AP400 Architectural and Engineering Specification

The echo canceller/automatic microphone mixer shall incorporate automatic microphone mixing, distributed echo cancellation, matrix routing, and a telephone hybrid in a single rack space unit.

The echo canceller/automatic mic mixer shall have 16 inputs and outputs: four line-level inputs, four microphone/line selectable inputs, and eight line-level outputs. Each mic/line input shall have automatic gain control, phantom power, and automatic microphone mixing capabilities. Each mic/line input shall also feature acoustic echo cancellation with 120ms of tail time. Each input shall also be able to reference EC reference 1 or the EC reference bus. The unit shall have one internal and one global automatic microphone mixers, each with fully adjustable parameters. The microphone mixer shall use PA adaptive, adaptive ambient, chairman override, first mic priority, last mic mode, and number of open mics.

The echo canceller/automatic mic mixer shall have an 8x8 internal routing matrix. Any input can be routed to any output or multiple outputs. In addition to eight analog inputs/outputs, the matrix shall consist of one telephone input/output, three digital inputs/outputs from the network bus, and one input/output from the sub bus.

The echo canceller/automatic mic mixer shall have an integrated standard 600-ohm analog telephone hybrid with a nominal level of -9 to -15dB. The unit shall provide two RJ-11 connectors for connection to a telephone line and telephone set. The hybrid shall have telephone line echo cancellation with a tail time of no less than 31ms. Line echo shall be attenuated at least 55dB. The audio frequency response of the hybrid shall be at least 250Hz to 3500Hz.DTMF dialing capability shall be provided through the hybrid.

The echo canceller/automatic mic mixer shall allow manual enabling/disabling of telephone calls through buttons on the front panel. It shall have selectable auto answer and auto disconnect. The set-up software shall be used to select either burst adapt or auto adapt hybrid null, receive reduction, receive boost of 6dB, on/off receive AGC, auto answer, auto disconnect, and loop drop or call progress. The presence of transmit and receive audio and clipped audio signals, as well as on and off status, shall be indicated by LEDs on the front panel of the unit.

The echo canceller/automatic mic mixer shall have six presets.

The unit shall have a digital mix minus bus to transfer three channels of audio, control, EC reference, and microphone mixer parameters to other units. The max distance between units is 20 feet. Up to eight units can be linked for up to 32 line inputs and 64 mic inputs.

The unit shall be set up and operated with intuitive software that allows complete configuration of the system. Additional control shall be handled via RS-232 protocol, front panel control, or contact closure with communication speeds up to 38,400 baud.

The unit shall have the ability to meter a group of inputs or an entire signal flow. Meters shall be provided on inputs and outputs for echo return loss, echo return loss enhancement, and gate parameters.

The unit shall have a frequency response of 20Hz to 15kHz and a signal to noise ratio of 65dB re 0dB, A-weighted. It shall operate in environments with up to 12dB of room gain.

The unit shall have an internal power supply that automatically adjusts between 100-240VAC of power input. The unit shall comply with FCC, CSA, and CE requirements.

The Gentner AP400 is specified.