

**COLLINS  
TELECOMMUNICATIONS  
PRODUCTS DIVISION**

DEFENSE ELECTRONICS OPERATIONS

523-0773382-001210



**Rockwell  
International**

**...where science gets down to business**

Printed in USA