



GHANA
CIVIL AVIATION AUTHORITY

ADVISORY CIRCULAR AC-23-005

RECORDING OF ATM VOICE AND SURVEILLANCE DATA

SECTION 1 - GENERAL

1. PURPOSE

- A. This Advisory Circular (AC) is issued to provide guidance to ANS providers on requirements to record Air Traffic Management Voice and Data in order to provide information for safety, accident and incident investigation.
- B. Consequently, the availability, integrity, legibility and security of the recording procedures, recording facilities, and recording media management practice, shall be assured.

2. STATUS OF THE ADVISORY CIRCULAR

This AC is an original issuance.

3. BACKGROUND

The provisions in the Ghana Civil Aviation (ANS) Directives establishes standards and practices for the recording of Air Traffic Management Voice and Surveillance Data to provide information for safety, accident and incident investigation as well as for training purposes. As such ANSPs must ensure that all voice and data loggers used at designated airspace and aerodromes in Ghana are able to record and retain voice and Surveillance data. The Air traffic control units are required to be equipped with devices that record background communication and the aural environment at air traffic controller work stations, capable of retaining the information recorded during at least the last twenty-four hours of operation.



4. APPLICABILITY

This AC is applicable to Air Navigation Service Providers (ANSPs) and Aerodrome Operators providing Air traffic services within designated aerodromes and airports in Ghana.

5. RELATED DIRECTIVES

- A. This AC is related to the following Parts of the Ghana Civil Aviation (Air Navigation Services) Directives:
 - i. Part 23 – Aeronautical Telecommunication of Ghana Civil Aviation (ANS) Directives (Subparts 23.2 and 23.4).
 - ii. Part 24 – Air Traffic Services (ATS)

6. RELATED READING MATERIAL

- A. ICAO Annex 10 – Aeronautical Telecommunications, Volume II: Communications Procedures including those with PANS Status.
- B. ICAO Annex 10, Aeronautical Telecommunications, Volume IV: Surveillance Radar and Collision Avoidance Systems.
- C. ICAO Annex 11 – Air Traffic Services (ATS)
- D. ICAO Annex 13 – Aircraft Accident and Incident Investigations
- E. ICAO DOC 4444 – PANS – ATM

7. ACRONYMS

AC	-	Advisory Circular
ANS	-	Air Navigation Service
ANSP	-	Air Navigation Service Provider
GCAA	-	Ghana Civil Aviation Authority
GCAD	-	Ghana Civil Aviation Directives
DG	-	Director General
CNS	-	Communication, Navigation and Surveillance
ATM	-	Air Traffic Management
PANS	-	Procedure for Air Navigation Services
CD	-	Compact Disc
DVD	-	Digital Versatile Disc

ROM - Read Only Memory

SECTION B - GUIDANCE AND PROCEDURES

8. STANDARDS AND PRACTICES

Recording facilities shall be provided on all voice communication channels and surveillance systems data. Stand-alone replay equipment shall also be provided at every ATS centre.

9. RECORDING OF SURVEILLANCE DATA

- A. Surveillance data from Primary and Secondary radar equipment provided at different airports shall be recorded automatically and continuously and back-up of the recorded data files be taken every day for retention.
- B. The surveillance data from primary and secondary radar equipment used as an aid to air traffic services shall be automatically recorded for use in accident and incident investigations, search and rescue, air traffic control and surveillance systems evaluation and training.
- C. Automatic recording shall be retained for a minimum period of thirty days. When the recordings are pertinent to accident and/or incident investigations, they shall be retained for longer periods until no longer required.

10. RETENTION OF SURVEILLANCE DATA RECORDINGS

The recorded tapes, CD / DVDs ROMs or other archive media shall be labeled properly with date of recording and details of the recorded files and shall be preserved under safe custody of a designated responsible officer. The recorded tapes, CD/DVD ROMs may be erased after thirty days unless there has been an incident/accident within that period and if required for incident and accident investigation.

11. RECORDING OF COMMUNICATION FACILITIES

- A. Each ATC station or Air Traffic Controller Working position shall be provided with multi-channel voice recording systems (analog/digital) for recording of channels.

- B. The channels to be recorded shall include:-
- i. operational voice communications (audio) on all ATS channels;
 - ii. all-important telephones and intercoms used for ATS Coordination between ATS units, ATS and other supporting units.
 - iii. All radar positions (video from Screens, input devices (keyboard, mouse, touchscreen), data lines (Datalink – CPDLC, OLDI lines, radar lines), video – CCTVs etc.)
 - iv. Synchronized time. (UTC)
- C. The recording facility should be able to synchronize to the replay of screen, the voice, voice and Surveillance data to enable efficient reconstruction and playback.
- D. The Facility shall have capability of impounding media (tapes, CD/DVD ROMS etc.) in case of accident and incident investigations.
- E. The Security features of the facility shall ensure the privacy of the personnel being recorded, prevent unauthorized access and also protection from inadvertent erasure or deletion of records.
- F. The facility shall be robust and provided with contingency measures and configured in redundancy to prevent loss of media or recordings from unforeseen damage arising from equipment fault or normal wear.

12. VOICE RECORDING AND RETENTION

- A. Voice recording facilities shall provide a chronological record of all voice communications for each operational position of an ATS service.
- B. All recordings shall incorporate accurate time and date stampings which will provide for the reestablishment of the real time of events.
- C. Status monitoring of all recording facilities shall be undertaken at all times that the ATS unit is operative.



- D. All recording media shall be clearly labeled or indexed unambiguously in accordance with standard practice. Labels shall include start and end times and the subject recording(s)/position(s).
- E. Recordings shall be retained in safe storage for at least 30 days. When the recording is pertinent to accident or incident investigations they shall be retained for longer periods until they are no longer required.
- F. The quantity of removable recording media on site shall be sufficient to cover the rotation period before re-use.
- G. Recording media that is designated for disposal shall be erased before disposal, or otherwise treated as classified waste. Magnetic storage media is to be bulk erased before disposal.
- H. On receipt of notice of an accident or incident from the appropriate authority, recorded media pertinent to investigation shall immediately be removed from the recording facilities, regardless of the available recording time remaining, and placed, after sealing in safe custody of the designated officer. The removal of the media shall ensure that there is no loss of recording during the process. All such media shall be clearly labeled.
- I. Recording media may only be released to a designated accident/incident Investigation Unit.
- J. All media placed in the custody must be retained until a formal release request is received from the designated authority. The actual release of the media shall be by means of person-to-person handover.

13. The ANSP shall establish procedures in their operations Manual to ensure the above requirements are met for efficiency, safety and regularity of air navigation.

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