ATSEP QUALIFICATION TRAINING COURSE: SURVEILLANCE COMBINED

SYLLABUS

1. PRIMARY SURVEILLANCE RADAR (SUR PSR)
    1.1. ATC SURVEILLANCE
        1.1.1.Use of PSR for Air Traffic Services
        1.1.2.Antenna (PSR)
        1.1.3.Transmitters
        1.1.4.Characteristics of Primary Targets
        1.1.5.Receivers
        1.1.6.Signal Processing and Plot Extraction
        1.1.7.Plot Combining
        1.1.8.Characteristics of Primary Radar
    1.2. SURFACE MOVEMENT RADAR (SMR)
        1.2.1.Use of SMR for Air Traffic Services
        1.2.2.Radar Sensor
    1.3. TEST AND MEASUREMENT
        1.3.1.Test and Measurement
2. SECONDARY SURVEILLANCE RADAR (SUR SSR)
    2.1. SSR AND MONO-PULSE SSR (MSSR)
        2.1.1.Use of SSR for Air Traffic Services
        2.1.2.Antenna (SSR)
        2.1.3.Interrogator
        2.1.4.Transponder
        2.1.5.Receiver
        2.1.6.Signal Processing and Plot Extraction
        2.1.7.Plot Combining
        2.1.8.Test and Measurement

- 2.2. MODE S
  - 2.2.1.Introduction to Mode S
  - 2.2.2.Mode S System
- 2.3. MULTILATERATION
  - 2.3.1.MLAT in use
  - 2.3.2.MLAT Principles
- 2.4. SSR ENVIRONMENT
  - 2.4.1.SSR Environment

3. AUTOMATIC DEPENDENT SURVEILLANCE (SUR ADS)
   - 3.1. GENERAL VIEW ON ADS
     - 3.1.1.Definition of ADS
   - 3.2. ADS-B
     - 3.2.1.Introduction to ADS-B
     - 3.2.2.Techniques of ADS-B
     - 3.2.3.VDL Mode 4 (STDMA)
     - 3.2.4.Mode S Extended Squitter
     - 3.2.5.UAT
     - 3.2.6.ASTERIX
   - 3.3. ADS-C
     - 3.3.1.Introduction to ADS-C
     - 3.3.2.Techniques in ADS-C
4. HUMAN MACHINE INTERFACE (SUR HMI)
   - 4.1. HMI
     - 4.1.1.ATCO HMI
     - 4.1.2.ATSEP HMI
     - 4.1.3.Pilot HMI
     - 4.1.4.Displays
5. SURVEILLANCE DATA TRANSMISSION (SUR SDT)