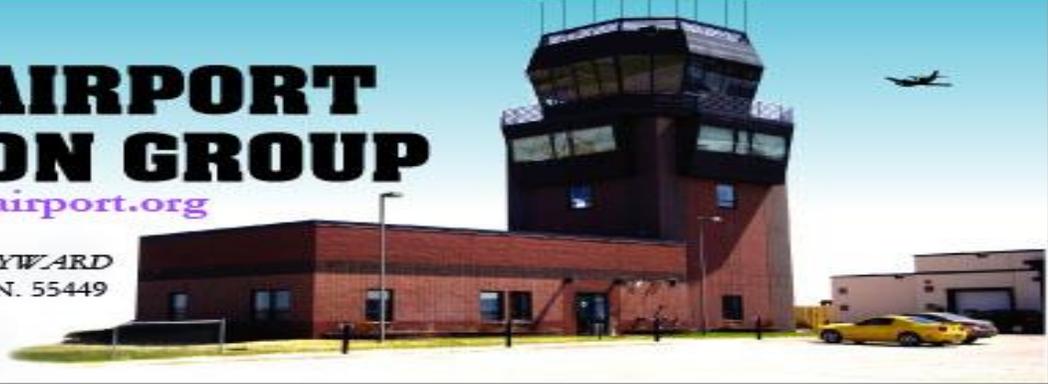


BLAINE AIRPORT PROMOTION GROUP

www.aneairport.org

TAKING YOUR AMBITIONS SKYWARD
8891 Airport Road C-2, Blaine MN. 55449



EDUCATION COORDINATOR JUNE 13, 2013



REFLECTIONS OF HISTORY

From a trained telegraph operator at Western Union, to inventor, holding over 1,093 patents that included a battery for an electric car, electric power, the phonograph, the motion picture camera and a long-lasting electric light bulb. Thomas Alva Edison is credited as the fourth most prolific inventor in history.

Thomas Edison gained notice as an inventor in 1877 with his unexpected accomplishment of producing a sound recording on tinfoil wrapped around a cardboard cylinder giving the world its first phonograph recording.

Edison's earlier inventions were outgrowth of his experience as a young telegraph operator and contributed greatly to mass communication, especially in telecommunications.

These innovations were products of Edison's development of the first industrial research lab located at Menlo Park, New Jersey under the supervision of Consulting Electrical Engineer, William Joseph Hammer. This research lab was funded from the sale of Edison's invention of the Quadruplex Telegraph to Western Union in 1874 for a sum of \$10,000.

The standard telegraph could only send a message one way on a wire. The problem of sending two signals simultaneous in opposite directions on the

same wire was solved previously by Julius Wilhelm Gintl and improved by J.B. Sterns.



Standard land line telegraph hand key & radio headset, with transmitter on display at Golden Wings Museum

Edison's patented method added the ability to double the number of signals that could be sent in each direction at the same time. A *Quadruplex Telegraph* used one signal to vary the strength of the signal called *Amplitude Modulation (AM)* and the other signal to vary the Phase called *Phase Modulation* to change the direction of the signal. This concept is now called *Polar Modulation*.



Headset electronics receive signal at two electro magnets. When changes in signal amplitude are received a thin disk in the ear piece will vibrate producing the signal reproduction.

BLAINE AIRPORT PROMOTION GROUP BASIC THEME

- Promote our value as a good neighbor...
- Communicate Aerospace career development through connection between Aeronautical principals and (STEM) Science, Technology, Engineering, & Mathematics, through tours and on-field venues.
- Introduce Aeronautical programs that will assist teachers in Aerospace Curriculum development.
- Be an active participant in on-field venues.

Blaine Airport Promotion Group



JULY 16, 2013 • DATE SET FOR A COMPLETE TOUR OF THE AIR PORT

The North St. Paul Schools will be hosting their summer program of 300 students attending the 1st, 2nd, & 3rd grades. We will be organizing our instructors for two sessions. The first group of 150 students will arrive at 10AM and departure planned for 11:30 AM. The second group of 150 students will arrive at 12:30 and departure at 2:00. Field Coordinator, Michelle Freisinger is our school contact.

BOMBERS STRAIGHT AHEAD

★ COLLINGS FOUNDATION ★
"Experience History"
 Tel: 800.568.8924 @ www.cfdn.org

The B-17, B-24, and P-51 are on the 24th season of the Wings of Freedom Tour.

The Wings of Freedom Tour brings historic aviation to your community! Tour through the authentically restored aircraft or take a flight aboard for the ultimate immersion in history!

Surprise someone special with a flight certificate!

WINGS OF FREEDOM TOUR

- Flight Experiences Donations are \$425 per person aboard the B-17 or B-24.
- The B-25 is available at select locations for flight experiences. Flight experiences on the B-25 are \$400 for forward fuselage seats, and \$325 for waist gun seats
- Flight training in the TP-51C "Betty Jane" will be at most locations on the Wings of Freedom Tour. Flight training in the P-51 is \$2200 for a half hour flight, and \$3200 for a full hour. All participants will get the chance to feel what it was like to fly one of the most legendary fighters of WWII.
- Walk through tours of the aircraft are \$12 for adults, and \$6 for children 12 and under for access to all of the aircraft. WWII Veterans get into the ground tours at no charge.

LOCATION: GOLDEN WINGS MUSEUM - 8797 AIRPORT ROAD, BLAINE AIRPORT - JANES FIELD IN BLAINE MINNESOTA.

FOR FLIGHT SEATING RESERVATIONS: CALL 1-800-568-8924

FOR MORE INFORMATION AND DIRECTIONS:



www.ANEairport.org click on public events

www.WWIIbigBombers.org 763-568-6072