

GENERAL REQUIREMENTS



PURPOSE

The OMS OMNEO Main Station is the beginning of a new era of intercom systems called RTS Digital Partyline. This powerful single system bridges legacy analog partyline users who wish to migrate to digital and IP functionality while using their existing equipment. Furthermore, OMS connects both wired and wireless intercom products. OMS represents an incredibly versatile and easy-to-use solution for a wide range of applications – a communications multi-tool for theaters, houses of worship, industrial, broadcast, corporate, and event venues. OMS utilizes OMNEO an architecture fully compatible with Audinate’s Dante. OMNEO is an evolutionary RTS solution for connecting devices over IP to exchange information including control and audio content for use in application domains.

CAPACITY

OMS supports 4 ports of analog AIO 4-wire and 4 ports of analog 2-wire (RTS / Audiocom / Clear-Com formats supported). Auto nulling capability (echo cancellation) available on 2-wire interfaces. Supports up to 40 OMNEO or ROAMEO beltpacks and up to 16 partylines. Ethernet connectivity is available through copper or fiber connections. OMS supports up to 8 keypanels (any mix of analog/OMNEO/RVON) depending upon product licensing (maximum 4 analog keypanels).

SCALABILITY

A single OMS is available in five licensed configurations to suit the user’s budget and application requirements: Analog and Analog Plus configurations (main station options for analog-only partyline systems). Basic, Intermediate and Advanced digital configurations (each with OMNEO); software upgrades allow for increased capacity and functionality as needs evolve. Analog and Analog Plus users requiring both analog and digital should upgrade to OMS Intermediate or OMS Advanced as the Basic digital provides only OMNEO formats.

FORM FACTOR

A compact main station is presented in a compact 1RU enclosure, which means it can be mounted in a standard 19 inch equipment rack. Dimensions are as follows:

19” w/ rack ears (17.56” w/o rack ears) W x 1.7” H x 7.72” D (including connectors)

(482.6 mm w/ rack ears [446.1 mm w/o rack ears] W x 43.7 mm H x 196.1 mm D [including connectors])

AMBIENT OPERATING TEMPERATURE

The main station shall have built-in cooling based on forced air circulation to allow it to operate at an ambient temperature up to 0° C – 45° C (32° F – 113° F).

MECHANICAL STRUCTURE

The main station front-panel user interface features a color display capable of displaying information about the unit, two rotary encoders with push-function, a full numeric keypad with backlight, channel controls, mic, and speaker. The rear of the unit has the set of connectors specified below.

FRONT PANEL FEATURES



FRONT PANEL DISPLAY PROPERTIES

The active area of the display is 120 mm x 19 mm. The resolution must be 4.7 pixels per mm (approximately 120 dpi), with the ability to reproduce a minimum of 65536 colors. The luminance of the display is user-adjustable up to the maximum rating, which is no less than 12,500 Candela per square meter of display, when all pixels are set to show white. The display technology is TFT. Display viewing angle is 80 degrees, vertically and horizontally.

FRONT PANEL DISPLAY GUI

The features of the main station are directly available through an icon-driven Graphical User Interface (GUI) where individual user-configurable functions are selectable from hierarchically organized menus. Up to seven icons may be displayed on any single menu. It is possible for the user to navigate through the menus and select individual items using the rotary knobs and/or the keypad.

FRONT PANEL KEYPAD

The keypad has all the digits from 0 to 9 plus two extra keys for clear and select functions. Shift function allows dual functionality for each key adding additional quick keys and navigation. The keypad has selectable blue and white backlight.

CHANNEL CONTROLS

The keys for Listen, Call, and Talk have backlight and are similar (in material and “touch-and-feel”, including amount of tactile feedback) to the keys on the keypad. The color scheme for functions are: Talk (Red), Listen (Green), Call (Blue); idle state is white. The rotary encoder for volume/program is similar to the rotary encoders located next to the keypad.

FRONT PANEL MIC

OMS has an electrical connector for a front panel microphone, using the same proven circuitry as the latest generation of KP-Series keypanels. It is designed for electret only. Mechanically and electrically it is compatible with the RTS MCP-90 series of panel microphones.

FRONT PANEL SPEAKER

OMS has a built-in front speaker for listening to audio communication. Frequency range is 200 Hz to 7300 Hz, flatness plus or minus 3 dB across that range.

FRONT PANEL HEADSET CONNECTOR

OMS has a front-panel headset XLR connector with the following optional genders: 4M, 4F, 5F. The 5F actually has 6; an extra center pin is provided for PTT. For the microphone portion it can self-sense dynamic or electret microphones. Each OMS version equipped with the required headset connector can be ordered by individual part number.

REAR FEATURES



POWER CONNECTORS

The OMS has one independent universal power supply input for 100-240 VAC on the rear. The connector supports locking power cables, to prevent them from falling out.

TWO-WIRE CONNECTORS

Unit has four locking female 3-pin XLR for analog two-wire partyline. Single and dual-channel two-wire are supported. RTS, Clear-Com, and Audiocom wiring formats are supported.

PROGRAM INPUTS

OMS has two locking female 3-pin XLR connectors for program inputs. Differential RX/TX audio signal format is supported.

STAGE ANNOUNCEMENT OUTPUT

OMS has one male locking 3-pin XLR connector for stage announce output. Differential RX/TX audio signal format is supported.

FOUR-WIRE AUDIO PORTS

OMS has four RJ-45 connectors for analog input and output. The wiring is for external audio and data sources. RJ45 is the most ubiquitous cable in the industry, most easily obtainable. Support for TIF devices is available.

GENERAL PURPOSE INPUT/OUTPUT

A 24-terminal GPIO is available on the rear of the OMS. It has four internal relays and four opto-coupled inputs (with pull-up resistors, just as in ODIN). OMS ships with one (1) matching connector. The connector has a locking device to prevent it from falling out.

CONTROL-PORT RJ-45

An RJ-45 Ethernet connector is available for connection of a laptop running AZ-Edit or IP-Edit.

RVON PORT

An RJ-45 Ethernet connector is available for RVON devices. The unit has capacity for up to four (4) simultaneous VoIP channels with G.711, G.729ab, and G.722 codecs supported.

OMNEO COPPER RJ-45

Two RJ-45 Ethernet connectors are available for connection of OMNEO devices. Use cases include loop-through, RSTP hookups, plus various test cases.

OMNEO FIBER SFP

Two OMNEO SFPs are available on the rear of the OMS. SFP modules have to be ordered separately.