



Australian Government

Civil Aviation Safety Authority

ADVISORY CIRCULAR

AC 139-27 **Guidelines for certified air/ground radio** **services**

Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Advisory Circulars should always be read in conjunction with the relevant regulations.

Audience

This advisory circular (AC) applies to:

- aerodrome operators
- providers of certified air/ground radio services (CA/GRS)
- certified air/ground radio operators (CA/GRO)
- pilots
- Airservices Australia.

Purpose

The purpose of this AC is to provide advice on the provision of a CA/GRS.

For further information

For further information on this AC, contact Civil Aviation Safety Authority's (CASA's) Air Traffic Management System Standards Section, Flight Standards (telephone 131 757).

Status

This version of the AC is approved by the Executive Manager, Standards Division.

Version	Date	Details
1.0	April 2016	This AC supersedes the outdated CAAP AIRWAYS-3(2).

Unless specified otherwise, all subregulations, regulations, divisions, subparts and parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998 (CASR)*.

Contents

1	Reference material	3
1.1	Acronyms	3
1.2	Definitions	3
1.3	References	4
1.4	Forms	4
2	Introduction	5
2.1	Purpose of the Certified Air/Ground Radio Service	5
2.2	Provision of CA/GRS	5
3	CA/GRO certification and facility approval	6
3.1	Application and issue of certificate to an individual	6
3.2	Commissioning and routine compliance checklist	6
4	Operation of a CA/GRS	9
4.1	General	9
4.2	Phraseology	9
4.3	Records	9
4.4	Radio procedures	10
4.5	Visual observations	10

1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this AC are listed in the table below.

Acronym	Description
AC	Advisory Circular
AIP	Aeronautical Information Publication
AAIS	Automatic Aerodrome Information Service
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
CAVOK	Visibility, cloud and present weather better than prescribed values or conditions
CA/GRO	Certified Air/Ground Radio Operator
CA/GRS	Certified Air/Ground Radio Service
CTAF	Common Traffic Advisory Frequency
ETA	Estimated Time of Arrival
GEN	General
MOS	Manual of Standards
NOTAM	Notice to Airmen
QNH	Atmospheric pressure at sea level (measured in hectopascals)
RTF	Radiotelephony
VHF	Very High Frequency

1.2 Definitions

Terms that have specific meaning within this AC are defined in the table below.

Term	Definition
Automatic Aerodrome Information Service (AAIS)	The service that provides current, routine information for aircraft arriving at or departing from an aerodrome by means of repetitive broadcasts on a discrete frequency.
Certified Air/Ground Radio Service (CA/GRS)	An aerodrome radio information service that provides aircraft operating in the vicinity of an aerodrome with the services and information specified in section 14.2 of the Part 139 Manual of Standards (MOS).
Certified Air/Ground Radio Operator (CA/GRO)	A person who is certified as a CA/GRO under regulation 139.430.

Term	Definition
Relevant traffic	Advice of relevant air traffic in the airspace in the vicinity of or on the aerodrome

1.3 References

Regulations

Regulations are available on the ComLaw website <http://www.comlaw.gov.au/Home>

Document	Title
Part 139	Aerodromes
Part 139 Manual of Standards (MOS)	Aerodromes
Part 99A of the <i>Civil Aviation Regulations 1988</i> (CAR)	Broadcasts to be made at certain aerodromes
Regulation 120 of CAR	Weather reports not to be used if not made with authority
Part 166E of CAR	Requirements for operating on or in the vicinity of certified, military, registered or designated non controlled aerodromes
Part 65 MOS	Standards Applicable to Air Traffic Services Licensing and Training Requirements

Advisory material

Document	Title
AIP GEN 3.4	Aeronautical information publication (AIP) General (GEN) 3.4.

1.4 Forms

CASA's forms are available at <http://www.casa.gov.au/forms>

Form number	Title
Form 715	Air/Ground Radio Operator Certificate — Application

2 Introduction

2.1 Purpose of the certified air/ground radio service

- 2.1.1 A certified air/ground radio service (CA/GRS) is an aerodrome radio information service that provides aircraft operating in the vicinity of an aerodrome with the services and information specified in section 14.2 of the Part 139 Manual of Standards (MOS). This service must be provided by an aerodrome operator under Division 139.F.3.
- 2.1.2 The primary purpose of a CA/GRS is to enhance the safety of air transport operations by the provision of relevant traffic information. A CA/GRS is beneficial in that the pilot receives traffic information in specific terms for their flight(s), which enhances their ability to see and avoid potentially conflicting traffic.

2.2 Provision of CA/GRS

2.2.1 Directed provision

- 2.2.1.1 In accordance with regulation 139.400, CASA may direct an aerodrome operator to provide a CA/GRS for the safety of air navigation.

2.2.2 Voluntary provision

- 2.2.2.1 Subject to approval by CASA, a CA/GRS may be provided at any aerodrome. Depending on the particular application, such a service may be provided on a permanent or temporary basis.

3 CA/GRO certification and facility approval

3.1 Application and issue of certificate to an individual

- 3.1.1 An operator must hold a certified air/ground radio operator (CA/GRO) certificate¹ to perform the functions of a CA/GRO. An applicant should complete CASA Form 715 and submit it to CASA's Airspace and Aerodrome Regulation Division by post or email. The application can be mailed to CASA via postal address:

Client Services Centre
Civil Aviation Safety Authority
GPO Box 2005
Canberra ACT 2601

Or sent to email address: regservices@casa.gov.au

- 3.1.2 After receiving an application, CASA will confirm the applicant's identity and verify that they meet the appropriate licence qualification. All applicants will require an instrument of approval under regulation 120 of the *Civil Aviation Regulations 1988 (CAR)* to provide pilots with meteorological observations.
- 3.1.3 If the application fails to provide the required information, CASA will send the application back to the applicant for further information. If the application is approved, CASA will issue a CA/GRO certificate that will be valid for 10 years from the issue date.

3.2 Commissioning and routine compliance checklist

- 3.2.1 The facilities and service delivery will be assessed by CASA before provision of the service is authorised.

3.2.2 Service facilities and documents

- 3.2.2.1 The applicant must ensure that the following facilities and documents are in place and operational²:
- work station with full view of the circuit area and manoeuvring area
 - very high frequency (VHF) transmitter/receiver operating on the Common Traffic Advisory Frequency (CTAF) or broadcast area frequency
 - automatic aerodrome information service AAIS (recommended to be on a separate VHF frequency)
 - meteorological instrumentation—that complies with Bureau of Meteorology standards for aviation use—that measures:
 - o wind direction in degrees magnetic
 - o wind speed in knots
 - o atmospheric pressure at sea level (QNH)
 - o aerodrome temperature (measured in degrees Celsius)

¹ In accordance with section 14.2 of the Part 139 MOS.

² In accordance with section 14.2 of the Part 139 MOS.

- current aeronautical documents, including notice to airmen (NOTAM), appropriate to instrument flight rules and visual flight rules operations within the vicinity of the aerodrome or broadcast area
- a telephone
- local CA/GRS operating procedures
- an aerodrome emergency plan.

3.2.3 Traffic assessment

3.2.3.1 Before the CA/GRS is approved, the applicant must demonstrate to CASA the correct use of a 'running sheet' to record³:

- time, aircraft call-signs and aircraft types
- arrival, departure and transiting broadcasts
- traffic information and weather information passed to aircraft
- completion of action.

3.2.3.2 While recording the traffic assessments, the applicant must also identify and describe the position of aircraft:

- on the aerodrome
- in the circuit
- when arriving, departing and transiting.

3.2.3.3 The applicant must identify any traffic conflicts.

3.2.4 Weather assessment

3.2.4.1 Using an aerodrome weather information sheet, the applicant must demonstrate how to record⁴:

- wind direction and speed
- the preferred runway for the operation
- QNH
- temperature
- cloud base
- visibility
- present weather.

3.2.4.2 Using wind instrumentation, the applicant must demonstrate:⁵

- how to obtain the wind direction and speed
- the use of wind direction and speed in determining the preferred runway.

3.2.4.3 While assessing the weather, the applicant must also complete the following:⁵

- identify common landmarks and determine their visual range in bearings and distances from the station (with reference to an aerodrome visibility chart)
- demonstrate how to obtain aerodrome QNH

³ In accordance with Chapters 4 and 5 of the Part 65 MOS.

⁴ In accordance with Chapters 4 and 5 of the Part 65 MOS.

⁵ In accordance with the Part 65 MOS.

- interpret automatic weather station data
- demonstrate correct recording of weather and other aerodrome information onto the AAIS.

3.2.5 Radiotelephony procedures

3.2.5.1 When using the radio, the applicant must be able to demonstrate an understanding of the correct phraseology and phonetics⁶, such as:

- aircraft call-signs
- levels, bearings and distances
- standard procedural words and phrases
- time
- establishing communications
- responding to emergency transmissions
- radio test procedures and readability scales.

3.2.5.2 The applicant must also demonstrate use of the correct phraseology when passing traffic and other information to aircraft, such as arriving, departing, transiting and other relevant operational activity (e.g. aerobatics).⁷

3.2.5.3 When using the radio, the applicant must demonstrate an accurate microphone and communication technique. This includes:⁷

- clear, concise transmissions
- correct use of phonetics and numbers
- establishing and maintaining communications
- not creating frequency congestion.

3.2.6 Emergency services alerting

3.2.6.1 The applicant must be trained to recognise abnormal aircraft operations and follow the appropriate emergency notification procedure⁸, such as:

- identifying the correct assessment of emergencies
- alerting the authorities and/or emergency services in order of priority.

⁶ In accordance with Chapters 4 and 5 of the Part 65 MOS.

⁷ In accordance with the Part 65 MOS.

⁸ In accordance with Chapters 4 and 5 of the Part 65 MOS.

4 Operation of a CA/GRS

4.1 General

- 4.1.1 When the CR/GRO is providing a CA/GRS, it must be operating for the arrival and departure of an aircraft that⁹:
- is engaged in regular public transport operations or charter operations
 - has a maximum passenger seating capacity of more than 30 seats.
- 4.1.2 When the CR/GRO is providing a CA/GRS, the CA/GRO must also provide an AAIS.¹⁰ The aerodrome information broadcast on the AAIS must include (in the following order):
- preferred runway
 - wind direction and speed
 - runway surface conditions
 - temperature
 - atmospheric pressure at sea level (QNH) temperature
 - cloud base and visibility
 - present weather or visibility, cloud and present weather better than prescribed values or conditions (CAVOK)
 - aerodrome operational information.
- 4.1.3 The operator of an aerodrome where a CA/GRS is being provided must arrange for a NOTAM to be issued outlining:¹¹
- the hours of operation of the CA/GRS
 - the radio frequency and the call-sign of the CA/GRS
 - the radio frequency of the AAIS for the aerodrome.
- 4.1.4 If the CA/GRS becomes unavailable during the published hours of operation the aerodrome operator must arrange for a revised NOTAM to be issued.¹²

4.2 Phraseology

- 4.2.1 In radio communications, the primary goal of the CA/GRS is the use of precise and concise phraseology to minimise frequency congestion.
- 4.2.2 Radio communication procedures and phraseology are internationally standardised to ensure uniformity in radiotelephony (RTF) communications. CA/GROs must comply with the general RTF procedures in AIP GEN 3.4.

4.3 Records

- 4.3.1 Running sheets and AAIS records are the main record types used for CA/GRS operations.

⁹ In accordance with regulation 139.420.

¹⁰ In accordance with section 14.2 of the Part 139 MOS.

¹¹ In accordance with regulation 139.425.

¹² In accordance with regulation 139.425.

4.3.2 Running sheets

4.3.2.1 A form of 'running sheet' should be used to write down callsigns and other relevant information. As a guide, the 'running sheet' may comprise any of the following:

- traditional flight progress strips adapted or modified to suit the location and service provided
- flight progress strips reproduced on sheets of paper; or
- a paper form that has appropriate headings and columns.

4.3.3 AAIS records

4.3.3.1 A written record of the content of each AAIS broadcast, including a date/time group, should be kept as part of the daily records.

4.4 Radio procedures

4.4.1 A CA/GRO responds to the first broadcast an aircraft makes when arriving, departing or transiting the aerodrome vicinity. Thereafter, the CA/GRO does not normally respond unless an aircraft specifically calls the service. For example, the operator would state:

PILOT: 'Ayers Rock Radio, A320 Jetstar six sixty-four, two five miles east, passing eight thousand, inbound, estimating Ayers Rock three two, received BRAVO.'

CA/GRO: 'Jetstar six sixty-four, Ayers Rock Radio, traffic is a Cessna 172 Delta Juliet Romeo, taxiing for departure runway three one to Alice Springs.'

4.5 Visual observations

4.5.1 CA/GROs need to maintain a vigilant watch on the changing positions of aircraft so that relevant traffic information can be provided.

4.5.2 As an example, an aircraft calls taxiing for the preferred runway. An arriving aircraft has already called and advised that its estimated time of arrival (ETA) is 28. The CA/GRO observes the arriving aircraft on mid-downwind. An example of the call would be:

PILOT: 'Ayers Rock Radio, Embraer 190 Virgin sixteen twenty-eight, taxiing for Sydney, runway 13, received DELTA.'

CA/GRO: 'Virgin sixteen twenty-eight, Ayers Rock Radio, traffic is a B717 QLINK 1940 mid-downwind for runway 13, time one six.'

4.5.3 Similarly, at airports where circuit training is being conducted, an arriving aircraft—on entering the circuit and/or reporting 'DOWNWIND'—should be provided with traffic information about relevant aircraft ahead of it in the circuit. For example:

PILOT: 'Beech Bonanza Alpha Bravo Charlie, joining downwind, runway 24 right, full-stop.'

CA/GRO: 'Alpha Bravo Charlie, traffic is a Cessna 152, mid downwind.'

4.5.4 Aerodrome information is broadcast on the AAIS. However, if a CA/GRO is asked to provide the information, it should be given in the same order as it is on the AAIS (refer to paragraph 4.1.2).

4.5.5 While the AAIS broadcast should be kept current, there will be occasions when the wind will be fluctuating to such a degree that it does not reflect the actual conditions. In these circumstances, the provision of wind checks immediately prior to take-off or on final approach may be of assistance to pilots. For example:

AAIS Broadcast: '(airport) Information CHARLIE, preferred runway 31, wind 260 degrees 15 to 25 knots, cross wind runway 31 up to 18 knots, QNH 1012, temperature 24, CAVOK.'

CA/GRO: 'Wind two five zero at one eight knots.'