



It's all about Safety

Complete Ambient Sound Monitoring and Control

Ambicon Sound Recording done right

We at Ambicon believe in professional solutions and so do our safety conscious customers.

Safety is the most important parameter in Air Traffic environment.

Ambicon® ASCS - Ambient Sound microphone Control System for legal recording is our contribution to the processes where it is important to reconstruct the critical situations to identify what actually happened at the Controller Working Positions and to provide clues on what must be improved in order to avoid such critical situations in the future.

“Ambicon ASCS fulfils the Chapter 3.3.3. in ICAO’s Anex 11.”

Ambicon® ASCS is the first complete and commercially available system solution for the Ambient Sound recording purposes and is a professional solution for ATC application developed in close cooperation with ANS provider. It provides sound feeds for legal recording that are completely independent of Voice Communication Systems.

Monitoring and Control

Theoretically, a single microphone connected to audio recorder’s input could do the job, or could it?

As long as there is no defect to the microphone, preamplifier or the signal line, something should be recorded. But the most important question is:

How do you know that the microphone, preamplifier electronics and cabling connection are all working?

Well, you don’t. Occasionally, one may check at the recorder unit that it is recording some signal. But there is no real-time surveillance of such solution.

Ambicon ASCS provides complete system solution with the BITE continuous self testing of all its parts including the audio test of connected microphones. This Complete Loop Test assures 100% surveillance of our ASCS system. The error messages are sent to the Ambicon RCMS Reconfiguration and Control Maintenance System and can be further sent via SNMP agent to ANS providers’ global monitoring systems.

Remote Access

Each ACU8 can be accessed remotely via Ethernet from Ambicon RCMS for adjustment of its parameters and diagnostics. This effectively reduces the visits at the controllers’ desks if single adjustments are required or the local equipment at the CWP needs to be checked. This also reduces travelling to remote airports and locations for such services. The remote access is pass-word protected.

Audio quality

Theoretically, a simple microphone installed at the Controllers Working Position CWP captures the required sound, or does it?

Regardless of the microphone’s electro-acoustical properties it will also pick up unwanted background noise from ventilation systems, noise from the equipment, reverberation in the room, noise outside the TWR windows, etc. Secondly, if the people at CWP are not near or are not talking in the direction of the installed microphone, the speech intelligibility will be even more severely reduced. A simple multiplication of the microphones at each CWP will make things only worse, as even more unwanted noise audio signal will be picked up and recorded since all microphones will be “open” all the time.

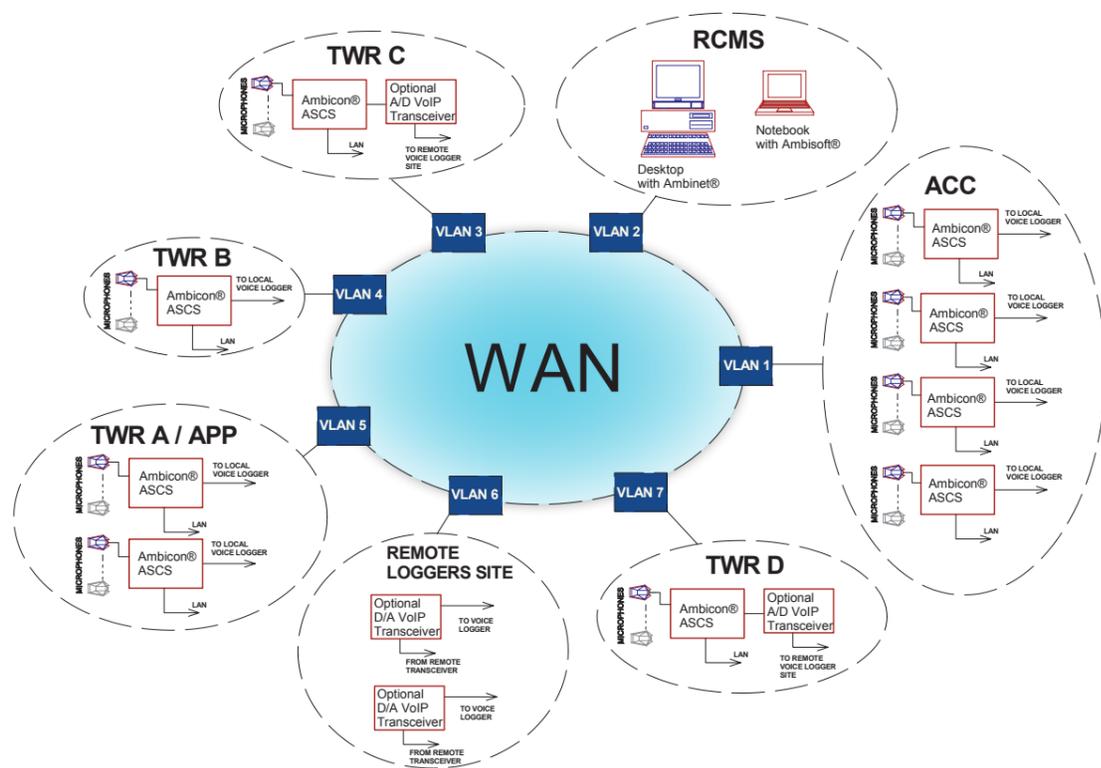
Ambicon ASCS uses following elements in optimising the quality of the desired audio signal:

- Conscious choice of proper microphone types suited for the chosen locations
- Multiple microphones covering each CWP or desired area are connected to “intelligent” automatic microphone matrix mixing unit that performs a number of audio signal shaping operations optimizing the intelligibility and reducing the unwanted noise audio.

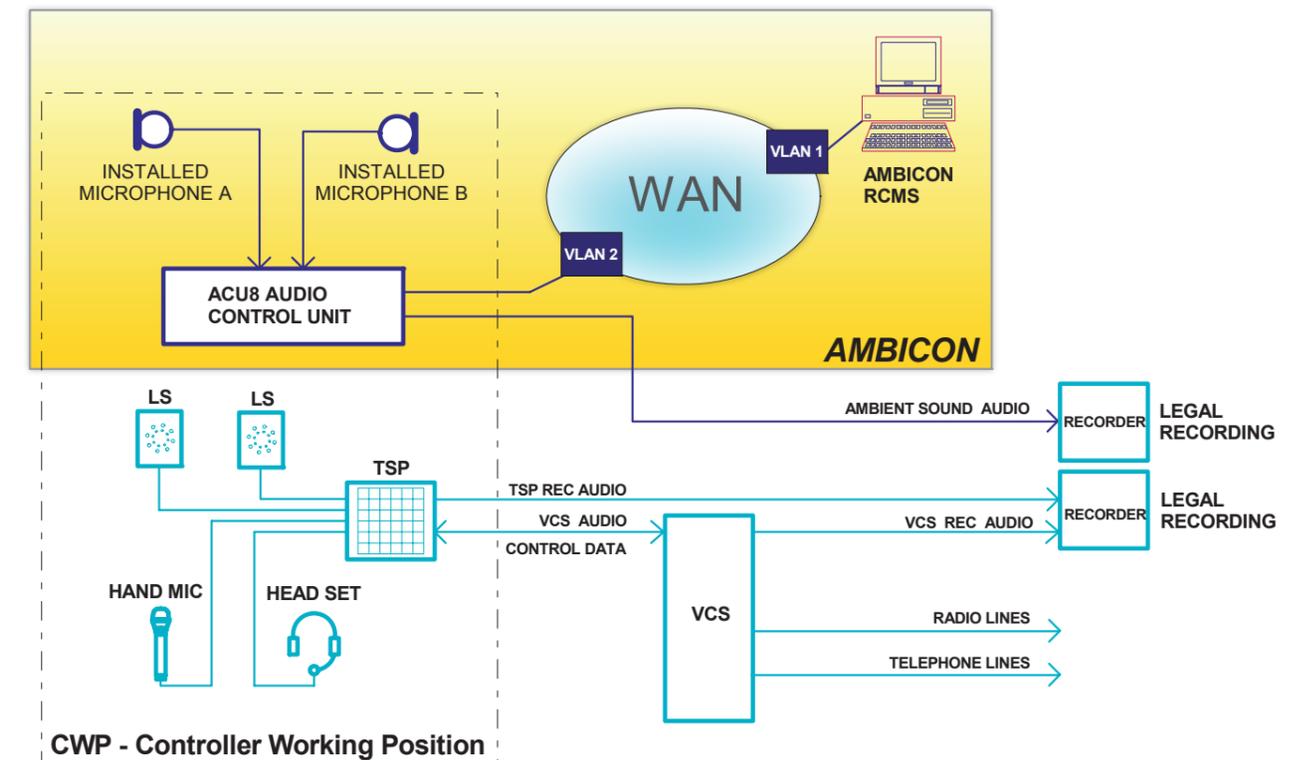
At the heart of Ambicon ASCS is ACU8 unit with capacity to connect up to 8 microphones that are automatically mixed and processed and sent to a typically 1 – 4 outputs of maximum of 8 independent audio outputs. This complex audio signal processing is done in digital domain and includes Noise Cancelling digital signal processing module that effectively reduces the unwanted noise and improves the quality of the desired audio signal.

The ACU8 is a 1U - 19” rack-mounted unit with typically 30W power consumption and can be easily incorporated inside a CWP console. Each ACU8 can be used for single CWP or may accommodate up to 4 CWPs, however, this number is determined by the physical lay-out of the rooms and placement of the CWPs and the user’s priorities regarding reliability policy.

Ambicon ASCS Global Topology example



Ambicon ASCS in ATC





ambicon

Take contact with us and let us create the best solution just for your operation



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