
Welcome to
Southern Region Air Traffic Services

Ho Chi Minh Air Traffic Control Center

Southern Region Air Traffic Services

- Area of Responsibility

  Providing ATS & associated services for flight operations within HCM FIR

- Directorate

  Director and 3 Deputy Directors

- Staffs:

  All Technicians & Air Traffic Controllers received well training on the new ATC system.

- ATC system capacity

  Fully accommodate estimated traffic growth up to 2020 & beyond

Jump to first page

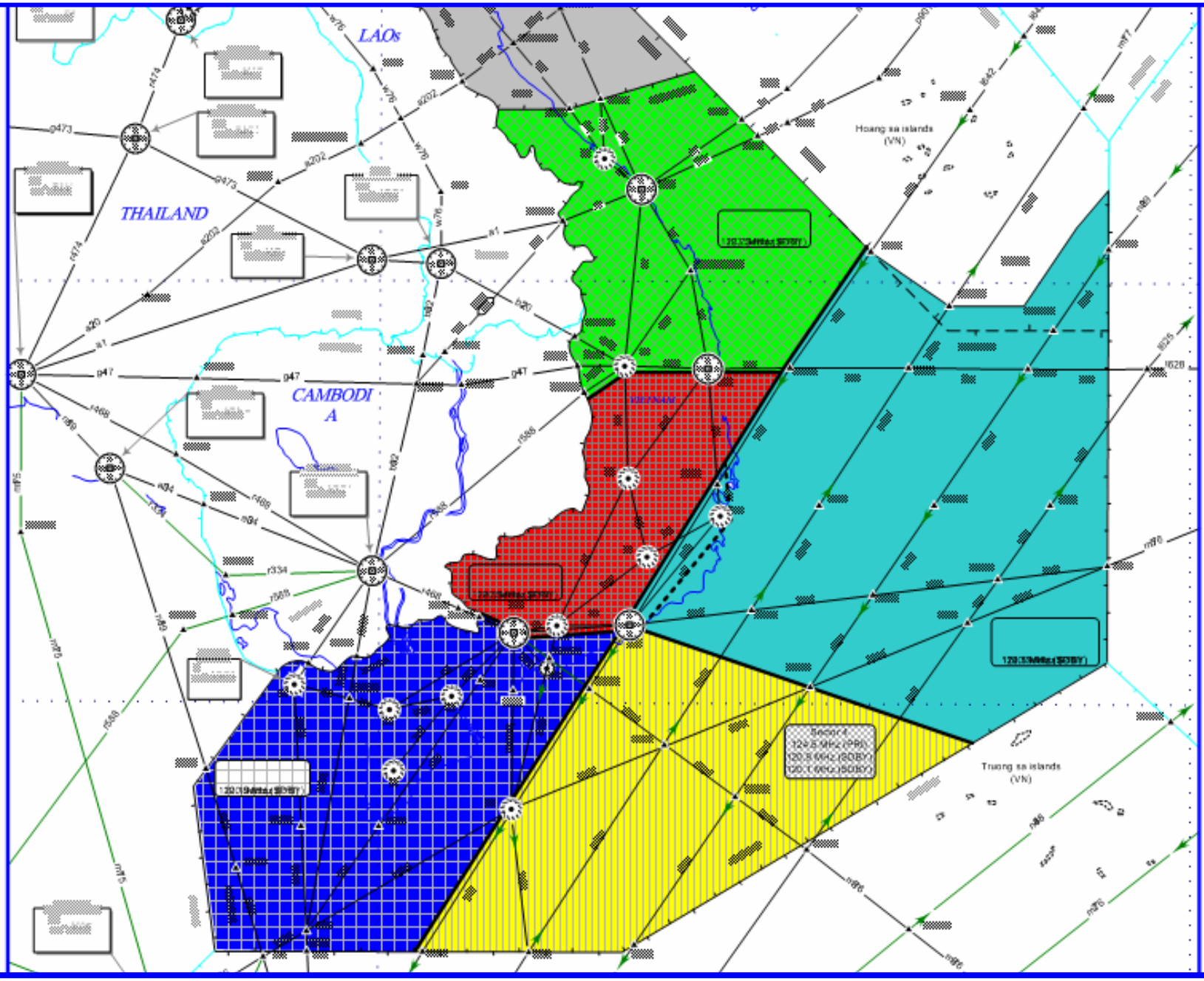
Traffic movements from 2000-2006 in HCM FIR

Jump to first page

Airspace Organization in HCM FIR

- **En-route Control Area:**
  - The entire of Ho Chi Minh FIR
  - Sectorisation: 05 sectors
- **Approach Control Area:**
  - Tan Son Nhat TMA
  - Sectorisation: 02 sectors
- **Aerodrome Control Tower:**
  - 16 civil control towers

Jump to first page

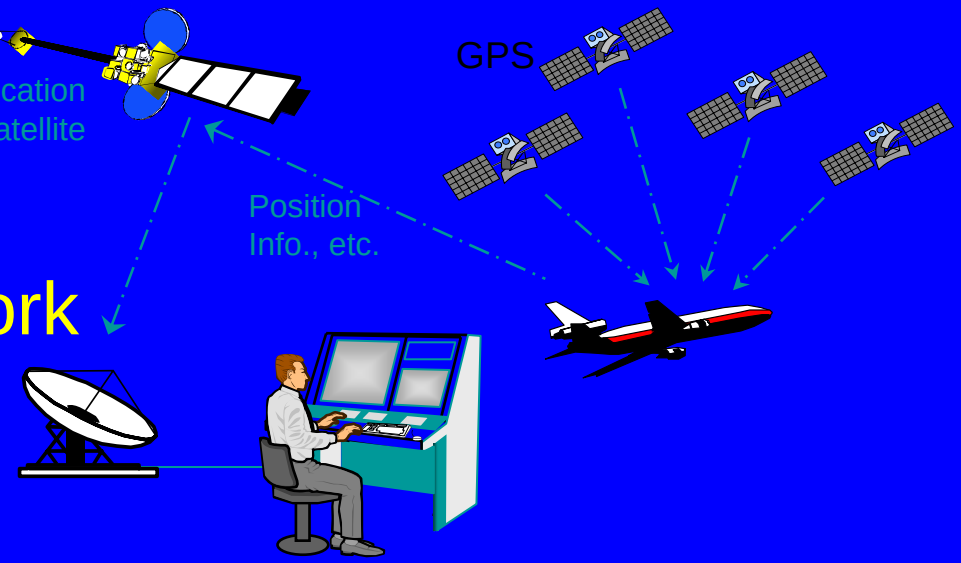

LAOs
THAILAND
CAMBODIA
Hoang sa islands
(VN)
Truong sa islands
(VN)

ATC INFRASTRUCTURES
(Surveillances)

- 04 Radars:
  TanSonNhat,
  Danang, Quinhon,
  Camau

Jump to first page

ATC INFRASTRUCTURES (Surveillances)



- ADS via ARINC Network

❖ Surveillance coverage: All Viet Nam FIRs

Jump to first page

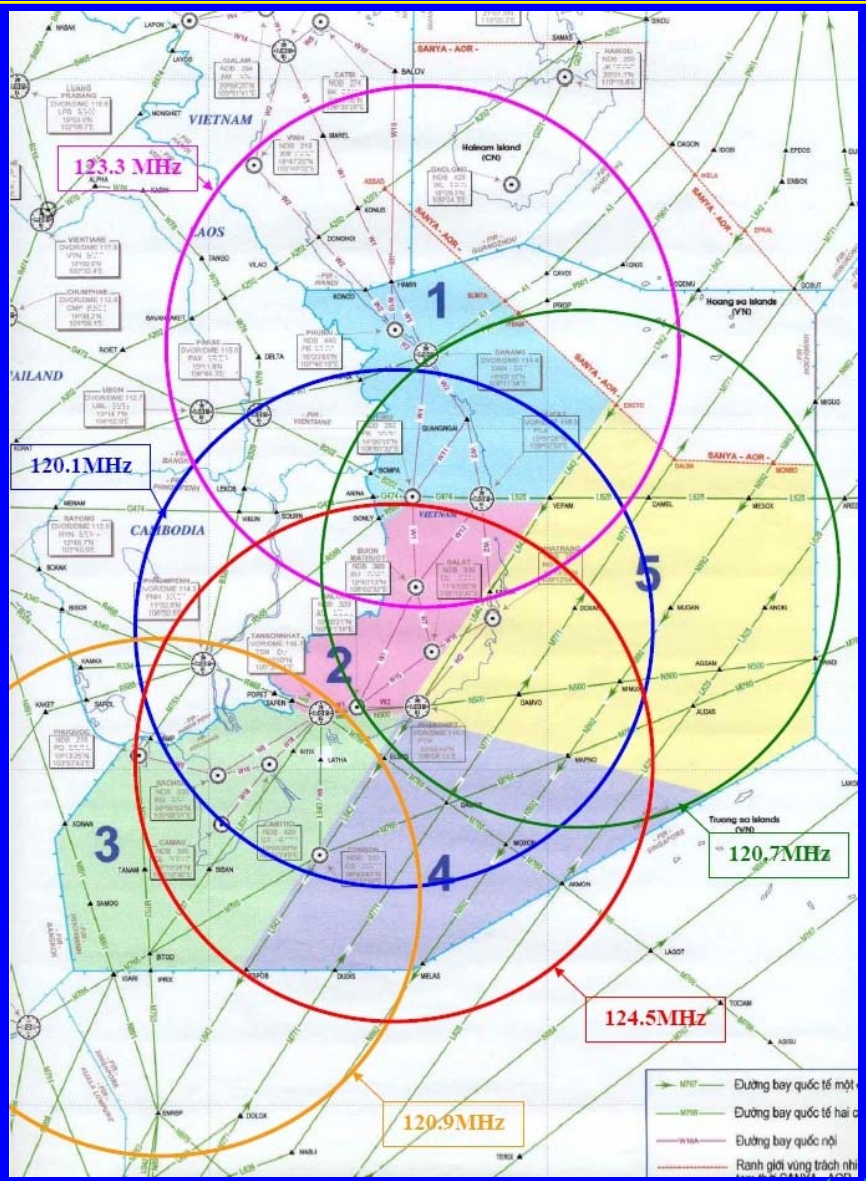
ATC INFRASTRUCTURES (Communications)

- **Ground/Ground Communications**
  - ✓ Voice communications
  - ✓ Data link communications(AIDC, OLDI)
  - ✓ AFTN Networks
- **Air/Ground Communications:**
  - ✓ VHF (06 at TSN), Extended VHF (04 at Sontra, Quinhon and Camau)
  - ✓ HF SEA II as back-up frequencies
  - ✓ CPDLC Communications

Jump to first page

ATC INFRASTRUCTURES (Communications)

- **A/G Communication coverage:** All FIR.



Jump to first page

Air Traffic Control Automation System

INTRODUCTION

- Air Traffic control Automation System (ATMS) has been installed in the new Ho Chi Minh ATC building since 2002.

Jump to first page

Air Traffic Control Automation System
INTRODUCTION

- The ATM System is actually a central system that is be able to:

- Gathers, collates, processes, and displays the necessary data in a form that enables air traffic controllers and other personnel to effectively perform their operational duties in both a radar and non-radar environment:
- Communicates, distributes and receives data from the internal system processing functions,specific systems and external agencies.
- Records data for historical purposes and then can play back such recordings when needed for analysis.

Jump to first page

Air Traffic Control Automation System
INTRODUCTION

- It consists of:
  - ✓ 20 positions and a supervisor for ACC.
  - ✓ 08 positions and a supervisor for APP.
  - ✓ 02 positions for FDO.

Jump to first page

Air Traffic Control Automation System
INTRODUCTION

- ✓ A dual position for Tower.

- The system has also the capability to be used as a backup of Hanoi ACC

Jump to first page

Air Traffic Control Automation System
INTRODUCTION

- **The simulator system includes**
  - ✓ 04 dual ATC training positions
  - ✓ 08 pseudo pilot positions
  - ✓ Instructor position
  - ✓ Target generator & leader position

- **Simulator Functions:**
  - ✓ All functions are identical to operational system
  - ✓ It can simulate not only radar, ADS, FPL tracks, but also AFTN, AIDC, OLDI & CPDLC messages

Jump to first page

Air Traffic Control Automation System
FUNCTIONS

- Traditional functions

- Radar Data Function (RDF)
- Flight Data Function (FDP)
- Recording/Playback Function (REC/ASPB)
- System Control and Monitoring function (SCM)
- Human Machine Interface function (HMI)

Jump to first page

Air Traffic Control Automation System
FUNCTIONS

- New or partial new

- Air Ground Data Link Function (AGDL)
- Pre-departure Clearance Management function (PDC)
- Safety Nets and Monitoring Aids Processing function (SNMAP)
- Aeronautical Information Function (AIF)
- Communication Data Function (CDP)
- Operational Data Analysis Facilities function (DAF)
- System Parameter Management (DPR)
- Radar Fallback Function (RFF)
- Test & Evaluation system (T & E)

Jump to first page

Air Traffic Control Automation System
SERVICES

- Providing Surveillance Services
  - ✓ Radar tracks within radar coverage
  - ✓ ADS track of appropriately equipped aircraft,
  - ✓ Extrapolated tracks based on coordinated FPLs
- Providing safety net services:
  - ✓ Short Term Conflict Alert
  - ✓ Minimum Safe Altitude Warning
  - ✓ Danger Infringement Warning
  - ✓ RAM, CLAM, ETO, FPCF (Medium term conflict function)...
- Supporting communication Services
  - ✓ Air-ground com by using CPDLC application
  - ✓ G/G communications by using AIDC application

Jump to first page

Air Traffic Control Automation System

AIR GROUND DATA LINK FUNCTION

- AGDL function is not only improving surveillance capability by using ADS applications, but also communication capability by using CPDLC applications.
- The main functions of Air Ground Data Link
  - Context Management Application.
  - ADS-C Processing.
  - Controller Pilot Data Link Communication processing.

Jump to first page

Air Traffic Control Automation System

AIR GROUND DATA LINK FUNCTION

- **ADS Processing**

- ADS Connection management (initiation and terminations).

- Management of ADS contracts and ADS report processing.

- ADS track management(*ADS Report Checks, Track Creation, Track Update*

- ADS / Flight plan integrated capabilities.

- **ADS Capability**

- Maximum number of Simultaneous ADS connection: 300 flights

- Maximum number of ADS periodic contract sets: 20

Jump to first page

Air Traffic Control Automation System

AIR GROUND DATA LINK FUNCTION

- **CPDLC Processing**

- CPDLC Connection Management

Connection Initialization

CPDLC Connection Transfer

Pilot Controller Message Management

- PDC Management

- **CPDLC Capability**

- CPDLC Pre-format Uplink Messages

Fully Comply with FANS-1/A CPDLC message set

- Maximum number of Simultaneous CPDLC connection *200 flights*

Jump to first page

Air Traffic Control Automation System

AIR GROUND DATA LINK FUNCTION

- This function also enable VATM to participate in ADS/CPDLC operational trial in the South China Sea area as recommended.
- The AGDL will fully support FANS-1/A package with the support of ARINC 622 to allow the ADS and CPDLC capabilities to be used before aircraft and communication are ATN compliant.

Jump to first page

Arrangements for Contingency

The built-in measures: Degraded mode

- If Dual RDP processors failed:

  Bypass radar will automatically be activated

- If Radar bypass failed:

  Radar-like tracks will be displayed

- If Dual FDP processors failed:

  Local FDP Functions will take over the roles of flight data processing.

- If VCCS processors failed:

  Bypass mode will automatically be activated

- If Operating LANs failed:

  Service LAN will automatically take the roles of operating LANs

Jump to first page

Back up Arrangements

Online Back up:

–If current positions failed:

The spare positions will take the roles of current positions

Offline Back up:

–If all operating position failed:

Simulator will take the roles of current operating positions

–If the existing ATM system failed:

The stand alone System will assist ATC to ensure the safety of flights

Jump to first page

On-going Program

- AIDC Operational Trial with Sanya and Hanoi ACCs.
- ADS/CPDLC Operational Trial in oceanic airspace.

Jump to first page


Thank you