VFR TERMINAL AREA CHART
MINNEAPOLIS - ST. PAUL

Airports having Control Towers are shown in Blue, all others in Magenta. Consult Chart Supplement for details involving airport lighting, navigation aids, and services. All times are local. For additional symbol information refer to the Chart User's Guide.

AIRPORTS

Other than hard-surfaced runways — Seaplane Base

Hard-surfaced runways 1500 ft. or greater

Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-DME, or VORTAC location.

All recognizable hard-surfaced runways, including those closed, are shown for visual identification. Airports may be public or private.

ADDITIONAL AIRPORT INFORMATION

Private "(Pvt)" - Non-public use having emergency or landmark value

Military - Other than hard-surfaced; all military airports are identified by abbreviations AFB, NAS, AAF, etc. DoD users, for complete airport information consult DoD FLIP.

Heliport Selected — Unverified — Abandoned - paved having landmark value, 3000 ft. or greater — Ultralight Flight Park Selected

Fuel - available Mon thru Fri 10:00 A.M. to 4:00 P.M. depicted by use of ticks around basic airport symbol. Consult Supplement for details and for availability at airports with hard-surfaced runways 1500 ft. or greater.

★ Rotating airport beacon in operation Sunset to Sunrise

OBJECTIONABLE - Airport may adversely affect airspace use.

AIRPORT DATA

Box indicates FAR 93 Special Air Traffic Rules & Airport Traffic Patterns. — FSS — FAR 91 — NO SVFR — Location Identifier — NAME (NAM) (PNAM) — ICAO Location Indicator shown outside contiguous U.S.

Runways with Right Traffic Patterns (public use) — CT - 118.3 ★ C ATIS 123.8 — 285 L 72 122.95 — RP 23, 34 — UNICOM

RP ★ Special conditions exist - see Supplement. — VFR Advsy 125.0 — AOE — Airport of Entry

FSS - Flight Service Station

NO SVFR - Fixed-wing special VFR flight is prohibited.

CT - 118.3 - Control Tower (CT) - primary frequency

★ - Star indicates operation part-time. See tower frequencies tabulation for hours of operation.

C - Follows the Common Traffic Advisory Frequency (CTAF)

ATIS 123.8 - Automatic Terminal Information Service

ASOS/AWOS 135.42 - Automated Surface Weather Observing Systems (shown where full-time ATIS not available). Some ASOS/AWOS facilities may not be located at airports.

UNICOM - Aeronautical advisory station

VFR Advsy - VFR Advisory Service shown where full-time ATIS not available and frequency is other than primary CT frequency.

285 - Elevation in feet

L - Lighting in operation Sunset to Sunrise

*L - Lighting limitations exist; refer to Supplement.

72 - Length of longest runway in hundreds of feet; usable length may be less.

When information is lacking, the respective character is replaced by a dash. Lighting codes refer to runway edge lights and may not represent the longest runway or full length lighting.

AIRPORT TRAFFIC SERVICE AND AIRSPACE INFORMATION

Only the controlled and reserved airspace effective below 18,000 ft. MSL are shown on this chart.

- Class B Airspace
- Class C Airspace (Mode C - see FAR 91.215/AIM.)
- Class D Airspace
- [40] Ceiling of Class D Airspace in hundreds of feet (A minus ceiling value indicates surface up to but not including that value.)
- Class E (sfc) Airspace
- Class E Airspace with floor 700 ft. above surface that laterally abuts Class G Airspace. (CLASS G)
- Class E Airspace with floor 700 ft. above surface that laterally abuts 1200 ft. or higher Class E Airspace
- Class E Airspace with floor 1200 ft. or greater above surface that laterally abuts Class G Airspace
- 2400 MSL / 4500 MSL — Differentiates floors of Class E Airspace greater than 700 ft. above surface.

Class E Airspace exists at 1200' AGL unless otherwise designated as shown above.

Class E Airspace low altitude Federal Airways are indicated by center line.

Intersection - Arrows are directed towards facilities which establish intersection.

132° — V 69 — 169 — Total mileage between NAVAIDs on direct Airways

Class E Airspace low altitude RNAV 2 Routes are indicated by center line.

T 319 — TK 313 — (Helicopter Only) — RNAV Waypoint

- Prohibited, Restricted, and Warning Areas; Canadian Advisory, Danger, and Restricted Areas
- Alert Area and MOA - Military Operations Area
- Special Airport Traffic Area (See FAR 93 for details.)
- ADIZ - Air Defense Identification Zone
- MODE C (See FAR 91.215/AIM.)
- National Security Area
- Terminal Radar Service Area (TRSA)
- IR211 — MTR - Military Training Route
- IFR Departure Route
- IFR Arrival Route
- IFR Arrival/Departure Route

COMMUNICATION BOXES

122.1R 122.6 123.6 — OAKDALE — 362★ 116.8 OAK — 122.1R — CHICAGO CHI

Underline indicates no voice on frequency.

- Crosshatch indicates Shutdown status.

★ - Operates less than continuous or On-Request.

A - ASOS/AWOS

H - HIWAS

Heavy line box indicates Flight Service Station (FSS). Frequencies 121.5, 122.2, 243.0 and 255.4 (Canada - 121.5, 126.7 and 243.0) are available at many FSSs and are not shown above boxes. All other frequencies are shown.

Certain FSSs provide Airport Advisory Service, see Supplement.

R - Receive only

FSS radio providing voice communication — 122.1R — MIAMI

Frequencies above thin line box are remoted to NAVAID site. Other FSS frequencies providing voice communication may be available as determined by altitude and terrain. Consult Supplement for complete information.

RADIO AIDS TO NAVIGATION

VHF OMNI RANGE (VOR) — VORTAC — VOR-DME — DME — Other facilities, i.e., FSS Outlet, RCO, etc.

Non-Directional Radio Beacon (NDB) — NDB - DME

OBSTRUCTIONS

1000 ft and higher AGL — Below 1000 ft AGL — Wind Turbine — Wind Turbine Farm — 2894' UC

Group Obstruction

Elevation of the top above mean sea level — 2049 — Height above ground — (1149) — Under construction or reported; position and elevation unverified — UC

Obstruction with high-intensity lights; may operate part-time

NOTICE: Guy wires may extend outward from structures.

MISCELLANEOUS

A - Aerobatic Practice Area (See Supplement.)
G - Glider Operations
H - Hang Glider Activity
U - Ultralight Activity
UA - Unmanned Aircraft Activity

Parachute Jumping Area (See Supplement.)

Space Launch Activity Area (See Supplement.)

VPXYZ — VFR Waypoints (See chart tabulation for latitude/longitude.)

NAME (VPXYZ)

–1°E– Isogonic Line (2015 VALUE)

Marine Light

TOPOGRAPHIC INFORMATION

Power Transmission Line

Aerial Cable

Lookout Tower 618 (Elevation Base of Tower)

Mountain Pass 11823 (Elevation of Pass)

Pass symbol does not indicate a recommended route or direction of flight and pass elevation does not indicate a recommended clearance altitude. Hazardous flight conditions may exist within and near mountain passes.

FOR PROCUREMENT:
Contact an Authorized FAA Chart Sales Agent.
Visit our website http://faa.gov/go/ais and click on "Chart Agent Locator."
For digital products, visit http://faacharts.faa.gov.

REPORTING CHART ERRORS

You are requested to inform us of chart errors and/or additions that come to your attention while using this chart. Frequently asked questions (FAQs) are answered on our website at http://faa.gov/go/ais. See the FAQs prior to contact via toll free number or email. Telephone toll free at 1-800-638-8972, or email us at 9-AMC-Aerochart@faa.gov or mail to: FAA, Aeronautical Information Services, Customer Operations Team, 1305 East-West Highway, SSMC 4, Suite 4400, Silver Spring, MD 20910-3281.

Published by the U.S. Department of Transportation
Federal Aviation Administration
Aeronautical Information Services
http://faa.gov/go/ais

GROUND ELEVATIONS IN FEET — 1280 — 1000 — Sea Level — CONTOUR INTERVAL 250'

Lambert Conformal Conic Projection Standard Parallels 33° and 45°
Horizontal Datum: North American Datum of 1983 (World Geodetic System 1984)

Entire area of this chart is within the Central Standard Time Zone + 6 (+ 5 DT) = UTC

CONVERSION OF ELEVATIONS

FEET (Thousands) 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
METERS (Thousands) 0 1 2 3 4 5 6 7 8 9

MINNEAPOLIS CLASS B AIRSPACE

See back of this chart for procedural information within the Minneapolis Class B Airspace

EXAMPLES OF CLASS B ALTITUDES

70 --- Ceiling in hundreds of feet MSL
30 --- Floor in hundreds of feet MSL

ATTENTION

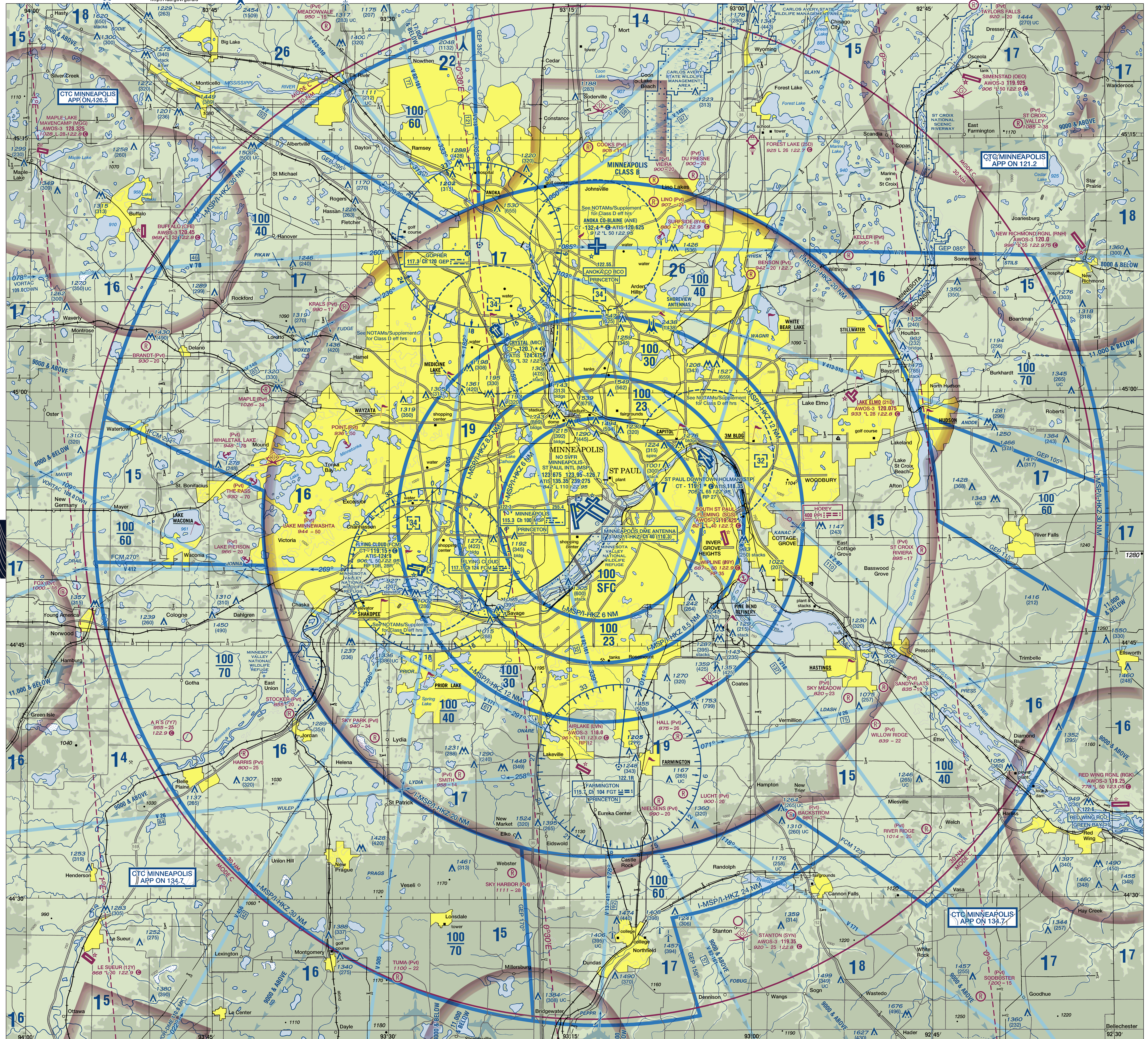
THIS CHART CONTAINS MAXIMUM ELEVATION FIGURES (MEF).
The Maximum Elevation Figures shown in quadrangles bounded by ticked lines of latitude and longitude are represented in THOUSANDS and HUNDREDS of feet above mean sea level. The MEF is based on information available concerning the highest known feature in each quadrangle, including terrain and obstructions (trees, towers, antennas, etc.).

Example: 12,500 feet 12⁵

CAUTION: Severe turbulence may occur over rugged terrain. See AIM.

NORTH AMERICAN AEROSPACE DEFENSE COMMAND (NORAD) PROCEDURES

All aircraft operating in the U.S. national airspace, if capable, will maintain a listening watch on guard frequencies VHF 121.5 or UHF 243.0. It is incumbent upon all aviators to know and understand their responsibilities if intercepted. Review "AIM" section 5-6-2 for intercept procedures. Additionally, if U.S. military fighter jets intercept an aircraft and flares are dispensed in the area of that aircraft, aviators will pay strict attention, contact air traffic control immediately on the local frequency or on VHF guard 121.5 or UHF 243.0 and follow the interceptor visual ICAO signals. Be advised that non-compliance may result in the use of force.



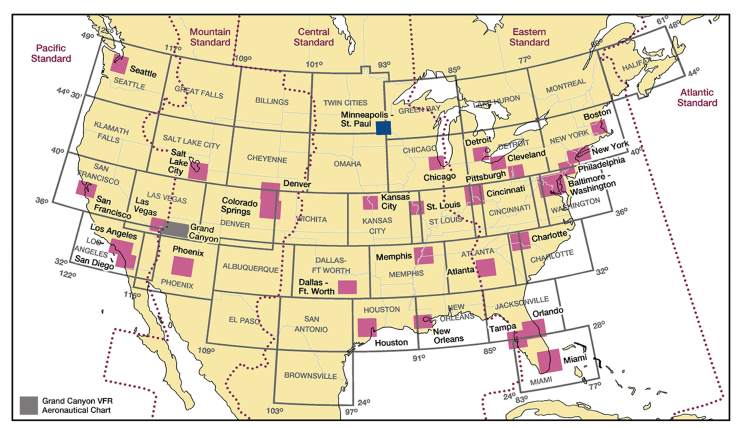
MINNEAPOLIS-ST. PAUL TAC
VFR TERMINAL AREA CHART SCALE 1:250,000

Federal Aviation Administration

86TH EDITION EFFECTIVE 0901Z **23 JUN 2016**
TO 0901Z **5 JAN 2017**

Includes airspace amendments effective **26 MAY 2016**
and all other aeronautical data received by **28 APR 2016**

Information on this chart will change; consolidated major updates of chart changes are available every 56 days in the CHART SUPPLEMENT Aeronautical Chart Bulletin section (online at http://faa.gov/go/ais). Also consult appropriate NOTICES TO AIRMEN (NOTAMs) and other FLIGHT INFORMATION PUBLICATIONS (FLIPs) for the latest changes.



PUBLISHED IN ACCORDANCE WITH INTERAGENCY AIR CARTOGRAPHIC COMMITTEE SPECIFICATIONS AND AGREEMENTS, APPROVED BY: DEPARTMENT OF DEFENSE * FEDERAL AVIATION ADMINISTRATION

Warning: Refer to current foreign charts and flight information publications for information within foreign airspace.

FAA Product ID: TMSP
NSN 7641014004964
NGA REF. NO. VFRTAMNSTPAUL
EFF. DATE 16175

NAUTICAL MILES — STATUTE MILES — KILOMETERS

MINNEAPOLIS-ST. PAUL

MILITARY TRAINING ROUTES (MTRs)

All IR and VR MTRs are shown, and may extend from the surface upwards. Only the route centerline, direction of flight along the route, and the route designator are depicted - route widths and altitudes are not shown.

Since these routes are subject to change every 56 days, you are cautioned and advised to contact Flight Service for route dimensions and current status for those routes affecting your flight.

Routes with a change in the alignment of the charted route centerline will be indicated in the Aeronautical Chart Bulletin of the Chart Supplement.

DoD users refer to Area Planning AP/1B Military Training Routes North and South America for current routes.

CAUTION: This chart is primarily designed for VFR navigational purposes and does not purport to indicate the presence of all power transmission and telecommunication lines, terrain or obstacles which may be encountered below reasonable and safe altitudes.

Features normally used as checkpoints for controlling VFR traffic are emphasized on this series of charts so they may be readily identified.

Example: POWER PLANT

The name shown is that used by the controlling personnel and is not necessarily the official name of the feature.

Class G Airspace within the United States extends up to 14,500 feet MSL. At and above this altitude all airspace is within Class E Airspace, excluding the airspace less than 1500 feet above the terrain and certain special use airspace areas.

REGULATIONS REGARDING FLIGHTS OVER CHARTED NATIONAL PARK SERVICE AREAS, U.S. FISH AND WILDLIFE SERVICE AREAS, AND U.S. FOREST SERVICE AREAS

The landing of aircraft is prohibited on lands or waters administered by the National Park Service, U.S. Fish and Wildlife Service or U.S. Forest Service without authorization from the respective agency. Exceptions include: 1) when forced to land due to an emergency beyond the control of the operator, 2) at officially designated landing sites, or 3) on approved official business of the Federal Government.
All aircraft are requested to maintain a minimum altitude of 2,000 feet above the surface of the following: National Parks, Monuments, Seashores, Lakeshores, Recreation Areas and Scenic Riverways administered by the National Park Service; National Wildlife Refuges, Big Game Refuges, Game Ranges and Wildlife Ranges administered by the U.S. Fish and Wildlife Service; and Wilderness and Primitive areas administered by the U.S. Forest Service. FAA Advisory Circular (AC) 91-36, "Visual Flight Rules (VFR) Flight Near Noise-Sensitive Areas," defines the surface as: the highest terrain within 2,000 feet laterally of the route of flight, or the upper-most rim of a canyon or valley.
Federal regulations also prohibit airdrops by parachute or other means of persons, cargo, or objects from aircraft on lands administered by the three agencies without authorization from the respective agency. Exceptions include: 1) emergencies involving the safety of human life, or 2) threat of serious property loss.

Boundary of National Park Service areas, U.S. Fish and Wildlife Service areas, and U.S. Forest Service Wilderness and Primitive areas.

Flight Following Services are available on request and highly recommended in and around Class B, C, and TRSA areas.

CONTROL TOWER FREQUENCIES ON MINNEAPOLIS–ST PAUL TERMINAL AREA CHART

Airports with control towers are indicated on the face of the chart by the letters CT followed by the primary VHF local control frequency (ies). Information for each tower is listed in the table below. Operational hours are local time. The primary VHF and UHF local control frequencies are listed. An asterisk (*) indicates the part-time tower frequency is remoted to a collocated full-time FSS for use as Airport Advisory Service (AAS) during hours the tower is closed. The primary VHF and UHF ground control frequencies are listed.

Automatic Terminal Information Service (ATIS) frequencies shown on the face of the chart are primary arrival VHF/UHF frequencies. All ATIS frequencies are listed in the table below. ATIS operational hours may differ from tower operational hours.

ASR and/or PAR indicate Radar Instrument Approach available.

"MON-FRI" indicates Monday through Friday.

O/T indicates other times.

CONTROL TOWER	OPERATES	TWR FREQ	GND CON	ATIS	ASR/PAR
ANOKA CO-BLAINE	0700-2100 OCT-APR 0700-2200 MAY-SEP	132.4	121.85	120.625	
CRYSTAL	0700-2100 OCT-APR 0700-2200 MAY-SEP	120.7	121.6	124.475	
FLYING CLOUD	0600-2100 1ST SUN NOV—2ND SUN MAR 0600-2200 2ND SUN MAR—1ST SUN NOV	119.15	121.7	124.9	
MINNEAPOLIS–ST PAUL INTL	CONTINUOUS	123.675 273.55 (RWY 17/35) 123.95 273.55 (RWY 12L/30R) 126.7 273.55 (RWYS 12R/30L & 4/22)	121.8 (N) 121.9 (S) 127.925 (W) 348.6	120.8 (DEP) 135.35 (ARR) 239.275 (ARR)	
ST PAUL DOWNTOWN HOLMAN	0600-2200 MON-FRI 0700-2200 SAT-SUN	119.1 257.8	121.675	118.35	

CLASS B, CLASS C, TRSA, AND SELECTED APPROACH CONTROL FREQUENCIES

FACILITY	FREQUENCIES	SERVICE AVAILABILITY
MINNEAPOLIS CLASS B	121.2 (NE) 126.5 (NW) 134.7 (S)	CONTINUOUS

MINNEAPOLIS CLASS B AIRSPACE

OPERATING RULES AND PILOT/EQUIPMENT REQUIREMENTS. Regardless of weather conditions, an ATC authorization is required prior to operating within the Class B Airspace. Pilots should not request an authorization to operate within the Class B Airspace unless the requirements of FAR 91.215 and FAR 91.131 are met. Included among those requirements are:

1. Unless otherwise authorized by ATC, an operable two-way radio capable of communicating with ATC on appropriate frequencies for that Class B Airspace.
2. No person may take off or land a civil aircraft at an airport within the Class B Airspace or operate a civil aircraft within the Class B Airspace unless:
   (a) The pilot in command holds at least a Private Pilot certificate, or holds a Recreational Pilot certificate and has met the requirements of FAR 61.101(d); or holds a Sport Pilot certificate and has met the requirements of FAR 61.325, or:
   (b) The aircraft is operated by a student pilot who has met the requirements of FAR 61.94 or FAR 61.95 as applicable.
3. Unless otherwise authorized by ATC, each person operating a large turbine engine-powered aircraft to or from a primary airport shall operate at or above the designated floors while within the lateral limits of the Class B Airspace.
4. An operable VOR or TACAN receiver for IFR operations.
5. A transponder with automatic altitude reporting equipment.

NOTE: ATC may, upon notification, immediately authorize a deviation from the altitude reporting equipment requirement or for a transponder failure; however, other requests for deviations from the transponder equipment requirement must be submitted to the controlling ATC facility at least one hour before the proposed operation.

FLIGHT PROCEDURES

IFR FLIGHTS—Aircraft operating within the Minneapolis Class B Airspace must be operated in accordance with ATC clearances and instructions.

VFR FLIGHTS—

1. Arriving aircraft should contact the appropriate approach control on specified frequencies and in relation to geographic fixes shown on the accompanying chart. Although arriving aircraft may be operating beneath the floor of the Class B Airspace on initial contact, communications should be established with approach control in relation to the points indicated for sequencing and spacing purposes.
2. Aircraft departing the primary airports are requested to advise clearance delivery prior to taxiing of their intended altitude and direction of flight to depart the Class B Airspace. Aircraft departing from other than the primary airports whose route of flight would penetrate the Class B Airspace should give this information to ATC on the appropriate frequencies.
3. Aircraft desiring to transit the Class B Airspace must obtain an ATC clearance to enter the Class B Airspace and will be handled on an ATC workload permitting basis.

ATC PROCEDURES

All aircraft will be controlled and separated while operating within the Class B Airspace, except helicopters need not be separated from other helicopters. Although radar separation will be the primary standard used, approved visual and other nonradar procedures will be applied as required or deemed appropriate. Traffic information on observed but unidentified radar targets will be provided on a workload permitting basis to aircraft operating outside the Class B Airspace.

NOTE: Assignment of radar headings and/or altitudes is based on the provision that a pilot operating in accordance with visual flight rules is expected to advise ATC if compliance with an assigned route, radar heading, or altitude will cause the pilot to violate such rules.