Analogue signalling - its application to Air Traffic Services Ground Voice networks

Course Description

This one day course will provide a thorough understanding of the principle analogue signalling methods being used in ATS ground voice networks today, together with a sound insight into all network related issues to be considered.

Starting with an analogue signalling foundation, examples are given of an operational ATS analogue network, before the various analogue signalling methods are explained. Protocol functionality is explained using animated slides to aid understanding. Network implementation guidelines and expected performance criteria are then outlined.

The general operation of test equipment as used in the field is a useful addition, while an explanation of inter-working with ATS digital signalling protocols completes the picture.

Benefits for the Course participants

At the end of the course, you will have acquired a deeper understanding of Analogue signalling and its application to ATS ground telephone networks i.e.

- Analogue signalling principles
- ATS ground telephone network aspects
- Local Battery signalling
- E&M tie-line signalling
- ATS MFC-R2 signalling protocol
- ATS No.5 signalling protocol
- Leased line recommendations
- Network Engineering Guidelines
- ATS MFC-R2 Test equipment
- Gateways to digital signalling

The course will conclude with a Discussion & Evaluation Session

Course suitable for

Professionals within various sectors of the aeronautical industry who need to develop a greater understanding of ATS analogue signalling and networks, from the basics through to the practical “in the field” issues

Course Pre-requisites

It is assumed that the reader has an telecommunications background.

Location

The course takes place at any location chosen by the client

www.jsp-teleconsultancy.com
Course duration:
6 hours per day with 10 or 20 minute breaks every hour as defined below:


The times can be altered to suit client’s particular requirements.

The course language is English. Course participants supplied with Course book and CD containing a full set of slides and notes to accompany each slide.

**Detailed Outline - 1 day course**
A typical day starts at 09h00 and finishes at 17h00.

<table>
<thead>
<tr>
<th>Module</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Analogue Signalling Basics</td>
</tr>
<tr>
<td>3</td>
<td>ATS Ground Voice Network</td>
</tr>
<tr>
<td>4</td>
<td>Signalling methods</td>
</tr>
<tr>
<td>5</td>
<td>ATS MFC-R2 &amp; No. 5 signalling systems</td>
</tr>
<tr>
<td>6</td>
<td>ATS Network Engineering Guidelines</td>
</tr>
<tr>
<td>7</td>
<td>Debrief</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Introduction</td>
<td>Analogue Signalling Basics</td>
<td>ATS Ground Voice Network</td>
<td>Signalling methods</td>
<td>ATS MFC-R2 and ATS No. 5 signalling systems</td>
<td>ATS Network Engineering Guidelines</td>
</tr>
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<td>60 minutes</td>
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<td>90 minutes</td>
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</tbody>
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**Module 1: Course Introduction**

**Module 2: Analogue signalling basics**
- What is signalling?
- In-band & Out of Band signalling
- Compelled/Non compelled
- Link-to-link & End-to-End
- Line, Register and Users signals
- AC and DC signalling types

**Module 3: ATS Ground Voice Network**
- ATS Analogue Network example
- Analogue leased line characteristics
- Echo in analogue voice networks
- Access methods & performance criteria
- Direct point-to-point & Detour Routing
- Through switching
- Line diversification strategy
- Network Call routing strategy
- Priority Calls
- Priority Calls & routing strategy
- A/B side configuration
- Call collisions and simultaneous calls

**Module 4: Signalling methods**
- Pulse (LD)/DTMF dialling
- Loop and Ground Start methods
- E&M signalling types (Wink & Immediate start)
- Air Traffic Services Local Battery (2 & 4 wire) methods
- Voice Communication System Call progress audible tones

**Module 5: ATS MFC-R2 & No. 5 signalling systems**
- Line signalling
- Register signalling
- User signalling tones
- Call signalling scenarios
- Routing rules
- Priority levels using analogue signalling
- Test Equipment
- Interworking with digital signalling

**Module 6: ATS Network Engineering Guidelines**
- ATS Ground Voice Network Statistics
- GoS for ATS Ground Voice Communications
- Call setup performance criteria
- Availability, Reliability & Maintainability (ARM)
- Bilateral agreements
- Numbering Plans, Test numbers and Test calls
- Supervisory functions

**Module 7: Debrief**

Contact us for more details or to arrange a course suitable for you at a location chosen by you.

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