IVAC2 Handbook for EKDK FIR
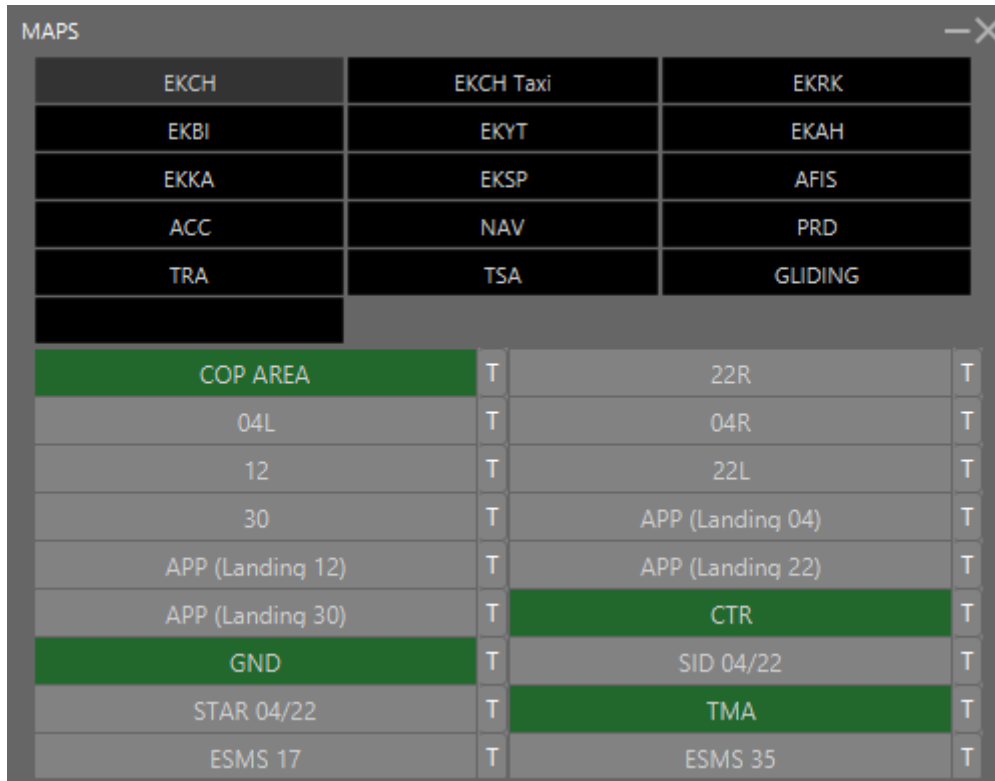
Contents

Maps

Selection of maps is available via the MAPS button in the top menu. Clicking this button will open the maps menu:

The maps menu contains 15 groups, accessible via the 15 black buttons in the top. Each group contains a number of maps, which can be toggled on and off by using the buttons below. Note the T button next to each map button. For maps containing text labels, the text can be toggled on or off independently from the main map by using the T button.

Be aware that some maps, for example extended centrelines, are only visible when you zoom in far enough.

There are 2 NM between each marker dot on extended centrelines, for example:

Map groups

Maps related to controlled aerodromes are available in the corresponding map group named after the aerodrome ICAO location identifier.

The map groups EKBI, EKYT, EKAH, EKKA, EKSP, EKKA and EKRK are all very similar. Each of these groups contains the following basic maps:

- GND – ground layout of the aerodrome (should always be on)
- CTR – outline of the control zone
- TMA – outline of the TMA
- LTA (or for RK: RK VEST) – outline of approach area of responsibility
- Extended centreline maps – turn these on depending on the runway in use

The EKCH group, in addition to the above, contains airspace maps showing the approach sectors depending on the runway in use. For example, the map APP (Landing 22) shows the approach airspace when runway 22L is used for landings, the border between the east and west approach sectors shown with a blue line. EKCH Taxi contains maps with taxi restrictions for certain aircraft types at EKCH. Each map shows the permitted taxi routes for the corresponding aircraft types in green.

The ACC group contains maps showing each of the five ACC sectors. Also, an outer outline of all sectors (FIR) as well as boundaries for foreign ACC sectors (EXT ACC) are available.

The TRA and TSA groups contains maps of temporary reserved areas and temporary segregated areas respectively. The PRD group contains maps of prohibited, restricted and danger areas in the FIR. The GLIDING group contains maps of gliding areas in the FIR. The first two letters of each map denotes with which aerodrome each gliding area is associated.

The NAV group contains the following maps:

- AD – Significant points and radio navigation aids related to approach procedures
- ENR – Significant points and radio navigation aids for en-route navigation
- GEO – Coast lines
- NORTH SEA – Helicopter routes, significant points and airspace related to helicopter operations in the lower North Sea airspace
- Obstacles – Air navigation obstacles in the FIR (Note: Only obstacles higher than 1000 feet are included!)

All maps, except GEO, in the NAV group have text labels, which can be turned on and off with the T button.

Finally, the AFIS group contains maps related to AFIS aerodromes. The two letter maps are airspace maps (TIZ/TIA) for each aerodrome. Maps named two letters followed by a number are runway extended centrelines.

Presets

Presets are a way to adjust the viewpoint and zoom level of the screen, and turn on or off multiple maps all in one go.

Whenever an ATC position is loaded, the correct preset is loaded automatically.

It is possible to manually load a preset via the PRESETS button in the top menu.

There are five preset groups which each contains a number of presets. The only preset group that is commonly used during normal controlling is the SMR group. Presets in the SMR group allow for a quick and easy way to open a ground view of a certain airport. For example, clicking the EKSP preset in the SMR group opens a ground view of EKSP airport.
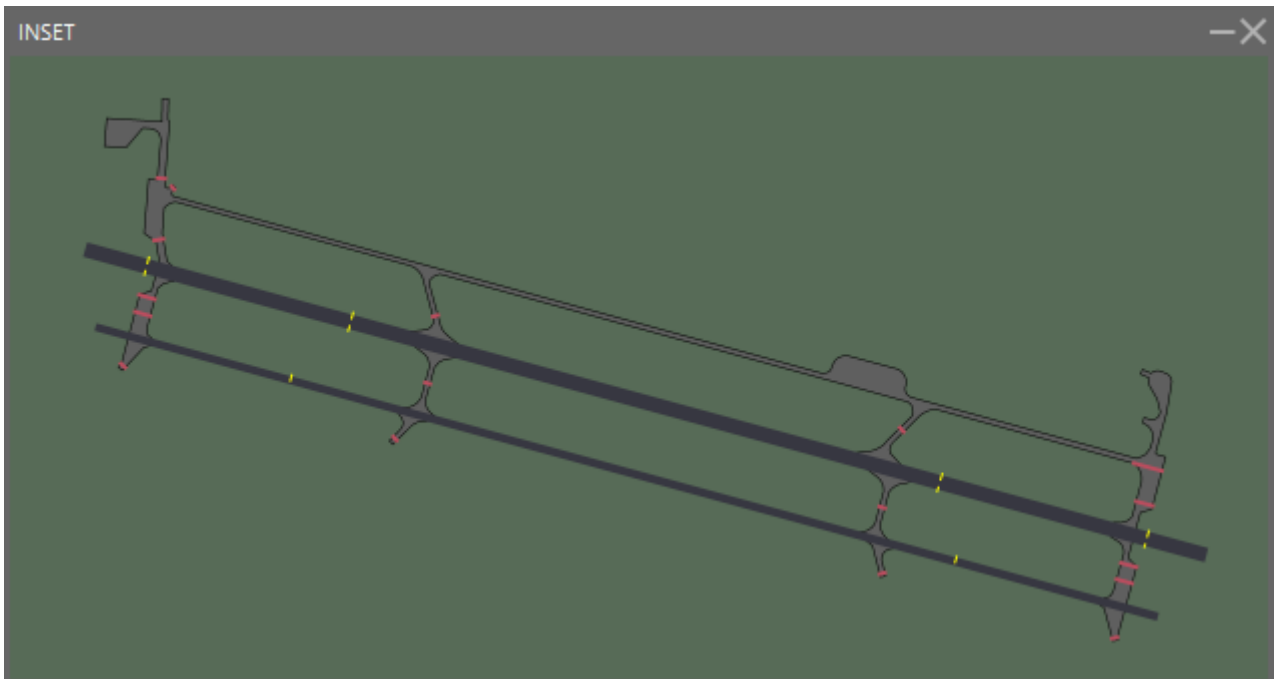
Labels

There are two types of labels used in Copenhagen FIR:

- COOPANS labels, used at EKCH, EKRK, EKBI and the ACC
- RADIS labels used for all other positions

The RADIS labels are very simple. They contain the callsign, aircraft type, wake turbulence category, level, ground speed, departure, destination and transmitted mode A code.

The COOPANS labels are more advanced, and described in detail on the following pages. The following label types exist in the COOPANS system:

- Airborne labels
    - o Unconcerned
    - o Concerned
    - o Assumed
    - o Released
- Ground labels
    - o Arrival
    - o Departure
    - o Unknown

Each label looks different depending on whether it is selected or unselected. To select a label, hover the mouse curser over it.

Label fields

The following label fields are used, and will be mentioned on the following pages. Refer back to this list when reading the next chapters.

CALLSIGN	Radio callsign
*SI	Current ATC sector (if label is not assumed) Next ATC sector (if label is assumed)
TSSR	Transmitted SSR code (squawk code)
*ASSR	Assigned SSR code
ATYP	Aircraft type (always shown to approach/tower units)
WTC	Weight turbulence category (L/M/H)
RFL	Requested flight level
*CFL	Cleared flight level
AFL	Actual flight level (mode C level)
*AHDG	Assigned heading or assigned route
*ASP	Assigned speed
*COPN	Entry coordination point – entry point into your sector
*COPX	Exit coordination point – exit point out of your sector
*PEL	Planned entry level – entry level into your sector
*XFL	Exit flight level – exit level out of your sector
ADES	Destination aerodrome
*OP_TEXT	Operator text – a text field for remarks
GS	Ground speed

* = field will be blank if no value is set

Universal label actions

Each field in a label can have a function. These functions can be accessed by either clicking, double clicking or right clicking a level field. Depending on the label state, different actions will be available. The following actions are available no matter what the label state is:

To open the callsign menu: click the callsign

To point out the track to all controllers: double click the callsign. This will draw an orange box around the track, which can be seen by all controllers.

To mark the track: right click the callsign. This will draw a blue box around the callsign, which can only be seen by you.

To open the flightplan: click the destination field.

To show the flightplan route: right click the destination field.

To send a text message to an aircraft: open the callsign menu and click TEXT *or* hover the label and press F7

Most actions related to assuming and transferring a label is done by right clicking the SI field (see the following pages for details).

Aircraft which are CPDLC only (no voice) will be shown with a box around the callsign:
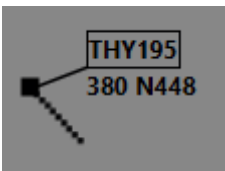
For such flights, automatic CPDLC messages will be sent whenever a cleared level, assigned speed or assigned heading is set, or when a transfer to the next ATC sector is initiated.

Incoming CPDLC messages are visible in the TEXT IN window, which you can open by clicking TXT IN in the top menu. Note that incoming messages can be clicked once to turn them grey, as a reminder for yourself that the message has been dealt with.
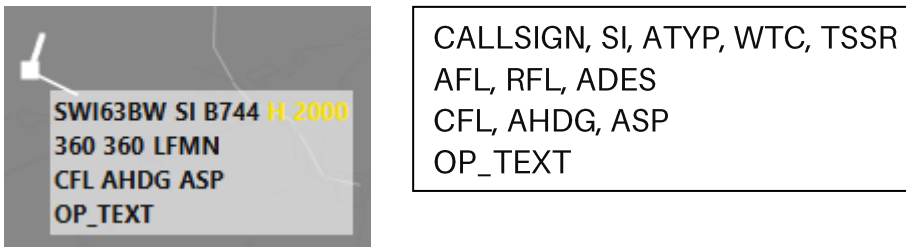
Unconcerned labels

An unconcerned label is a label of an aircraft that is not going to enter your airspace, or when it is not yet known to the system that the aircraft will enter your airspace. Unconcerned labels are grey and contain a minimal amount of information.

An unselected, unconcerned label consists of:


```
CALLSIGN, SI
AFL
```

A selected, unconcerned label consists of:


```
CALLSIGN, SI, ATYP, WTC, TSSR
AFL, RFL, ADES
CFL, AHDG, ASP
OP_TEXT
```

If an aircraft with an unconcerned label is going to enter your airspace at some point, you must set yourself as the next ATC sector. Do so by right clicking the SI field. This will move the label to the concerned state.
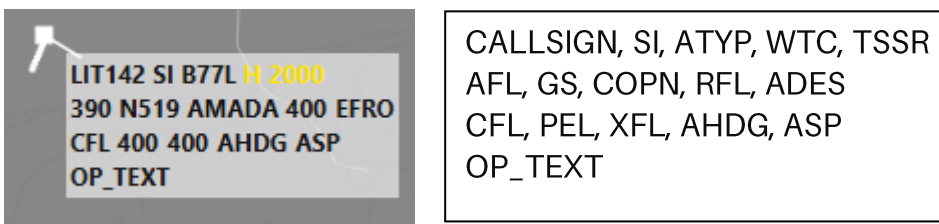
Concerned labels

A concerned label is a label of an aircraft that is going to enter your airspace in the future. Concerned labels are blue.

An unselected, concerned label consist of:

CALLSIGN, SI
AFL, GS, COPN
PEL, XFL

A selected, concerned label consists of:

CALLSIGN, SI, ATYP, WTC, TSSR
AFL, GS, COPN, RFL, ADES
CFL, PEL, XFL, AHDG, ASP
OP_TEXT

The concerned label gives you information you need to start planning the flight's section through your airspace. The COPN field shows you where (at which point) the flight will enter your airspace. The PEL and XFL fields show at which levels the flight is planned to enter and leave your airspace. The values of COPN and PEL can be changed by clicking the respective fields.

If an aircraft is entering your sector from uncontrolled airspace, you must send a CPDLC CONTACT message to let the pilot know they need to contact you. To do so, click the SI field and click the CONTACT > (FREQ) button.
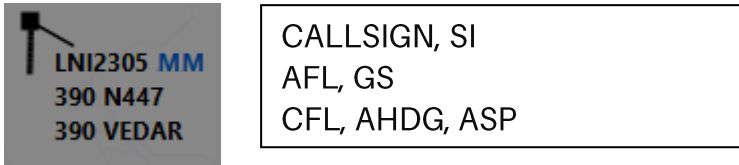
If an aircraft is assumed by another ATC sector, you must wait for this sector to transfer the aircraft to you. If you would like the previous ATC sector to transfer the aircraft right away, double click the SI field. This will make ROF (request on frequency) appear in the label for the previous controller, reminding them to transfer the flight to you.

When a transfer has been initiated, the callsign will turn white while the rest of the label remains blue. When the flight calls you (and not before!), accept the transfer by right clicking the SI field. This will move the label to the assumed state.
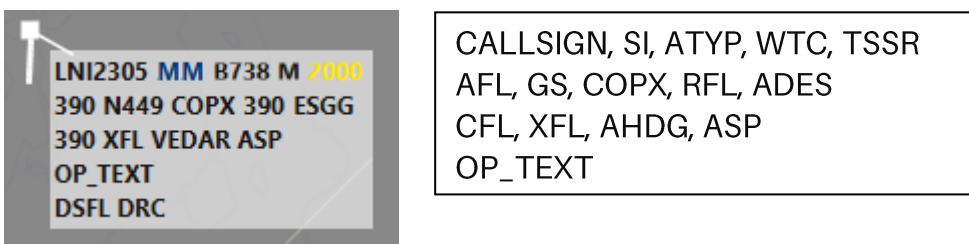
Assumed labels

An assumed label is a label of a flight currently assumed by you – basically, all flight on your frequency. Assumed labels are black and contain a large amount of information.

An unselected, assumed label consists of:


```
CALLSIGN, SI
AFL, GS
CFL, AHDG, ASP
```

A selected, assumed label consists of:


```
CALLSIGN, SI, ATYP, WTC, TSSR
AFL, GS, COPX, RFL, ADES
CFL, XFL, AHDG, ASP
OP_TEXT
```

(note: the DSFL and DRC fields are not currently used)

The first thing you need to do when a label has been assumed is to set the next ATC sector. This is done by clicking the SI field and selecting the correct sector from the menu. If an aircraft will be leaving your sector into uncontrolled airspace, no next sector should be set.

The cleared level, assigned heading/waypoint and assigned speed can be changed by clicking those respective fields. Note: in the cleared flight level menu, CA means *cleared approach* and VA means *cleared visual approach*. LND can be set to indicate a flight has been cleared to land.

To assign a mode A (squawk) code to a flight, click the TSSR field (which will be shown in a yellow warning colour if the flight is transmitting a wrong code, or 2000/7000 etc.)

For a flight arriving in or near your sector, you can set the arrival runway by double clicking the destination. To set a STAR (standard arrival route), double click the AHDG field.
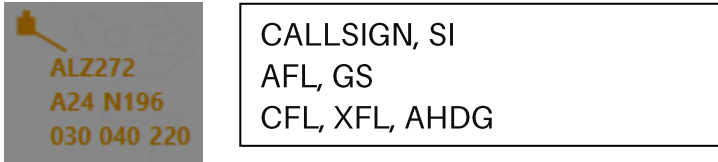
You can add a note to the label by clicking the OP_TEXT field. This note is visible to all controllers.

To transfer the label to the next ATC sector, right click the SI field. Once the next sector accepts the transfer, the label will be moved to the released state. If no next ATC sector is available, release the label by opening the callsign menu and clicking RELEASE.
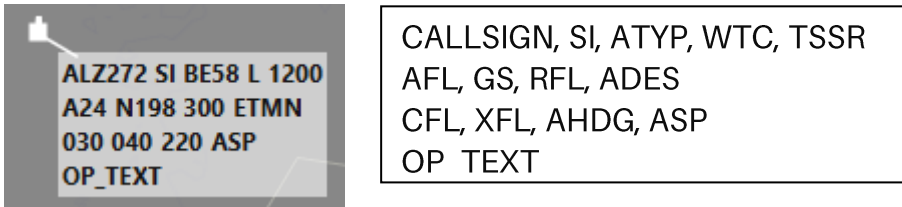
Released labels

A released label is a label of a flight that was previously assumed by you, and that has now been transferred to the next sector or released to uncontrolled airspace. Released labels are brown.

An unselected, released label consists of:

| CALLSIGN, SI |
| AFL, GS |
| CFL, XFL, AHDG |

A selected, released label consists of:

| CALLSIGN, SI, ATYP, WTC, TSSR |
| AFL, GS, RFL, ADES |
| CFL, XFL, AHDG, ASP |
| OP TEXT |

A released label only contains information that allows you to be aware of the flight. Since the flight will not enter your airspace again, you cannot change any of the values in the label.
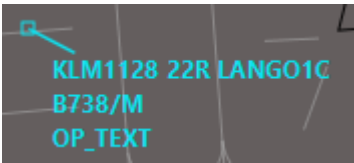
Ground labels

There are two general types of ground labels: blue labels for departing traffic and yellow labels for arriving traffic. For unknown traffic and vehicles, the ground labels will be white.

An unselected departure label consists of:

CALLSIGN, departure runway

A selected departure label consists of:

CALLSIGN, departure runway, SID
ATYP/WTC
OP_TEXT

To issue an IFR clearance, click the SID field. This will open the DCL (datalink clearance) window:

Fill in all required fields and click VOICE if the clearance will be transmitted to the pilot by voice, or SEND DCL to send the clearance via datalink.

If you need to set a departure runway without issuing an IFR clearance (for example for VFR traffic), simply click the departure runway field (will be shown as ? until a departure runway has been set).

An unselected arrival label consists of:

CALLSIGN, gate

A selected arrival label consists of:

CALLSIGN, gate
ATYP
OP_TEXT
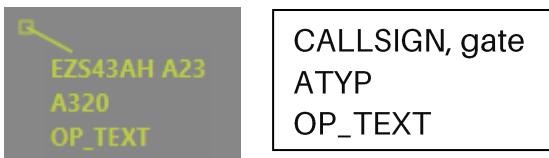
To set the arrival gate for an arriving aircraft, click the gate field (will be shown as ? until a gate has been set).

By default, ground labels are only shown if you are zoomed in far enough to see the ground map of an airport. However, it is possible to see all ground labels by clicking the GND button in the top menu. This can be useful if you quickly need to scan for traffic on the ground at multiple airport.

Note that it is *not required* to assume ground labels. Departure runway, SID, arrival gate and so on can be set even if the label is not assumed. However, you must assume the label if you want to enter anything in the OP_TEXT field.

ATC Information system

The ATC information system is a window containing different information useful when controlling. It can be accessed by clicking the ATC INFO button in the top menu.

The buttons on the right side of the window give access to different pages.

EMERG

The EMERG page contains checklists to be used in different emergency situations. The general ASSIST checklist is presented at the top, and specific checklists can be accessed via buttons.

ATYP

The ATYP page makes it possible to look up performance information for different aircraft types. Simply type in the ICAO designator of an aircraft in the text field and click Get Performance Data. If you do not know the ICAO designator of a certain aircraft type, click Search for ICAO Designator to look it up.

NAV WARN

The NAV WARN page contains a list of active military areas in EKDK FIR for a given date. To show active areas on your screen, turn on the respective maps in the PRD group in the MAPS window. Note that the NAV WARN window can contain information for multiple days – make sure you are looking at the right date (shown in red text at the top).

NOTAM

The NOTAM window allows you to look up NOTAMs for EKDK FIR. Type in an airport ICAO designator and click Search NOTAMs or click Get all DK NOTAMs to get all NOTAMs in the FIR.

RUNWAY

The runway page shown the recommended runways in use for airports in EKDK FIR. Please remember that these are only recommendations. NOTAMs are not considered. Be aware that this page might take a few second to load when you open it, during which time IVAC2 will appear to be "frozen".

LABELS

The labels window contains an overview of the different aircraft labels. You can hover your mouse curser over each label field to see the different label actions (click, double click, right click).
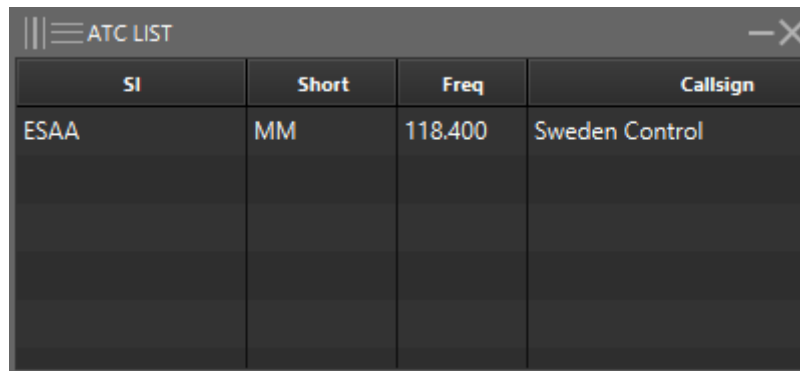
SSR CODES

The SSR CODES window contains an external SSR code generator. This is used to assign SSR codes to traffic in the FIR.

ATC Sectors

Every ATC sector has a unique sector code and a short sector ID. The sector ID is always one or two letters.

Sector codes and IDs are visible in the ATC list, which can be opened by clicking the ATC LIST button in the top menu. In the example below, ESAA is the unique sector code and MM is the sector ID.

SI	Short	Freq	Callsign
ESAA	MM	118.400	Sweden Control

The sector ID is shown in the SI field in the label when an ATC sector has been set as the next sector. For example, if ESAA was set as the next ATC sector for a flight, the SI field in the label would contain the letters MM. The following sector IDs are used in EKDK FIR:

- Local ACC sectors (Copenhagen Control) has their sector name as ID. For example, Copenhagen ACC sector A has the sector id A
- Foreign ACC sectors have two letter IDs:
    - Scottish Control: PX
    - Amsterdam Radar: AM
    - Bremen Radar: WW
    - Maastricht Radar: YY
    - Sweden Control: MM
    - Norway Control (Oslo sectors): OS
    - Norway Control (Stavanger sectors): SV
    - Norway Control (combined): NO
- Regional approach and tower units have one letter followed by T for tower or A for approach. For example: BA is Billund Approach, YT is Aalborg Tower.
- AFIS units use the last two letters of the ICAO designator, for example EB for Esbjerg AFIS
- Kastrup Tower is CH
- Copenhagen Approach has the following sectors:
    - Approach West (main sector): W
    - Approach East: O
   - Final: P
    - Departure West: R
   - Departure East: K

ATIS and voice communications

When signing in with IVAC2, you must always, as a minimum, open the ATIS window (click ATIS in the top menu) and click save, regardless of whether you want to set up an actual ATIS or not. This will enable voice communications and allow pilots to contact you.

You can set up an ATIS by filling out the ATIS window. Note that a detailed ATIS is only available for units where pilots would be expected to report an ATIS letter on first contact, i.e. only tower and approach units, and only at airports that have an ATIS in the real world.

After saving your ATIS, check that voice is enabled by clicking VOICE in the top menu. The opened window should have a green background (like shown below).
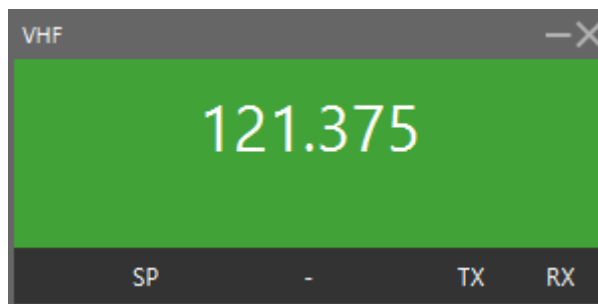
If voice has been disabled, double click the frequency to retry a connection:
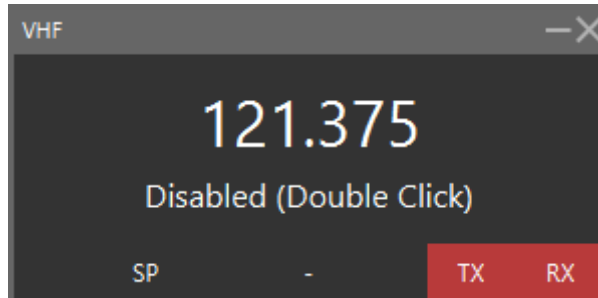
Flight lists

Flight lists are used to get an overview of flights for planning purposes. All flight lists are accessed by clicking FLTLIST in the top menu. The following lists are available:

Sector list

The sector list shows all flights currently assumed by you. It is opened by clicking the SL button.

Sector inbound list

The sector inbound list shows all flights where you are set as the next ATC sector. It is opened by clicking the SIL button.

Departure list

The departure list shows departing flights from one or several aerodromes, or from a specific runway. By clicking the DEP button, a filter window will open. Type in a departure aerodrome and/or runway to select which flights should be shown in the list. It is possible to show many aerodrome at once, for example, by typing "EK" in the ADEP field, all flights departing from aerodrome whose location indicator start with "EK" will be shown.

Approach and tower controllers are encouraged to have a departure list with their aerodrome open at all times.

Arrival list

The arrival list works like the departure list, but for arriving traffic. It is opened via the ARR button.

Holding list

The holding list shows all aircraft assigned to airborne holdings.

When instructing an aircraft to hold, first set the holding fix as the cleared waypoint in the AHDG field in the label. Then, click the callsign of the flight and select HOLD. You can now open the holding list. A dropdown menu will appear, containing all the points where aircraft are presently instructed to hold. Select a point and click ok to open the holding list.

When an aircraft is instructed to leave a holding, click the callsign and click XHOLD.