### IFR Aeronautical Chart Symbols

#### IFR Enroute Low/High Altitude (U.S. & Alaska Charts)

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#### Oceanic Route Charts

North Atlantic and North Pacific Route Charts

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#### General Information

Symbols shown are for the Instrument Flight Rules (IFR) Enroute Low and High Altitude Charts.
## IFR ENROUTE LOW/HIGH ALTITUDE U.S. & ALASKA CHARTS

### AIRPORTS

#### AIRPORT DATA

<table>
<thead>
<tr>
<th>AIRPORTS</th>
<th>LOW/HIGH ALTITUDE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Airports/Seaplane bases shown in **BLUE** and **GREEN** have an approved Instrument Approach Procedure published. Those in **BLUE** have an approved DoD Instrument Approach Procedure and/or DoD RADAR MINIMA published in DoD FLIPS or FAA TPP. Airports/Seaplane bases shown in **BROWN** do not have a published Instrument Approach Procedure.

- All IAP Airports are shown on the Low Altitude Charts.
- Non-IAP Airports shown on the U.S. Low Altitude Charts have a minimum hard surface runway of 3000'.
- Non-IAP Airports shown on the Alaska Low Altitude Charts have a minimum hard or soft surface runway of 3000'.
- Airports shown on the U.S. High Altitude Charts have a minimum hard surface runway of 5000'.
- Airports shown on the Alaska High Altitude Charts have a minimum hard or soft surface runway of 4000'.
- Associated city names for public airports are shown above or preceding the airport name. If the airport name and city name are the same, only the airport name is shown. City names for military and private airports are not shown.
- The airport identifier in parentheses follows the airport name or Pvt.
- Airport symbol may be offset for enroute navigational aids.
- Pvt - Private Use

### AIRPORTS DEPICTION

#### LOW ALTITUDE - U.S. & ALASKA

<table>
<thead>
<tr>
<th>Airport Name</th>
<th>Associated City Name</th>
<th>Airport Elevation</th>
<th>Airport Identifier</th>
<th>Part-time or established by NOTAM. See A/G tabulation for times of operation. In Alaska see Supplement.</th>
<th>Lighting Capability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARTINSBURG</td>
<td>Eastern WV Rgnl (MRB)</td>
<td>2935'</td>
<td>(add 00)</td>
<td></td>
<td>- Lighting available - No Lighting available - Full Control Lighting - For one or on request.</td>
</tr>
</tbody>
</table>

1. Airport elevation given in feet above or below mean sea level.
2. Pvt - Private use, not available to general public.
3. A solid line box enclosing the airport name indicates FAR 91 Special Requirements - see Directory/Supplement.
4. "NO SVFR" above the airport name indicates FAR 91 fixed-wing special VFR flight is prohibited.
5. Following the airport name indicates Class C or Class D Airspace.
6. There is no A/G tabulation on Alaska Low Altitude Charts.
7. Airport symbol may be offset for enroute navigational aids.
8. Associated city names for public airports are shown above or preceding the airport name. If the airport name and city name are the same, only the airport name is shown.

### HIGH ALTITUDE - U.S.

<table>
<thead>
<tr>
<th>Airport Name</th>
<th>Associated City Name</th>
<th>Airport Elevation</th>
<th>Airport Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIOUX CITY</td>
<td>Joe Foss Fld (FSD)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HIGH ALTITUDE - ALASKA

<table>
<thead>
<tr>
<th>Airport Name</th>
<th>Associated City Name</th>
<th>Airport Elevation</th>
<th>Airport Identifier</th>
<th>Longest runway length to nearest 100 feet with 70 feet as the dividing point (add 00)</th>
<th>s indicates soft</th>
</tr>
</thead>
<tbody>
<tr>
<td>GALENA</td>
<td>Edward G</td>
<td>55 725</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Associated city names for public airports are shown above or preceding the airport name. If the airport name and city name are the same, only the airport name is shown.
- The airport identifier in parentheses follows the airport name. City names for military and private airports are not shown.
RADIO AIDS TO NAVIGATION

VHF OMNIDIRECTIONAL RADIO RANGE (VOR)
DISTANCE MEASURING EQUIPMENT (DME)
TACTICAL AIR NAVIGATION (TACAN)

LOW/ HIGH ALTITUDE
VHF / UHF Data is depicted in Black
V / NP Data is depicted in Brown

COMPASS BEACONS are oriented to Magnetic North of the NAVAID which may not be adjusted to the charted magnetic values.

LOW/ HIGH ALTITUDE
VOR / DME
VOR
VOR TAC
TACAN

L" and "T" Category Radio Aids located off Jet Routes are depicted in screen black.

NON-DIRECTIONAL RADIO BEACON (NDB)
MARINE RADIO BEACON (RBN)

COMPASS LOCATOR BEACON

ILS LOCALIZER

LOW ALTITUDE
ILS Localizer Course with additional navigation function.

VOR/DME RNAV WAYPOINT DATA

NAVIGATION and COMMUNICATION BOXES

LOW/ HIGH ALTITUDE

CHECK NOTAMS/DIRECTORY
VOR with TACAN compatible DME

Underline indicates No Voice Transmitted on this frequency.

TACAN channels are without voice but not underlined.

Coverage of affected data indicates Abnormal Status, i.e. CHECK NOTAMS/DIRECTORY.

(T) frequency; Protection - usable range 25 NM at 1200 FL.
(Y) TACAN must be placed in "Y" mode to receive distance information.

ASOS/AMOS - Automated Surface Observing Station/Automated Weather Observing Station
HWAS - Hazardous High Altitude Weather Advisory Service
TWEB - Transmitted Weather Broadcast

Automated weather, when available, is broadcast on the associated NAVAID frequency.

For terminal weather frequency see A/G Voice Communication Tab under associated airport. (U.S. low only)

MALVERN
215 MVQ 86 113.9

WP 415
NDB with DME

DME channel and paired VHF frequency are shown
122.65

WICHITA
116.8 ICT 85

WP 224
NDB with DME

FSS associated with a NAVAID
122.6 122.6

EL DORADO BLD

Name and identifier of FSS not associated with NAVAID

Shadow NAVAID Boxes indicate Flight Service Station (FSS) locations. Frequencies 122.2, 225.4 and emergency 121.5 and 243.0 are normally available all FSSs and are not shown. All other frequencies are shown above the box.

Certain FSSs provide Local Airport Advisory (LAA) on 123.6.

Frequencies transmit and receive except those followed by a T or T - Receive only - T - Transmit only.

In Canada, shadow boxes indicate FSSs with standard group frequencies of 121.5, 126.7 and 243.0.

ONEISBORO 122.65
Remote Communications Outlet (BCO)
FSS name and remoted frequency are shown
122.6

PINE BLUFF
116.0 PBF 107

WP 424
FSS Name

Remote Communications Outlet (BCO) or Automated Weather Observing Station (AWOS/ASOS) not associated with a charted NAVAID or airport.

Controlled FSS Name

This line NAVAID Boxes without frequencies and controlling FSS name indicate no FSS frequencies available. Frequencies positioned above thin line boxes are remoted to the NAVAID Site. Other frequencies at the controlling FSS named are available; however, altitude and terrain may determine their reception.

 Morse Code is not shown in NAVAID boxes on High Altitude Charts.

Flight Service Station (FSS), Remote Communications Outlet (BCO) or Automated Weather Observing Station (AWOS/ASOS) not associated with a charted NAVAID or airport.

RAV WAYPOINT

LOW/ HIGH ALTITUDE
AIRSPACE INFORMATION

LOW ALTITUDE AIRWAYS

HIGH ALTITUDE ROUTES

SINGLE DIRECTION ROUTES

DIRECTION OF FLIGHT INDICATOR

SUBSTITUTE ROUTE

UNUSABLE ROUTE

BY-PASS ROUTE

AIRWAY RESTRICTION

FIXES/ATC REPORTING REQUIREMENTS

TACTICAL AIR NAVIGATION (TACAN) FIX - ALASKA

RADIALS AND BEARINGS

FACILITY LOCATORS

MILEAGES

DISTANCE MEASURING EQUIPMENT (DME) FIX
### AIRSPACE INFORMATION

#### MINIMUM ENROUTE ALTITUDE (MEA)

- **All Altitudes Are MSL Unless Otherwise Noted**
- **3500**
- **5500**

#### AIR DEFENSE IDENTIFICATION ZONE (ADIZ)

<table>
<thead>
<tr>
<th>Low/High Altitude</th>
<th>Contiguous U.S. ADIZ</th>
<th>Alaska ADIZ</th>
<th>Adjoining ADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Altitude MEA</td>
<td>31000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### MAXIMUM AUTHORIZED ALTITUDE (MAA)

- **MAA-15500**
- **MAA-40000**

#### AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC)

<table>
<thead>
<tr>
<th>Low/High Altitude</th>
<th>New York ARTCC</th>
<th>Washington ARTCC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5500</strong></td>
<td>ARTCC Remotely Served Sites</td>
<td>ARTCC Remotely Served Sites</td>
</tr>
</tbody>
</table>

#### MINIMUM OBSTRUCTION CLEARANCE ALTITUDE (MOCA)

- **All Altitudes Are MSL Unless Otherwise Noted**
- **5500**

#### AIR TRAFFIC SERVICE IDENTIFICATION DATA

<table>
<thead>
<tr>
<th>Low/High Altitude</th>
<th>Miami Oceanic CTA/KZMA</th>
<th>New York CTA/KZNY</th>
<th>Adjoining CTA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>QNH Altermeter QNE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### CHANGEOVER POINT

- **LOW/HIGH ALTITUDE**
- **VOR/Changover Point giving mileage to NAVNADs (Not shown or midpoint locations)**

#### ALTITUDE CHANGE

- **LOW/HIGH ALTITUDE**
- **MEA, MOCA and/or MAA change or other than NAVNADs**

#### MINIMUM CROSSING ALTITUDE (MCA)

- **NEHER V6 4000SW**
- **DIGGS V6 4000SW**
- **GRANT 7400SE**

#### MINIMUM RECEPTION ALTITUDE (MRA)

- **COPET MRA 4500**
- **SHIMY MRA 4500**

#### FLIGHT INFORMATION REGIONS (FIR)

<table>
<thead>
<tr>
<th>Low/High Altitude</th>
<th>Montreal FIR CZUL</th>
<th>Adjoining FR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7000</strong></td>
<td>TORONTO FIR C71029</td>
<td></td>
</tr>
</tbody>
</table>

#### CONTROL AREAS (CTA)

<table>
<thead>
<tr>
<th>Low/High Altitude</th>
<th>Miami Oceanic CTA/KZMA</th>
<th>New York Oceanic CTA/KZNY</th>
<th>Adjoining CTA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>QNH Altermeter QNE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### UPPER INFORMATION REGIONS (UIR)

<table>
<thead>
<tr>
<th>High Altitude</th>
<th>Monterey UTA/UIR Sector 2 NMTY</th>
<th>Merida UTA/UIR Sector 1 MMD</th>
<th>Adjoining UTA/UIR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>13000</strong></td>
<td>HOUSTON OCEANIC CTA/KZMA</td>
<td>Adjoining UTA/UIR</td>
<td></td>
</tr>
</tbody>
</table>

#### ADDITIONAL CONTROL AREAS

<table>
<thead>
<tr>
<th>Low/High Altitude</th>
<th>Control 12246</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIGH ALTITUDE</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### HOLDING PATTERNS

- **NAME WOP 0°00.00**
- **NAME WOP 0°00.00**

  **Left Turn**
  **Right Turn**

  Holding Pattern with max. restricted airspace.
  **5100** applies to altitudes above 5000 ft and including 14000. **1700** applies to all altitudes.
  In: Indicated Airspeed.
AIRSPACE INFORMATION

OFF ROUTE OBSTRUCTION CLEARANCE ALTITUDE (OROCA)

12\(^5\)  
Example: 12,500 feet

OROCA is computed similarly to the Maximum Elevation Figure (MEF) found on Visual charts except that it provides an additional vertical buffer of 1,000 feet in designated non-mountainous areas and a 2,000 foot vertical buffer in designated mountainous areas within the United States.

SPECIAL USE AIRSPACE

LOW/ HIGH ALTITUDE

P - Prohibited Area  
R - Restricted Area  
W - Warning Area  
Low Only  
A - Alert Area  
Canada Only  
CYR - Restricted Area  
CYD - Danger Area  
CYA - Advisory Area  
Caribbean Only  
D - Danger Area

In the Caribbean, the first 2 letters represent the country code, i.e. MY: Bahamas, MU: Cuba

EXCLUSION AREA AND NOTE

Internal lines delimit separation of the same Special Use Areas or Exclusion Areas

SEE AIRSPACE TABULATION ON EACH CHART FOR COMPLETE INFORMATION ON:
AREA IDENTIFICATION  
EFFECTIVE ALTITUDE  
OPERATING TIME  
CONTROLLING AGENCY VOICE CALL

SPECIAL USE AIRSPACE  
Continued

LOW ALTITUDE

MCA - Military Operations Area

EXCLUSION AREA AND NOTE

Internal lines delimit separation of the same Special Use Areas or Exclusion Areas

SEE AIRSPACE TABULATION ON EACH CHART FOR COMPLETE INFORMATION ON:
AREA IDENTIFICATION  
EFFECTIVE ALTITUDE  
OPERATING TIME  
CONTROLLING AGENCY VOICE CALL

CONTROLLED AIRSPACE

HIGH ALTITUDE

CLASS A AIRSPACE
Open Area (White)

That airspace from 18,000' MSL to and including FL 400, including the airspace overlying the waters within 12 NM of the coast of the contiguous United States and Alaska and designated offshore areas, excluding Santa Barbara Island, Farallon Island, the airspace south of latitude 25°45'00"N, the Alaska Peninsula west of longitude 160°00'00"W, and the airspace less than 1,500' AGL.

That airspace from 18,000’ MSL to and including FL 400, including Santa Barbara Island, Farallon Island, the Alaska Peninsula west of longitude 160°00'00"W, and designated offshore areas.

LOW ALTITUDE

CLASS B AIRSPACE

Screened Blue with a Solid Blue Outline

That airspace from the surface to 10,000' MSL (unless otherwise designated) surrounding the nation’s busiest airports. Each Class B airspace area is individually tailored and consists of a surface area and two or more layers.

MODE C AREA
A Solid Blue Outline

That airspace within 30 NM of the primary airports of Class B airspace and within 10 NM of designated airports. Mode C transponder equipment is required. (See FAR 91.215)

LOW ALTITUDE

CLASS C AIRSPACE

Screened Blue with a Solid Blue Dashed Outline

That airspace from the surface to 6,000’ (unless otherwise designated) above the elevation of selected airports charted in MLS. The normal radius of the outer limits of Class C airspace is 10 NM. Class C airspace is also indicated by the letter C in a box following the airport name.

LOW ALTITUDE

CLASS D AIRSPACE

Open Area (White)

That airspace, from the surface to 2,500’ (unless otherwise designated) above the airport elevation (charted in MSL), surrounding those airports that have an operational control tower. Class D airspace is indicated by the letter D in a box following the airport name.
### IFR ENROUTE LOW/HIGH ALTITUDE U.S. & ALASKA CHARTS

#### AIRSPACE INFORMATION

**CONTROLLED AIRSPACE**

- **LOW ALTITUDE**
  - CLASS B AIRSPACE
  - Open Area (White)
  - That controlled airspace below 1,200' AGL and not Class B, C, or D.
  - Federal airways from 1,200' AGL to but not including 18,000' MSL (unless otherwise specified).
  - Other designated control areas below 14,500' MSL.
  - Not Chared

- **LOW ALTITUDE**
  - CLASS B AIRSPACE
  - Screened Brown Chacketed Area
  - Controlled airspace above 12,500' MSL.

**CONTROLLED AIRSPACE**

- **Canada Only**
  - Appropriate notes as required may be shown.

**UNCONTROLLED AIRSPACE**

- **LOW/ HIGH ALTITUDE**
  - CLASS G AIRSPACE
  - Screened Brown Area
  - Low Altitude
  - That portion of the airspace below 14,500' MSL that has not been designated as Class B, C, D, or E airspace.
  - High Altitude
  - That portion of the airspace from 18,000' MSL and above that has not been designated as Class A airspace.

**CANADIAN AIRSPACE**

- Appropriate notes as required may be shown.

**HIGH ALTITUDE**

- AIRSPACE CLASSIFICATION (SEE CANADA FLIGHT SUPPLEMENT) AND OPERATIONAL REQUIREMENTS (SEE DOD AREA PLANNING AP/1) MAY DIFFER BETWEEN CANADA AND UNITED STATES

- NOTE: REFER TO CURRENT CANADIAN CHARTS AND FLIGHT INFORMATION PUBLICATIONS FOR INFORMATION WITHIN CANADIAN AIRSPACE.

**AIRSPACE OUTSIDE OF U.S.**

- Other than Canada
  - Appropriate notes as required may be shown.

- NOTE: REFER TO CURRENT DOD (NGA) CHARTS AND FLIGHT INFORMATION PUBLICATIONS FOR INFORMATION OUTSIDE OF U.S. AIRSPACE.

#### NAVIGATIONAL AND PROCEDURAL INFORMATION

**ISOGONIC LINE AND VALUE**

- LOW/ HIGH ALTITUDE
  - Isogonic lines and values shall be based on the five year epoch.

**TIME ZONE**

- LOW/ HIGH ALTITUDE
  - Central Std
    - UTC
  - Eastern Std
    - UTC
  - During periods of Daylight Saving Time (DST), effective hours will be one hour earlier than shown. All states observing DST except Arizona and that portion of Indiana in the Eastern Time Zone.

**ENLARGEMENT AREA**

- LOW/ HIGH ALTITUDE
  - JACKSONVILLE AREA CHART A-1

**MATCH MARK**

- LOW ALTITUDE - ALASKA

- HIGH ALTITUDE - U.S.
## AIRPORTS

<table>
<thead>
<tr>
<th>AIRPORT DATA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport of Entry (AOE) are shown with four letter ICAO Identifier</td>
<td></td>
</tr>
</tbody>
</table>

| LANDPLANE-CIVIL | Refueling and repair facilities for normal traffic. | HONOLULU INTL (PHNL) |
| LANDPLANE-CIVIL AND MILITARY | Refueling and repair facilities for normal traffic. | HIKO INTL (PHKO) |
| LANDPLANE-MILITARY | Refueling and repair facilities for normal traffic. | KALAIQA (PHUR) |

## RADIO AIDS TO NAVIGATION

| VHF OMNIDIRECTIONAL RADIO RANGE (VOR) | VOR |  |
| DISTANCE MEASURING EQUIPMENT (DME) | VOR/DME |  |
| TACTICAL AIR NAVIGATION (TACAN) | TACAN |  |
| NARC |  |
| NPRC |  |

| NON-DIRECTIONAL RADIO BEACON (NDB) | NDB |  |
| DISTANCE MEASURING EQUIPMENT (DME) | NDB/DME |  |

## IDENTIFICATION BOX

<table>
<thead>
<tr>
<th>Identification</th>
<th>VHF Frequency</th>
<th>Latitude &amp; Longitude</th>
<th>Identification</th>
<th>IF/RF Frequency</th>
<th>TACAN Channel</th>
<th>Latitude &amp; Longitude</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MDY 400 N29°12.2’ W177°22.7’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NQM 337 N29°12.2’ W177°22.7’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## AIRSPACE INFORMATION

| AIR DEFENSE IDENTIFICATION ZONE (ADIZ) |  |
| AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC) | SEATTLE (25G) OAKLAND (20A) |
| FLIGHT INFORMATION REGIONS (FIR) and/or (CTA) | HONOLULU FIR PHON |
| UPPER INFORMATION REGIONS (UIR) | HONOLULU FIR PH2G |
| UPPER CONTROL AREAS (UTA) |  |

## ADDITIONAL OCEANIC CONTROL AREAS

| Note: Limits not shown when coincident with Warning Areas. |

## BUFFER ZONE

| Teeth point to area |

## NON-FREE FLYING ZONE

| Teeth point to area |

## NORTH ATLANTIC / MINIMUM NAVIGATION PERFORMANCE SPECIFICATIONS (NAT/MNPS)

<p>| Reporting Points |  |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>UTM Longitude &amp; Latitude</th>
<th>ARTOP N29°10.7’ W090°0.0’</th>
<th>Compulsory</th>
<th>Non-Compulsory</th>
<th>Waypoint</th>
</tr>
</thead>
</table>

## SPECIAL USE AIRSPACE

| Warning Area |  |
| Special Use |  |

## UNCONTROLLED AIRSPACE

|  |  |
|  |  |
### MILEAGE CIRCLES

Note: Mileages are Nautical (NM)

![100 NM](image)

### Time Zone

Note: All time is Coordinated Universal (Standard) Time (UTC)

![±UTC ±UTC](image)

### Overlap Marks

NPRC Only

![SW](image)

### COMPASS ROSE

Note: Compass Roses oriented to Magnetic North

![Compass Rose](image)

### NOTES

**WARNING**

- **AIRCRAFT INFRINGING UPON NON FREE FLYING TERRITORY MAY BE FIRED UPON WITHOUT WARNING**

- **WARNING**

  UNLISTED RADIO EMISSIONS FROM THIS AREA MAY CONSTITUTE A NAVIGATION HAZARD OR RESULT IN BORDER OVERFLIGHT UNLESS UNUSUAL PRECAUTION IS EXERCISED.