

AFIS

- Uncontrolled airfield
- Aerodromes with IFR procedures

Uncontrolled airfield

Introduction

After receiving your student rating, you will next receive training for the Aerodrome Flight Information Service (AFIS) and then permission to provide AFIS within vACC Germany. This manual will support you in this process.

This guide has been kept as general as possible. Nevertheless, it is sometimes necessary to use examples that are handled slightly differently in different FIRs.

Aims of this guide

We will cover all the duties that a AFIS controller of vACC Germany has to fulfill. This ranges from distributing the correct traffic information to forwarding IFR clearances that you receive from air traffic control units.

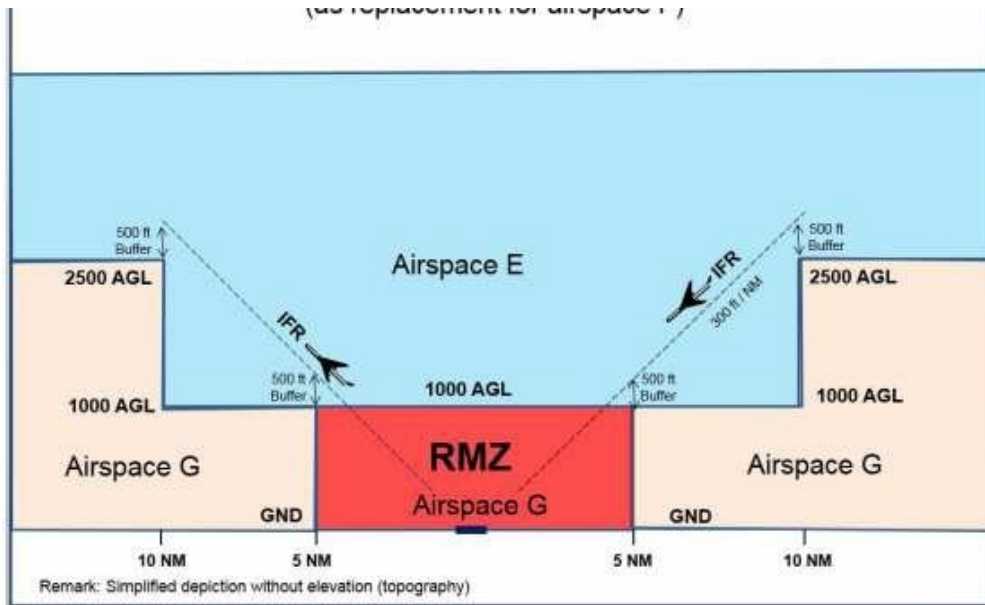
This guide will also provide you with information on what service is expected from AFIS stations and the limitations of an AFIS in terms of clearances and/or instructions to air traffic.

Uncontrolled airfields

The term "uncontrolled" refers to the service provided at airfields without Air Traffic Control (ATC) but with AFIS.

Surrounding airspace

Uncontrolled aerodromes in Germany are located in airspace G, in which VFR and IFR traffic has been permitted due to the introduction of SERA (Standardized European Rules of the Air) in December 2014. At airfields that have IFR approach and departure procedures, a Radio Mandatory Zone (RMZ) has been established around the airfield, in which pilots must comply with the visual minima of airspace G and also are required to be ready to make and receive radio calls on the RMZ frequency at all times. The frequency is usually the radio frequency of the airfield. At airfields with IFR traffic, airspace E is also lowered to 1,000ft AGL.

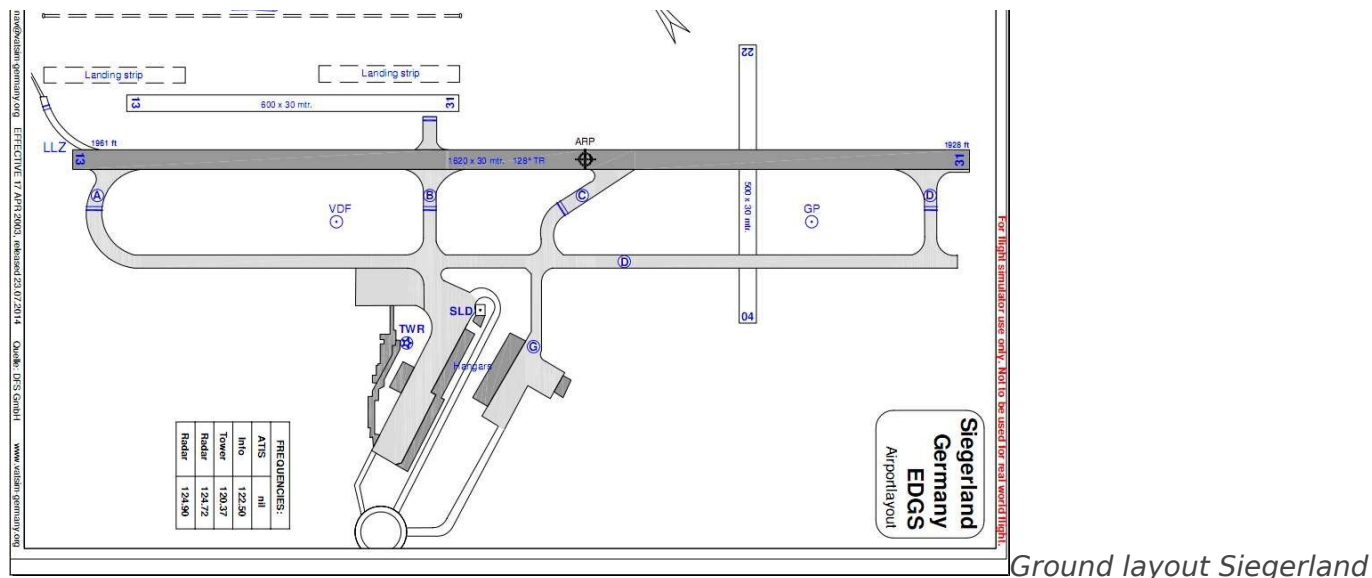


Aufbau und Umgebung RMZ

Uncontrolled airfields without IFR procedures normally bear the name of the town nearest to the airfield and the suffix "Radio". For example, the airfield near Mainz has the call sign "Mainz Radio". Exceptions to this rule can be found on the VFR charts for the respective airfield and in the AIP Germany.

Ground layout

The layout of larger airfields is similar to that of airfields with air traffic control centers, where one or more runways are connected to an apron by taxiways. The picture above shows the layout of Siegerland Airport, an uncontrolled airfield with IFR traffic.



EDGS

Smaller airfields with a grass airstrip only may not even have designated taxiways at all. In this case, pilots will indicate which side of the runway they will be taxiing to when announcing their taxiing intentions:

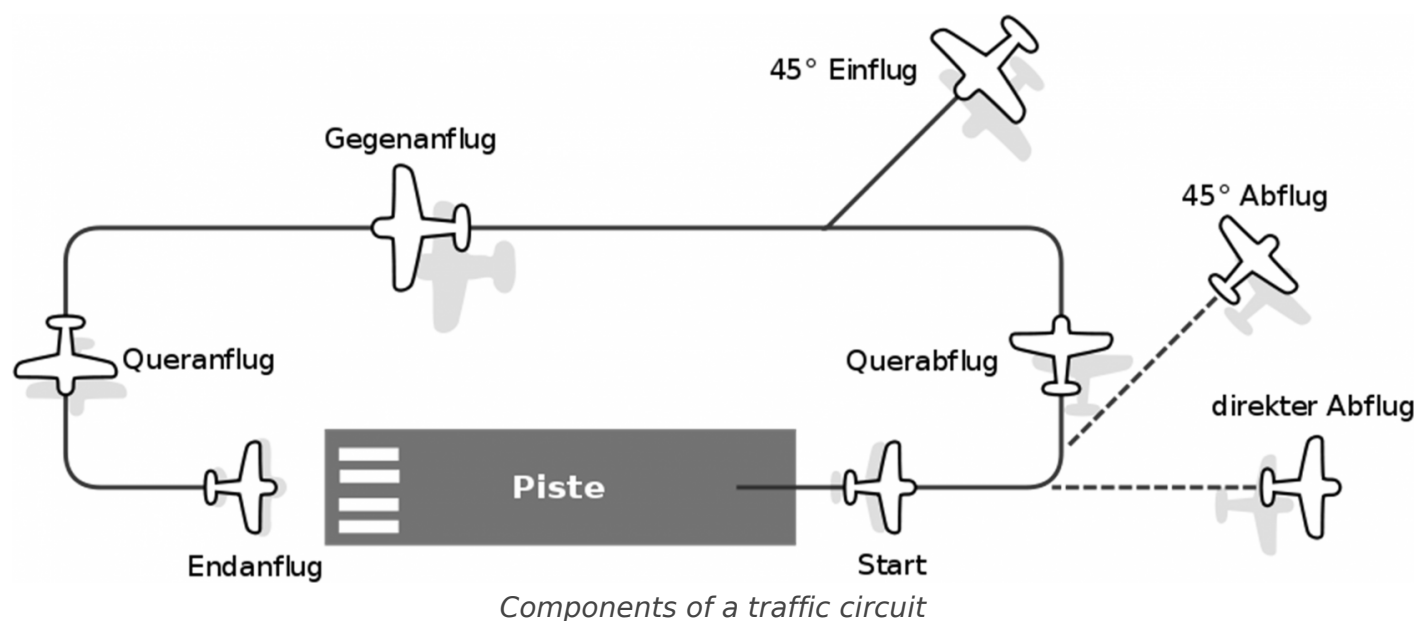
Rollen / Taxi	
German	English
DELFE, rolle zum Rollhalt Süd Piste 25	DELFE, taxiing to holding point south runway 25

Traffic circuit

The traffic circuit is an obligatory procedure for aircraft to keep separation from each other during approach and departure. The traffic circuit has an assigned altitude, usually 1000ft AGL. The route resembles a rectangle and is standardized with left turns after departure. For noise protection reasons etc exceptions are possible but are then noted on the corresponding charts. Traffic circuits are a standard method for pilots to assume the pattern altitude and then plan their approach to the active runway in order to perform a full stop landing or a touch and go. During upwind and crosswind, the aircraft will climb to the pattern altitude and enter downwind to line up for an approach to the active runway. The pilot will begin to configure the aircraft for the approach, reduce altitude and assume the glide path to the threshold either on downwind or base.

At all airfields approved as at least a "Sonderlandeplatz" (German legal term, means "*special airfield*"), the traffic circuit is shown on the VFR approach charts (VAC) and pilots are required to follow it. However, pilots may deviate from the traffic circuit if the flight path so requires.

Where no traffic circuits are specified, the pilot can determine their route at their own discretion and take minimum safety altitude and noise protection procedures into account.



The English terms for the elements of a traffic pattern are:

English	German
Departure	Abflug
Crosswind	Querabflug
Downwind	Gegenanflug
Base	Queranflug
Final	Endanflug

If no traffic circuit is established in the VAC, the standard traffic circuit is flown with left turns. Right turn traffic circuits only exist if they are published on the charts. If both version of a traffic circuit are published, the flight director will follow the AIP of the aerodrome. On VATSIM you should fly according to the charts. If both traffic circuits are published, the VATSIM flight director may decide.

AFIS preparation

Similar to controlled aerodromes, the active runway must be selected considering various factors such as weather and local regulations.

Please keep in mind that the active runway notification is only a guideline for the pilot, who may only deviate from it for valid reasons, i.e. to keep the flight operations safe. Most uncontrolled airfields do not have certified equipment for determining barometric pressure. In this case, the pilot is responsible for obtaining the QNH. For example, they can set the altimeter to display the altitude of the airfield MSL.

A general rule AFIS states that neither clearances nor instructions may be issued to aircraft unless there is a danger to flight safety or the given circumstances threaten the safety of aircraft or persons on the ground. This rule does not apply to movements on the ground, where the aerodrome operator may have delegated the aerodrome authority to the air traffic controller who can then determine which areas must be used for taxiing and other ground movements.

Initial call

VFR traffic approaching or departing an uncontrolled aerodrome is obliged to establish radio communication on your frequency. The initial call always has the same structure:

Erstanruf / Initial Call	
German	English
Speyer Radio, DEDFS	Speyer Radio, DEDFS
DEDFS, Speyer Radio	DEDFS, Speyer Radio

Approaching traffic

After the initial call, approaching traffic will communicate their call sign, aircraft type, current position (in NM, including altitude) and its intentions. As the so-called main flight log of the respective landing site is usually kept via radio at uncontrolled airfields, the aircraft commander will also state the departure location and the number of persons on board during the initial call. Information relevant to approaching traffic is the runway and other flight operations information that is useful for a safe landing (e.g. heavy traffic, glider/ aerobatic operations, runway conditions, etc.).

Anfliegender Verkehr / Approaching Traffic	
German	English
DEDFS, C172, VFR aus EDWE 8 Meilen südlich des Platzes, 2.200ft, zur Landung.	DEDFS, C172, VFR from EDWE, 8 miles south of field, 2.200ft, for landing.
DEDFS, Piste 25, Segelflug im Norden.	DEDFS, runway 25, glider activity north of field.

From this point on you are no longer expected to respond to the pilot's radio messages. Pilots should report turning into the downwind, base and final (even if in reality they usually only report entry into the pattern and joining base). Callsigns may only be shortened if the ground radio station does so first. When reporting base, the current ground wind should ideally be given to the pilot.

German	English
DEDFS, drehe ein, Queranflug 25.	DEDFS, turning base 25.

DEDFS, Endanflug 25.	DEDFS, final 25.
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Departing traffic

As far as required information is concerned, departing traffic is treated similarly to approaching traffic. Aircraft requesting departure from your uncontrolled airfield require the active runway and further information. First, of course, an initial call is made. Subsequently:

Abfliegender Verkehr / Departing Traffic	
German	English
DEDFS, C172, VFR nach EDWE, Vorfeld, erbitte Rollinformationen.	DEDFS, C172, VFR to EDWE, apron, request taxi information.
DEDFS, Piste 25.	DEDFS, runway 25.

If the aerodrome operator has given the air traffic controller the authority to control aircraft on the ground, they can instruct ground movement around the aerodrome and taxiways usage to reach the runway(s) or apron.

German	English
DEDFS, Piste 25 über südliche Grasfläche / über Rollweg A und B.	DEDFS, runway 25 via southern grass area / via taxiways A and B.

As soon as the departing traffic has announced lining up on the runway and their intent to depart, the air traffic controller can communicate the current wind conditions.

German	English
Wind 240 Grad, 9 Knoten.	Wind 240 degrees, 9 knots.

Traffic in the traffic circuit

Traffic that will remain in the traffic circuit exclusively can be treated the same as approaching or departing traffic, i.e. the same level of information can be given. Again, note that you do not have to communicate wind information every time the aircraft makes a pattern.

Special procedures / flight exercises

Occasionally, VFR traffic will announce that they plan certain practice approaches to the airfield, such as landings with a simulated engine failure or spot landings (German: Ziellandeübung). Other traffic approaching or departing should be informed of these activities if possible.

Aircraft conducting a spot landing are expected to climb to 2,000 ft AGL and position themselves directly over the airfield. They will report the start of the exercise

German	English
DELFE, Gegenanflug Piste 25, simulierter Triebwerksausfall / Ziellandeübung.	DELFE, downwind runway 25, simulated engine failure / spot landing.

Other traffic that has been informed about the simulation will probably wait or delay their approach before entering the traffic circuit. The total duration of the simulation can be approximated at two minutes.

Traffic information

Traffic information is a radio message intended to inform an aircraft about other relevant traffic. Other traffic is relevant if: two aircraft could approach each other enough to have each other in sight or to possibly be dangerously close to each other. Unlike at a controlled airport, an uncontrolled airfield has no control zone and, above all, no radar screens; instead, binoculars are used, so traffic information necessarily is given differently from controlled aerodromes. Information on altitude, altitude tendency (climb/descent) and heading are not possible. Instead, the last state of the aircraft mentioned or seen is used, for example: in take-off run, on approach, etc. together with the type of aircraft. It must be noted here **whether the aircraft is in a left or right-hand pattern**. In the latter case, the phrase "right [part of traffic pattern]" or "in the right [part of traffic pattern]" must be used. On departure and final approach, no clear traffic pattern can be specified, so the direction information is omitted. Traffic information can be given independently of the pilot's messages, i.e. the pilot does not have to make a message beforehand. In principle, traffic information is not as necessary at uncontrolled aerodromes as at controlled aerodromes (de jure, the aerodrome controller is not required to provide traffic or weather information) and can therefore be given more sparingly.

German	English
DMABC, Rollhalt Piste 27, abflugbereit.	DMABC, holding point runway 27, ready for departure.
DMABC, Verkehrsinformation, Cessna 172 startend von Piste 27.	DMABC, Traffic information, Cessna 172 departing runway 27.
DMABC, Verkehr in Sicht, (rolle zum Abflugpunkt Piste 27).	DMABC, Traffic in sight, (lining up runway 27).

German	English
DEABC, Gegenanflug Piste 27.	DEABC, Downwind runway 27.
DEABC, Verkehrsinformation, Piper 28 im Queranflug Piste 27.	DEABC, Traffic information, Piper 28, base runway 27.
DEABC, Halte Ausschau.	DEABC, looking out.

VFR at night

Night VFR or NVFR refers to the operation of aircraft under visual flight conditions during civil twilight. Special precautions must be taken by aircraft which intend to take off from your airfield under NVFR rules. These flights must file a flight plan if they go beyond the vicinity of the airfield. However, there is no requirement to contact an air traffic control center located above your airfield. The only other requirement for AFIS is the use of the suffix "VFR night" on the initial call from an aircraft. In addition, this suffix must be used on the frequency when the VFR night phase begins. VFR night may only be used at authorized aerodromes.

Nacht VFR / Night VFR	
German	English
DEDFS, C172, VFR Nacht nach Braunschweig, auf dem Vorfeld, erbitte Rollinformationen.	DEDFS, C172, VFR Night to Braunschweig, at the apron, request taxi information.
DEDFS, Piste 25.	DEDFS, runway 25.

If the pilot wishes to continue the VFR night flight in airspace E, it is his responsibility to call the appropriate air traffic control station.

Gliders

Uncontrolled airfields, especially those with grass airstrips, are the main airfields for glider operations. Unpowered gliders are dependent on either towing aircraft or winch launches. These are coordinated by the local launch manager. The flight director is his superior.

Gliders use a different traffic circuit than powered aircraft; these patterns are normally shown in the VACs. Gliders also have the right of way over motorized aircraft, but managing this is the responsibility of the pilots and does not require the intervention of AFIS. However, traffic information is recommended.

Gliders use a different phraseology when announcing the downwind:

Segelflug / Glider	
German	English
D1234, Position, Fahrwerk ausgefahren und verriegelt.	D1234, position, gear down and locked.

Since gliders are unpowered, they usually fly a tighter circuit and land faster than powered aircraft, which use wider circuits and first have to establish the appropriate configuration before landing. Gliders that do not have retractable landing gear omit the "landing gear extended and locked" part.

VDF – VHF direction finder

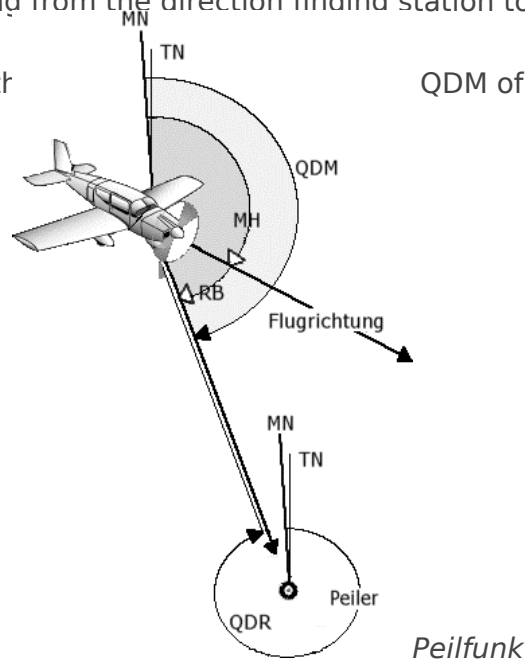
Some smaller airfields are equipped with a so-called VHF direction finder (VDF). This device enables the air traffic controller to support pilots with navigation according to visual flight rules and to find an airfield if other means of navigation no longer lead to the destination or the pilot has lost their way.

In reality, the VHF direction finder receives the signal from the aircraft's radio when the pilot is speaking on the frequency and displays the QDM and QDR, which in turn can be transmitted to the aircraft.

QDM is defined as the magnetic bearing from the aircraft to the direction finding station. QDR is defined as the magnetic bearing from the direction finding station to the aircraft.

An aircraft located exactly north

QDM of 180° and a QDR of 360°.



Emergency procedures

Emergencies at uncontrolled airfields are handled in the same way as at controlled airfields. In case of an emergency, the airfield is closed to approaching and departing traffic for the duration of the emergency and the pilots are informed on frequency that an emergency is in progress. As soon as the emergency has landed or definitely will not land at the airfield, the emergency must be declared over.

Aerodromes with IFR procedures

Introduction IFR

IFR traffic is permitted at uncontrolled aerodromes within vACC Germany if aerodromes have published IFR approach procedures and a Radio Mandatory Zone (RMZ) has been added to airspace G around the aerodrome. A map of all uncontrolled airfields with IFR traffic can be found [here](#). IFR traffic is conducted in English only, so please make sure that you are able to communicate in English when controlling such airfields.

IFR arrivals and departures require increased attention in the vicinity of the airfields, which is why so-called Radio Mandatory Zones (RMZ) have been introduced at airfields with IFR traffic. These are airspace class G and therefore uncontrolled.

The AIP for Germany stipulates that aircraft intending to fly into an RMZ must make an initial call on the published frequency to declare their intentions. In our example, the published frequency of "Schwäbisch Hall Information" needs to be used and the following content transmitted:

- Identification of the called station
- Callsign and aircraft type
- Location, altitude and flight intentions.

Erstanruf / Initial Call	
German	English
Schwäbisch Hall Information, DEMLI, C182, 7nm südlich des Platzes, 1.700ft, Durchflug der RMZ in nördlicher Richtung.	Schwäbisch Hall Information, DEMLI, C182, 7nm south of the airfield, 1.700ft, crossing RMZ northbound.

While crossing the RMZ, the pilot has to continuously monitor the frequency. Initiation calls from pilots are made in the same way as traffic pattern reports and do not need to be acknowledged or confirmed by AFIS. Pilots intending to land or take off at the airfield will generally continue to use the shorter introductory call to establish communication.

If the corresponding AFIS position on Vatsim is not occupied, the blind messages must be sent on Unicom 122.800.

ATIS

The *Automatic Terminal Information Service* (ATIS) is an automated announcement that provides arrival and departure information mainly for IFR flights, but can also be used by VFR flights to obtain initial information about the situation at the airfield. ATIS is normally provided by your controller client via an automatic URL parser. You will need to familiarize yourself with the ATIS provider of your FIR in order to create an ATIS at an uncontrolled aerodrome with IFR. Please contact the mentors of the FIR in which you would like to offer AFIS.

Departing traffic

The flight strip below shows the flight plan for DFPIA, a C208 Caravan from EDGS - Siegerland to EDVE - Braunschweig via the route TOBAK Z10 GISEM N850 WRB P12 NORTA. For the purpose of explaining how departing IFR traffic is handled, we assume you are operating as Siegerland Info (EDGS_I_TWR) and the pilot is on your frequency.

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DFPIA      I      090      TOBAK Z10 GISEM N850 WRB P12 NORTA
C208/J     EDGS EDVE
A150 G0    EDDV      090 RMK/VEFG-CPT PILOT DEFSCENERY /v/ SEL/DEGP
C208 = CESSNA, 208 Caravan 1/(Super) Cargomaster/Grand Caravan, C-98,
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Flight strip

The pilot will call you - as at any other IFR airfield - and ask for enroute clearance.

Station	Phraseology
Pilot	Siegerland Information, DFPIA, information Alpha, request enroute clearance.
ATC	DFPIA, Siegerland Information, check information Bravo, stand by for clearance.

Relay enroute clearances

At this point it is very important to remember that you are an AFIS station and not an air traffic control station and that you are therefore not authorized to issue the clearance yourself. You can only request clearance from the *approach controller* or *center controller* responsible for your airfield and forward it to the pilot.

You can use the communication tools of your FIR, in most cases via TeamSpeak, to call the responsible station and state your request. Let's assume that only Langen Radar Sector Giessen is online to receive the request.

Station	Phraseology
Siegerland Info	Gießen, Siegerland Information.
Langen GIN	Gießen, go ahead.

Siegerland Information	DFPIA at Siegerland is requesting IFR clearance to Braunschweig via TOBAK.
Langen GIN	DFPIA is cleared Braunschweig aerodrome, TOBAK1K departure, flight planned route, climb via SID 6000ft, squawk 2246, released
Langen GIN (Alternative)	DFPIA is cleared Braunschweig aerodrome, TOBAK1K departure, flight planned route, climb via SID 6000ft, squawk 2246, hold and advise ready.
Langen GIN (Alternative)	DFPIA is cleared Braunschweig aerodrome, TOBAK1K departure, flight planned route, climb via SID 6000ft, squawk 2246, depart not earlier than 40, not later than 55.
Siegerland Information	DFPIA is cleared Braunschweig aerodrome, via TOBAK1K departure, climb via SID 6000ft, flight planned route, squawk 2246, depart not earlier than 40, not later than 55.
Langen GIN	Readback correct.

You have now obtained clearance for DFPIA and need to forward it to the pilot.

Station	Phraseology
ATC	DFPIA, Siegerland Information, clearance now available, advise ready to copy.
Pilot	DFPIA, ready to copy.
ATC	DFPIA, Langen Radar clears you to Braunschweig aerodrome, TOBAK1K departure, flight planned route, climb via SID 6000ft, squawk 2246, depart not earlier than 40, not later than 55.
Pilot	DFPIA, Cleared Braunschweig aerodrome, TOBAK1K departure, flight planned route, climb via SID 6000ft, squawk 2246, depart not earlier than 40, not later than 55.
ATC	DFPIA, Readback correct, startup approved, runway 31 via A.
Pilot	Startup approved, runway 31 via A.

If ATC decides not to use one of the published standard departure routes, a vectored departure can be used. The simplest vectored departure is the instruction to continue on runway heading and climb to a given altitude, but more complex instructions are possible. The instructions for a vectored departure must also be transmitted to the pilot.

Station	Phraseology
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ATC	DFPIA, Langen Radar clears you to Braunschweig, radar vectors TOBAK, flight planned route, fly runway heading, climb 5000ft, squawk 2246, depart not earlier than 40, not later than 55.
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Approaching traffic

Inbound IFR traffic is treated almost the same as outbound traffic, but requires less work. When IFR traffic is approaching your airfield, ATC will contact you via TeamSpeak and let you know when you can expect IFR traffic on final approach. As soon as the aircraft is stabilized on final approach, ATC will initiate a hand-off to your frequency.

Theoretically, IFR traffic must also declare their aircraft type and altitude before entering the RMZ, but expect pilots to omit both.

Station	Phraseologie
Pilot	DFPIA, C208, established ILS runway 31, 6.000ft.
ATC	DFPIA, wind 290 degrees, 4 knots, no further traffic / one VFR light on downwind.

Note that IFR traffic has no priority over VFR traffic in a traffic pattern. As soon as the IFR pilot has entered the RMZ, they are bound by the same "see and avoid" rules as VFR traffic. As a courtesy and due to the fact that IFR traffic in turboprops or jets is usually faster than light VFR aircraft, the VFR pilot will probably give priority to the IFR pilot and either delay or extend his own approach, but please do not expect this as standard.

Also bear in mind that as an AFIS station you are not allowed to issue any clearances. Landing clearances or instructions to extend the downwind of a VFR aircraft are therefore not available to you.

If the IFR pilot is not familiar with approaches to uncontrolled airfields, he can go around and attempt a new approach while contacting ATC again.