JAD-801 and JDA-801

Jotron converter

JOTRON
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JAD-801 Jotron Analog to Digital Converter
JDA-801 Jotron Digital to Analog Converter.

JAD-801 and JDA-801 are versatile tools for incorporating VoIP solutions in analog based receivers, transmitters and recorder systems. The units are 3 U high and 12 units fits in a standard 19' inch subrack.

Power

Both units use power over Ethernet (PoE) as the main power supply. They can also use one or two DC inputs (10-32V) as the main or backup supply.

Analog to digital converter

JAD-801 is a unit that converts up to 6 analog E&M inputs and switch these into 12 VoIP outputs.

The format of the VoIP RTP streams complies with the RTP described in the current version of the ED-137 standard.

The IP interface on the unit also complies with the SIP format described in the current version of ED-137 and fully support dynamic delay measurements used for voting as specified in version C of the standard.

The primary use of the unit is to convert 6 analog inputs into 12 VoIP streams that can be interfaced to any VCS compliant with ED-137B or C.

The unit is flexible in use: 1 analog input can be converted and routed to all 12 outputs, i.e. 12 users can listen to one receiver.

It also allows 6 analog inputs to be converted to 2 VoIP outputs for each input.

Usage is dynamically configurable from the remote control system, or the VCS, to fit the desired purpose.

Another use of the unit is to convert an analog E&M signal from a VCS into VoIP to a radio. Using it this way, the VoIP output is configured statically with the IP address of the endpoint (transmitter).

The content of the RTP is compliant with the ED-137 standard with regards to signaling of audio, PTT and PTT priority level.

The unit may also be used to convert 6 analog inputs into 12 ED-137 compliant recorder streams, suitable for recording remote analog audio signals on ATC recording systems like the Jotron Ricochet ATC recorder.

Digital to analog converter

JDA-801 is a unit that converts up to 12 digital inputs into 6 analog outputs.

The unit is fully compliant with the latest ED-137 standard with regards to SIP and RTP used to set up a radio connection. The unit supports PTT priority levels and/or mixing of input streams.

The unit also fully supports dynamic delay measurements and delay compensation as specified in ED-137B/C.

The primary use of the unit is to convert up to 12 VoIP streams into 6 analog outputs that can be interfaced to any VCS compliant with ED-137B or C.

The unit is flexible in use: Any of the 12 digital inputs can be switched to any of the 6 analog outputs. Usage of the inputs and outputs are dynamically configurable from the remote control system, or the VCS, to fit the desired purpose.

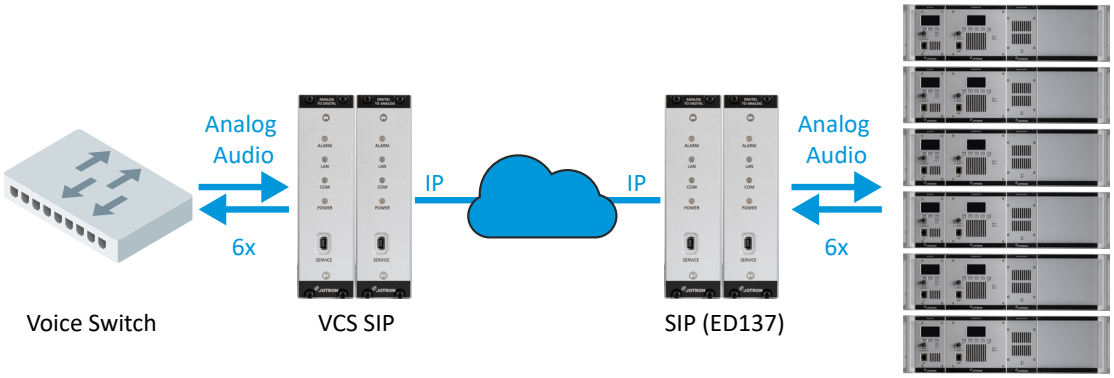
The unit can also be used to convert the VoIP outputs from IP receivers into analog outputs. In this application, the unit and the receivers (e.g. Jotron RA-7203) must support statically configurable IP addresses. The unit support squelch signaling as a closed contact or as a configurable in-band tone.

Analog to analog IP bridge

By combining one JAD-801 with a JDA-801 on each side of an IP network you can create an IP bridge between analog endpoints like transmitters, receivers and VCS. In this application the 6 analog inputs on the JAD-801 can be configured to mirror the 6 outputs on the JDA-801.

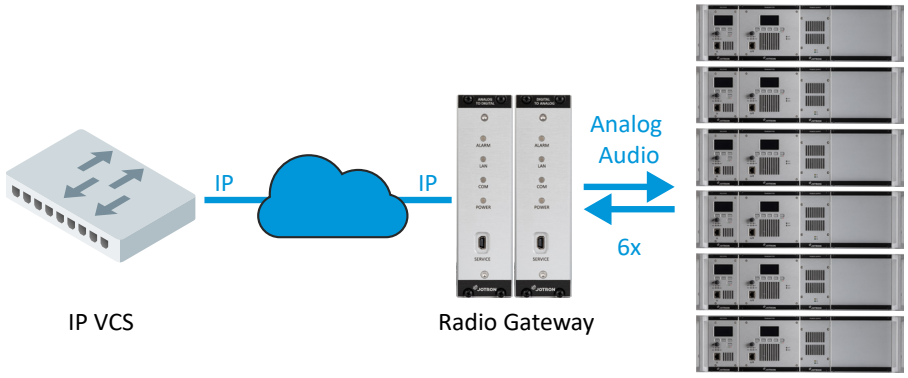
Applications

Figure 1 Analog audio over IP network



The JAD-801 & JDA-801 can be used as a solution to upgrade transceivers with a VoIP interface. Here one pair (a JDA-801 & a JAD-801) is used on each side of a WAN/LAN (IP network) to convert up to six audio channels with squelch / PTT activation. The system converts a total of six analog input and output lines to LAN/WAN and convert it back again to six analog input and output lines. Here we will use VCS SIP on the Voice switch side and SIP (ED137) on the transceiver side.

Figure 2 Radio gateway



A solution for transceivers without IP capabilities is to use a pair of JAD-801 & JDA-801 as a radio gateway. With this solution one can connect up to six transceivers to a VCS through a LAN/WAN.

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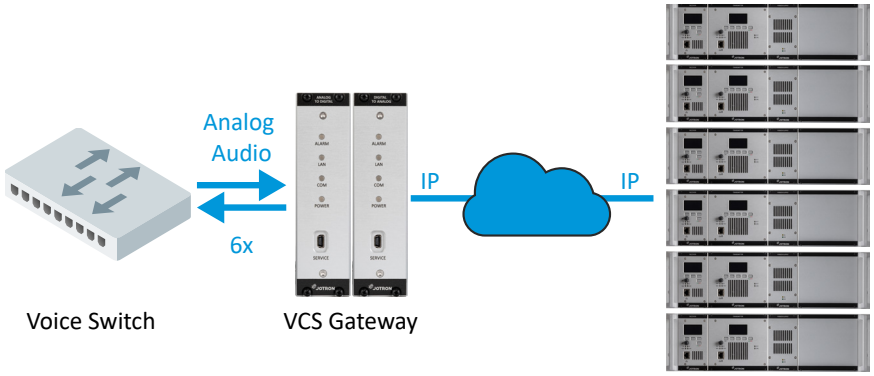
Figure 3 VCS gateway



One pair (a JDA-801 and a JAD-801) is used on the VCS side to convert analog audio and keying/squelch from the VCS to VoIP towards the radio, and VoIP to analog audio and keying/squelch from the radio towards the VCS.

The radio in this case must support “extended RTP” which is ED-137B compliant RTP. With this setup you can control modern IP compliant radios from an analog voice switch.

Measurements