Radio Telephony

ATC/MATZ CALL	
Request - zone transit/Matz penetration/Radar infoation Service. For SVFR (class A only) eta at zone bound req'd	
C	Curr pos + Dep point
H	Heading
A	Altitude/FL + press
V	Flight Condition
E	Enroute to ETA Bound
R	Reqs't -in Matz this 1st

"Station", Eurostar G-CCMO request MATZ penetration/zone transit/ Joining instructions/ etc "pass your message……."

VFR – "basic service please"

Use for eg if unable to Squawk or Charlie…….

"Eurostar G-CCMO"

POS'N REP (no squawk)	
P	Position
A	Altitude
T	Time (Just minutes)
N	Next reporting point
E	ETA next rep point

Urgency = not yet grave and imminent danger; Pan x6 Distress = MAYDAY x3.

"Eurostar G-CCMO"

URGENCY(PAN) DISTRESS(MAYDAY)	
N	Name of station
A	Aircraft
N	Nature of emerg
I	Intentions
P	Posn, Level, Headg
P	Pilot qualifications
O	Other information

VFR

Radio Telephony

DEPARTURE/PENETRATION POSITION/JOIN

East Midlands Ground/ Control, OR ATSU for LARS	Eurostar G-CCMO, request transit OR MATZ Penetration OR Request lower airspace radar service OR request crossing of airway _____ at_____
"Pass your message…….." **C**urrent position Departure point	
Heading	
Altitude/FL and pressure	
VFR	VFR
En rout to **ET**Abound	
Reqst; Transit SVFR Penetration etc *if SVFR, eta at zone boundary is required* Advise when leaving	G-CCMO
	"East Midlands, G-CCMO… request change to . on
Call on leaving area +If Asked for position	G-CCMO
Position	
Altitude	
Time (mins only)	
Next reporting point	
ETA for nxt rep point	
"East Midlands Control	G-CCMO
Position	
Height	
	request join for one visual circuit"

Radio Telephony

> **Standard Join;**
> **Overfly 2000', determine circuit direction if not known, by signals square, traffic and sock. Cross "Overhead" Descend to circuit height on "descending dead side", join circuit by crossing upwind end @ circuit height crosswind and position "downwind", late downwind" "baseleg" (optional) and call in on "Final" – East Midlands Control, G-CCMO Finals on 22 , "landing roll completed"**

All digits pronounced separately, 18 one eight. Remember Zero, Tree, Fower, Niner. There is no Eleven etc. 10= One Zero. 100= One hundred (not one, zero, zero). 2500= Two thousand Five hundred. 11000= One, One, Thousand. 25000= Two, Five Thousand. "Channel" not used. 118.125 = one, one, eight, decimal one two five. Time is usually only in minutes. 2400=midnight. 0000= beginning of day. 08:23 = Time two three. Affirm = yes. Break= separate messages. Break Break separates 2 aircraft. Area Control= control. Approach Control = Approach. Aerodrome Control= Tower. Categories – Air Traffic Control (ATC), Flight Information Service Officers, Aerodrome Air/Ground Comms Service (AGCS), Radio Operators.
VOLMET – Taf and Metar. SIGMET – Met Safety messages. ATIS – Auto terminal info service. AIS – Aeronautical info service.
Aircraft should request service required on initial contact e.g. East Midlands Control, Eurostar G-CCMO, request Departure Information/penetration and basic service/request join. G-CCMO radio check 118 decimal 725 and request taxi information. …….. 10 miles south, altitude 2500 feet QNH 1008, request straight in approach.
"Transmission blocked" if jammed.
Add "degrees" where heading ends zero. Add "millibars" for pressure under 1000.
SAFETEYCOM – 135.475 only when no more than 2000' over aerodrome or not more than 1000' over circuit height & within 10nm. 129.825 – microlight equivalent.
Unattended examples; Departure; Hucknall traffic, G-CCMO taxiing for runway 33 LH

or lining up for departure runway 33 rolling runway 33 or climbing out runway 33. Joining; Hucknall traffic, G-CCMO Overhead, joining for runway 33 LH and Deadside descending runway 33. In the circuit; Hucknall traffic, G-CCMO, Downwind, Runway 33 LH and (optional) base leg, runway 33, and Final runway 33.

Volmet – 126.6, weather automated.

Squawk; reset (reselect code), Ident – operate ID button, Squawk mayday, Mode/Squawk standby (SBY), Squawk Charlie (set ALT), Squawk Alpha (ON) . 7000 general squawk 7010 VFR circuit traffic, 7700 EMERGENCY 7600 loss of comms. 7500 HIJACK. – careful not to dial through these when setting.

Danger Areas – East Mids approach, G-CCMO, request "crossing service" for danger area 113.

QNE- is the indication which the altimeter will give on landing, at a particular time and place, when the millibar scale is set to 1013.2 mb

Distress A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance. 'MAYDAY, MAYDAY, MAYDAY'

Urgency A condition concerning the safety of an aircraft or other vehicle, or of some person on board or within sight, but does not require immediate assistance. 'PAN PAN, PAN PAN, PAN PAN' Pilots should address their emergency calls on 121.5 MHz to 'London Centre' when south of N55°, and 'Scottish Centre' when north of N55°

If a pilot is in communication with a civil or military ATSU, before the emergency arises, assistance should be requested from the controller on the frequency in use. In this case, any SSR code setting previously assigned by ATC (other than the Conspicuity Code 7000) should be retained until instructions are received to change the code setting. If, however, the pilot is not in direct communication with an ATSU and the aircraft is equipped with an SSR transponder it should be switched, preferably

before the emergency call is made, to Emergency Code 7700, with Mode C if available.

Emergency Message NANIPPO ; Mayday or Pan **N**ame of station addressed ; **A**ircraft Callsign & type; **N**ature of the emergency; **I**ntention of the pilot-in-command; **P**resent or last known position, flight level/altitude and heading; **P**ilot qualifications (VFR) **O**ther useful information e.g. endurance remaining, POB aircraft colour/markings, any survival aids.

"MAYDAY MAYDAY MAYDAY………..

N - Hucknall Approach
A – Eurostar Golf – Charlie Charlie Mike Oscar
N – Engine failure
I – Forced landing
P – One zero miles south of Watnall
P- VFR
O- 1 POB"

If **relayed**, as above but Hucknall approach, G-CCHO has intercepted MAYDAY from G-CCMO, I say again……….

For Urgency rather than distress, PANx6 should be used for instance where N= "passenger with suspect heart attack and I=divert to Watnall"

RELAY - MAYDAY MAYDAY MAYDAY
East Mids Tower, G-ABCD, have
intercepted MAYDAY from G-BJRD,
I say again G-BJRD Cessna 172
engine failure forced landing 10
miles west of Wicken VOR, 1000
feet descending, heading 120, IMC rating, over

AIRPROX REPORT: Aircraft Callsign; SSR Code; Position of AIRPROX; Aircraft heading, Flight level, altitude or height, Altimeter setting, Aircraft attitude (level / climbing / descending / turning), Weather conditions, Date and time (UTC) of the AIRPROX, Description of other aircraft, First sighting distance and details of flight paths of reporting and reported aircraft. Confirm in writing within seven days of the incident.

Radio Telephony

ICAO has split the VHF communications band from 25 kHz to 8.33 kHz channel spacing. Referring to 8.33 kHz channels to request the capability of the radio equipment: "G-CCMO, confirm eight point three three". "Negative 8.33" or "Affirm UHF".
MILITARY phraseology intentionally missed.
FREECALL – your details have not been passed to the next ATS

Read Metar – EGNX *Manchester* 280720Z *28th 7:20am* 25011kt *wind from 250deg at 11 knots*, 9999 *greater than 10k vis*, FEW011 *a few clouds at 1100'* 13/10 *– temp 13, dew point 10*, Q1014, *QNH 1014 millibars.*
Calc humidity; For every 1deg diff in dpt to temp = 5% humidity drop from 100. E.g. temp 13, dp 10 is diff 3 x 5 = 15 off 100 = 85% approx

Message priorities; Distress (Mayday), Urgency (Pan,Pan), Direction finding, Flight Safety, Meteorological, Flight regularity.

VHF Direction finding (**VDF**)
Station callsign, G-CCMO request QDM, G-CCMO
QDM = heading to steer to station (no wind correction), QDR = aircraft bearing from station (ie qdm-180) QTE= aircraft true bearing from station QUJ= aircraft true track to station.
Class A= +/-2 deg, B=5, C=10 & D= worse than Ct –

Radar Information Service CHAVER (for outside controlled airspace) – gives traffic info inc bearing & distance + level when known, of conflicting aircraft.
(Radar **advisory** service expects flight in IMC)
"East Midlands approach, Golf, Charlie, Charlie Mike Oscar request Radar Information Service" "…pass your message"
G-CCMO, **C**urrent position, **H**eading, **A**ltitude, **V**FR, **E**n route to, **R**equest radar information service

Traffic information may include instructions but if not

Radio Telephony

you can ask. If warned of traffic use "Looking" or "Roger" or "Visual" or "Traffic in sight" or "Negative contact, request vectors" for a reply such as "G-CCMO, turn right heading two zero five"

MATZ penetration CHAVER a Military Aerodrome Traffic Zone is 5nm radius and 3000' high. Panhandles 1000' to 3000' and 5x4nm. Make contact 15nm or 5mins away. A number of MATZ controlled by 1 Clutch Matz who's QFE is used. Main difference in phraseology is…
"Cottesmore zone, Golf Charlie, Charlie, Mike Oscar, request Matz Penetration" "….pass your message" **C**urrent position, **H**eading**, A**ltitude (inc qnh), **V**FR, **E**stimate zone boundary **R**equest comes up front in a Matz "Request Matz penetration"

Danger Area Danger Area Crossing Service ("Dacks") or Danger Area Activity Information Service ("Day-iss") – identify which type on 1:500
"Plymouth Military, G-CCMO request DACKS of D009"
"Lakenheath, G-CCMO, request DAY-ISS for Thetford Range"

Radio Failure – Squawk 7600 and Mode Charlie.
Receiver working; One short = Yes, Two short = No, Three short = Say again. Four short = request homing (or for initial alerting), One long (4 secs) = manoever completed. One long, 2 short, one long (SOS) – I have another emergency.
If receiver is not working – "Hucknall radio, G-CCMO, transmitting blind 130 decimal 8 due to receiver failure, I say again…….. and trans deadside approach, downwind & final.

"Training Fix, Training fix, Training Fix – Golf – Charlie, Charlie, Mike, Oscar" G-CCMO, your position is 15 miles n of Derby" – use emergency channel 121.5 in quiet periods for training or if lost.

Radio Telephony

Categories of Aero comms – ATC, Flight info ("Information"), Air/Ground ("Radio"), Unmanned ("Traffic")

These instructions must be read back;
Taxi, heading level, speed, airway or route clearances. Runway in use (wind directions quoted from where they are coming from – runway directions are based on where they point to i.e opposite of wind), clearance to enter circuit, take off, backtrack or hold short of active runway. SSR (secondary surveillance radar) operating instructions, altimeter and VDF info, frequency changes and type of radar service.

Conditional clearance will contain Callsign, Condition, Subject of the condition and instruction. Eg "Golf-Mike,Oscar; after landing Eurostar completes backtrack, line up runway 33". Use "ready for departure", only use "take off" to acknowledge ATC clearance to "take off"

SVFR is special instructions by ATC for flight in class A control zone (or any other zone in IMC or at night) instead of flying IFR. Requires ETA Zone Boundary.

QFE= Height. QNH= Altitude. 1013mb = Flight Level

Max ranges for radio use;
International Airport – Tower <= 25nm & 4,000'.
Approach <= 25nm & 10,000'
Other Airports - Tower; immediate vicinity & <1,000'
Control; <= 10nm & <3,000'

TYRO (suffix) = low hours or inexperienced pilot

Flight Information Service provides information for the safe and efficient conduct of flights in the ATZ.

Basically, all calls except position report and emergcy are Curr Position (3 axis inc headg and alt), VFR, where you're going and what you want.