Omni-COM USER GUIDE

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1 About This Document

This document describes the typical tasks carried out by a Omni-COM user, who may be either an operator stationed at an operator position or a supervisor. This document is of interest to you if you are using the Omni-COM client application in any of the above general roles, or in training for any such role.

2 Conventions

Throughout this document, the terms “you” or “user” may be used interchangeably to refer to any person interacting with the Omni-COM client application in a pre-configured role of the application.

All tasks in this document are described using the most likely employed interaction method. Because the application supports both touch-screen (TED) and mouse-keyboard operations, the terms “press” and “click” are used interchangeably to describe the similar action of generating a user event in the software. In general, “press” is used for procedures that are likely performed more often on a TED by an operator, and “click” is used for all other procedures.

3 References

Some common industry acronyms are used throughout this document. For reference, Appendix A contains a list of the acronyms used and their expanded form.

For information on configuring the Omni-Com hardware and software, see the *Omni-COM System Guide*.

4 Omni-COM Introduction

The Omni-COM is a feature rich, state of the art software controlled fully integrated digital voice, video and data communications suite designed for high reliability applications. The Omni-COM provides for fully integrated voice, data, and video and information for the operator and captures this information with built in synchronized voice recording and playback. The Omni-COM systems are highly configurable and modular in design. Below provides a conceptual diagram of a typical installation.

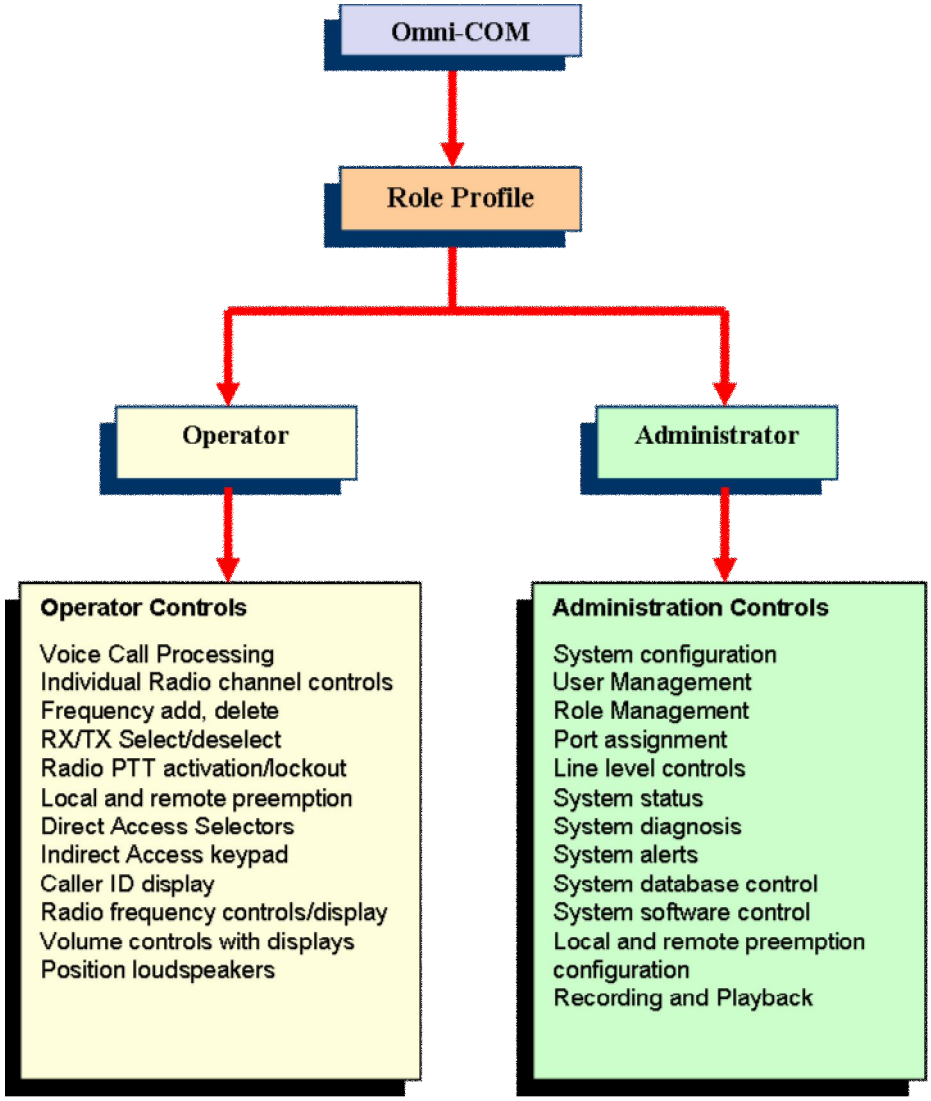
5 Key Attributes

Some of the key attributes of Omni-COM are as follows:

- Interfaces to commercial and military radios – with radio patching
- Integrated Audio Record/Playback
- Multi-operational role profiles
- Integrated voice/data/video

6 System Functional Overview

The client server architecture has been designed for operational personnel and administrative personnel to fully access the systems via the role defined privileges. The customizable roles allow the necessary attributes to be assigned the roles for the personnel to accomplish their mission. The basic description of the default roles in the system are shown below.



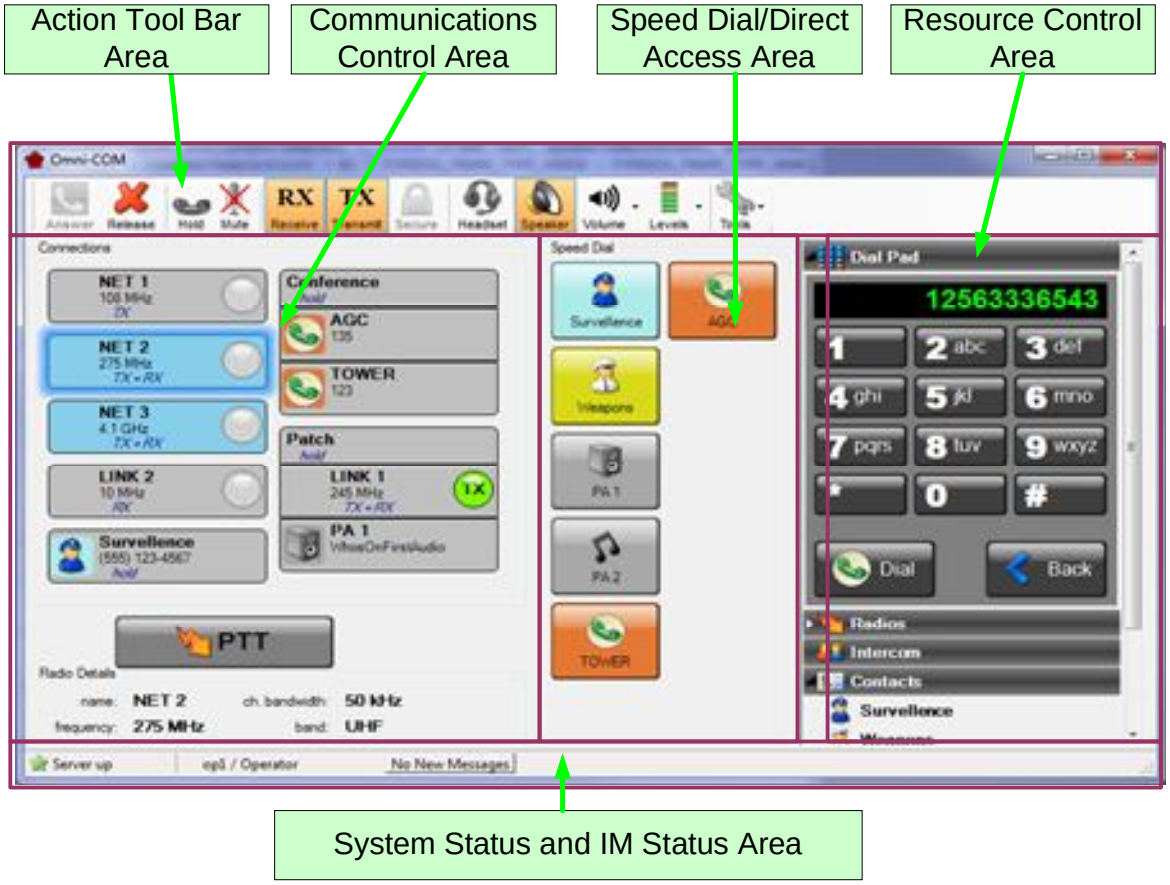
7 Graphical User Interface

Omniglobe Solutions integrated communication system, Omni-COM for command and control applications, features a touch compatible graphical user interface control that has been ergonomically engineered to give users maximum operational efficiency.

Omni-COM operates under windows .NET providing maximum stability and interoperability.

Combining many unique features such as radio and telephony control into a common user interface, the look and feel, features and functionality have been well received by operators in many different operational environments.

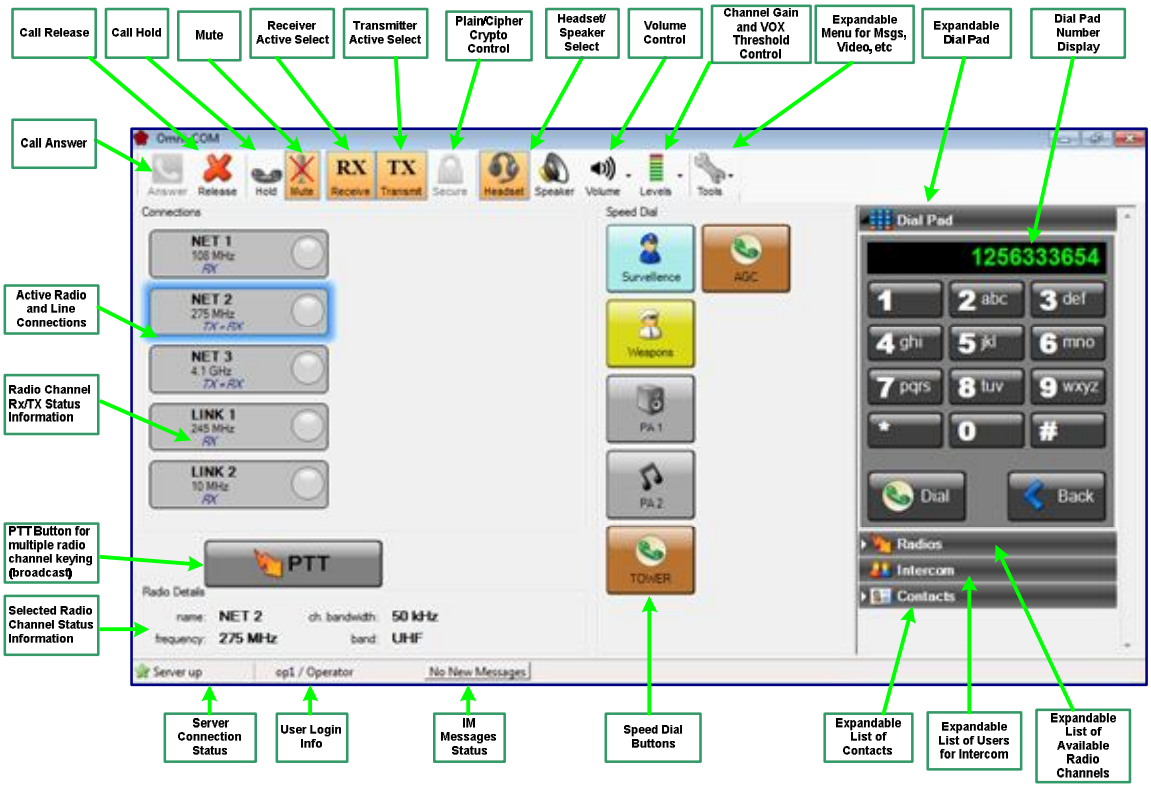
The Screen has been laid out in functional areas to group tasks. The diagram below shows the functional area groupings.



The static and dynamic windows features of Omni-COM such as drag and drop allow the users to take advantage of many features available within the Omni-COM application suite.

Highly scalable from small mobile applications to large command center environments, the display provides effortless and immediate operator access to the wide range of Omni-COM voice, video and data features.

Each of the functional areas and the associated usages are described in the following pages. An overview of the GUI is shown below.



8 Getting Started

Launch the application from the Windows Start menu shortcut by double clicking the short cut Icon . The Omni-COM welcome screen and Log In dialog box appears.

8.1 Logging In

Logging into the system authenticates the user, assigns a role and loads the user's assigned layout, which may by adapted for either Touch Entry Device (TED) or mouse and keyboard operation.

If you are using a TED, press the On-Screen Keyboard button to pop up a keyboard window.
Enter your login name and password.
Both are case sensitive.
There is a remember password check box available which you may check if desired to have the system remember your password.
Press Log In.
The application window opens with your login name and role displayed on the status bar area of the GUI.

8.2 To Exit

On the GUI upper right hand select the shown in the corner menu, .
This will close the application and log out automatically.

9 Action Tool Bar Area

The action tool bar area contains the buttons associated with the communications features of the system. A grayed out button means the button is not active for the selected connection. Each of the button functions is described in the following segment.

9.1 Answer Button

The Answer Button is used to answer, accept or connect an incoming telephone or intercom call. The Answer button is normally grayed out and inactive until such time as an incoming telephone or intercom call is received. When a call is received, the button will change color to indicate the presence of an incoming call. To answer an incoming call click on the answer button and the call will be automatically presented to default device (headset). In instances where multiple incoming calls have arrived, the first displayed call will be answered unless another incoming call is selected for answer.

Inactive Answer Button

Active Answer Button

9.2 Release Button

The Release Button is used to release or hang up an active telephone/intercom call that is in progress or remove a radio channel from the communications control area. The Release Button is a dual state button that is either grayed out or not. When not grayed out the Release is the active for the selected channel. The grayed out mode indicates the Release is not active for the selected channel. The Release Button is normally grayed out until such time as a telephone or intercom call has been selected for additional action.

Inactive Release Button

Active Release Button

9.3 Hold Button

The Hold Button is used to place the operator audio for a selected call into a temporary disconnected audio mode. The connection is maintained but there is no audio for this call sent or received by the operator position.

Call not on Hold

Call on Hold

The Hold Button is a dual state button that is either plain or color high lighted. The highlighted mode indicates that Hold is the active for the selected channel. The plain mode indicates the Hold is not active for the selected channel.

9.4 Channel Mute

Channel Mute is a function by which the operator can mute his/her own microphone on any channel. The channel remains active in the receive mode and the far end audio is still heard by the operator.

Call not Muted

Call Muted

The mute button is a dual state button that is either plain or color high lighted. The highlighted mode indicates that Mute is the active for the selected channel. The plain mode indicates the Mute is not active for the selected channel.

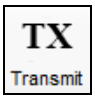
9.5 RX and TX Buttons

The RX and TX control buttons are used in conjunction with the selection of a radio channel that has been highlighted for further action or action focus as detailed above.

When a channel is highlighted for further action the current RX & TX states will be shown in the color indication of the RX & TX buttons.

Inactive RX

Active RX

Inactive TX 

Active TX

9.6 Secure Button

The Secure Button is used in conjunction with radio channels

9.7 Headset and Speaker Buttons

The system audio can be directed to the output device desired by the operator. The default device for radios is the system speaker. The default device for telephony is the headset. The headset and speaker buttons allow the operator to direct the radio or telephony onto the devices which the audio is to be heard.

9.7.1 Headset Button

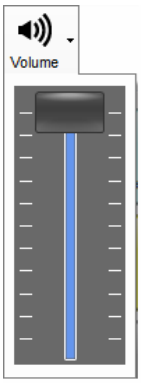
The headset button is a dual state button that has a plain mode or a color high lighted mode. The highlighted mode indicates the headset is the active device for the selected channel. The plain mode indicates the headset is not active for the selected channel.

9.7.2 Speaker Button

The speaker button is a dual state button that has a plain mode or a color high lighted mode. The highlighted mode indicates the speaker is the active device for the selected channel. The plain mode indicates the speaker is not active for the selected channel.

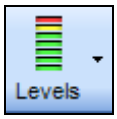
9.8 Volume Control

The volume control button activates a drop down volume control window that allows the operator to control the volume of the audio device on the selected channel. When activated, the window below will be shown. To adjust the audio level move the slide bar up or down as desired. Up increases volume, down decreases the volume level.

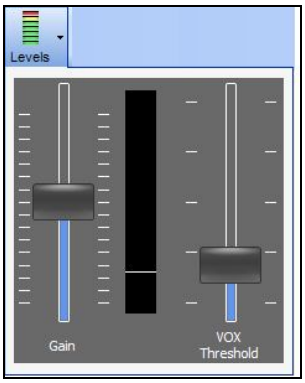


The volume control window will remain open until another area of the screen is touched or when the volume control button is selected again, at which time it will automatically close.

9.9 Levels Control



The Levels Control Button activates a drop down window that allows the operator to control the incoming signal gain and VOX Threshold on the selected connection. This is used in conjunction with radio to radio coupling and/or telephone to radio coupling. When activated, the window below will be shown. To adjust the Gain level move the Gain slide bar up or down as desired. Up increases Gain, down decreases the Gain level. To adjust the VOX Threshold level move the VOX Threshold slide bar up or down as desired. Up increases VOX Threshold, down decreases the VOX Threshold level.



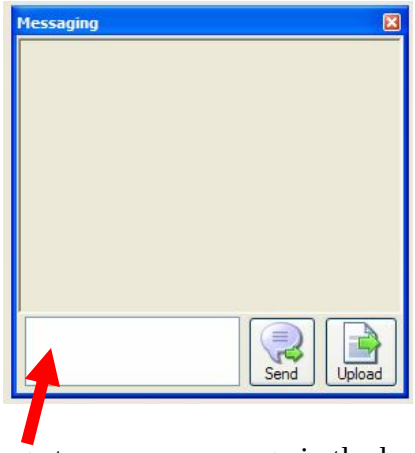
VOX Threshold is used to set the minimum audio level that will key or PTT a radio channel that is in a Radio to Radio coupling or Telephone to Radio patching. In Radio to Radio coupling the threshold adjustment applies to the level of the received channel audio to key the transmitter of the coupled channel. In telephone to radio patching, the threshold adjustment applies to the telephone receive audio.

9.10 Tools Menu

The tools Menu Icon activates a drop down window with a variety of tools that the operator can use for various functions such as changing password etc.

9.10.1 Messaging

The "Messaging" Menu Item in the Tools Window will activate a pop up Message window as shown below. The Messaging Window is similar to a bulletin board or a chat board where messages from all users on the system are shown in the window.

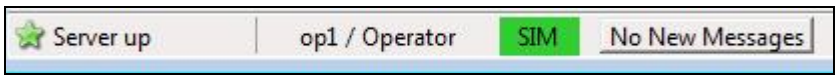


To post a message type your message in the box and select the Send Button. To upload a file to the Message Window, select the Upload button, browse to the file and select the file to be posted.

9.10.2 Connect Simulator

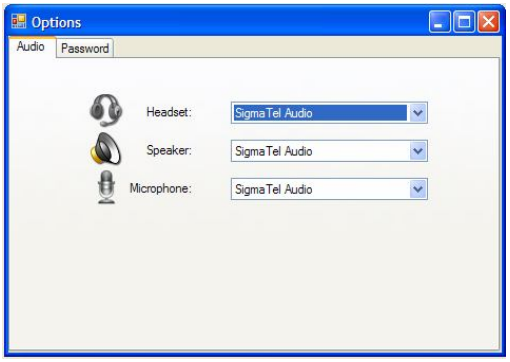
The system has a built in Simulator function that allows operators to set up a simulation session between two positions where the two operators can interconnect for training and exercise scenarios. The operators will have complete access to intercom and simulated radio and telephony communications. To invoke the Simulation Session there must be two operators on the system or the menu item will be inactive. The operator to whom the session will be with must be selected from the Intercom List and then the "Connect

Simulator" menu item will become active. Selecting the "Connect Simulator" menu item will connect the two operators in a Back to Back simulation function.
The Status Bar Area will show the session in place once the simulation partner has accepted the session.



9.10.3 Options

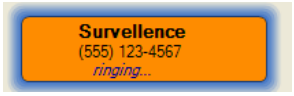
The "Options" Menu Item in the Tools Window will activate a pop up Options window as shown below. The Options Window allows the operator to change passwords or define the audio devices for use with the system.



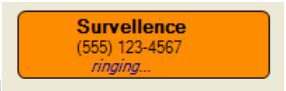
10 Communications Control Area

The communications control area is used to display the active communications channels in use by the operator. This may include radio channels, telephone calls, intercoms etc.

The area keeps the active channels up until such time as when they are released by the operator. This area is where the channels selected for use can be selected again for some further action like making a radio channel active for TX, placing a call on hold etc.
A channel selected for further action or as the focus channel is highlighted with a "halo" as shown below:

Selected for further action 

A channel not selected for further action or not as the focus channel is in the normal state.

Not selected for further action 

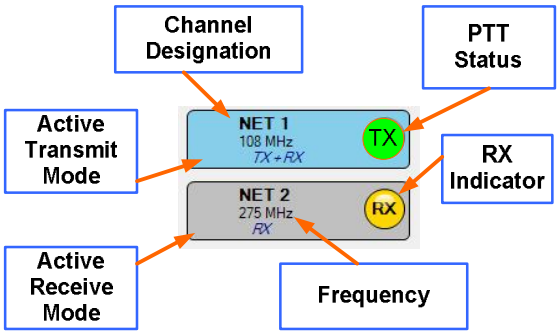
10.1 Radio Control Functions

10.1.1 Active Radio Channel Buttons

As previously stated, Radio channels that have been selected for use by the operator will appear in the Communications Control Area as a button. The radio button will be similar as to the ones shown below.

NOTE: By default all selected radios will come up in the RX active & TX inactive state with the audio directed to the speakers.

The radio buttons contain specific information about the state of the radio as shown below:



10.1.2 RX and TX Buttons

The RX and TX control buttons are used in conjunction with the selection of a radio channel that has been highlighted for further action or action focus as detailed above. When a channel is highlighted for further action the current RX & TX states will be shown in the color indication of the RX & TX buttons.

Not selected for Receive

Selected for Receive

The RX button is a dual state button that has a plain mode or a color high lighted mode. The highlighted mode indicates the RX is active for the selected channel. The plain mode indicates the RX is not active for the selected channel.

Selected for Transmit

Not selected for Transmit

The TX button is a dual state button that has a plain mode or a color high lighted mode. The highlighted mode indicates the TX is active for the selected channel. The plain mode indicates the TX is not active for the selected channel.

10.1.3 PTT Button

The PTT Button that provides radio push-to-talk functionality directly from the console as an alternative to a button on a handset or headset. The PTT Button is a non-latching button that is active only when in the depressed mode. When depressed the active radio channels selected in the TX mode will be keyed for transmit. When released the button will immediately return the radio channels to the non-transmit or receive state.

Inactive PTT

Active PTT

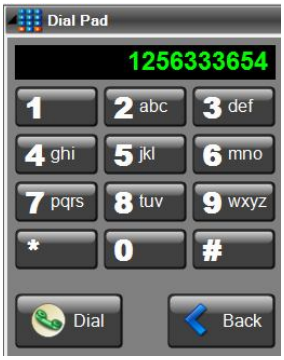
11 Resource Control Area

The resource control area permits the operator to select the bar groups for further action. The resource control area also acts as the display area for these further actions to take place.

11.1 Dial Pad

The Dial Pad is used to manually dial phone numbers. You expand the dial pad by double clicking on the Dial Pad Bar or the arrow on the left hand side

of the bar in the Resource Control side of the user interface.



When opened up the Dial Pad will stay open until collapsed by double clicking on the same bar used to open. Use the dial pad as any standard telephone keypad followed by using the dial button

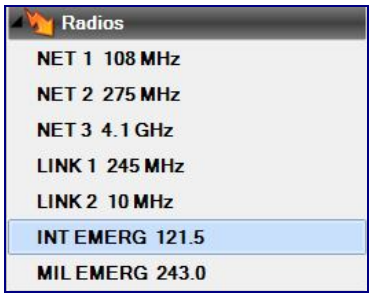
to send the desired digits or place the call. The

button can be used to erase or back up during the dialing process should an incorrect digit be entered.

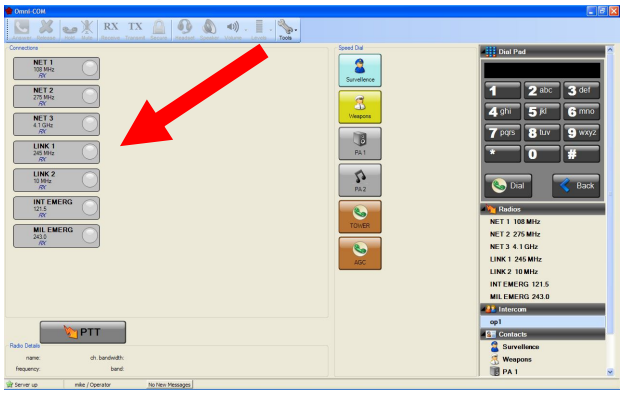
11.2 Radios

The Radios list contains a combined list of radio or communications channels that have been pre-defined by the system administrator. The Radios list is used for the operator to select from these predefined resources the channels for use.
You expand this list by double clicking on the Radios Bar in the Resource Control side of the user interface or the arrow on the left hand side of the bar.

The expanded list appears similar as shown below.



When opened up the Radio Menu will stay open until collapsed by double clicking on the same bar used to open. Use the Radio list to select the channels for use by double clicking on any item in the list and the system will automatically move the selected channel into the Communications Control Area, in the active receive mode, and audio directed to the speaker.



11.3 Contacts

The Contacts list contains a combined list of numbers from phone contacts or other resources that have been pre-defined by the system administrator. The contact list can be used to automatically connect to dial these predefined resources.
You expand this list by double clicking on the Contacts Bar in the Resource Control side of the user interface or the arrow on the left hand side of the bar.

The expanded list appears similar as shown below.

When opened up the Contacts Menu will stay open until collapsed by double clicking on the same bar used to open. Use the Contacts list as a Speed Dial or Direct Access function by double clicking on any item in the list and the system will automatically take the appropriate action to connect the desired resource.

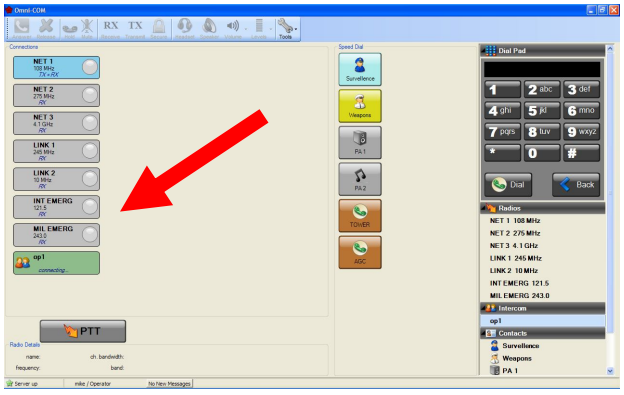
11.4 Intercom

The Intercom list contains a list of all the operators connected to the system. You expand this list by double clicking on the Intercom Bar in the Resource Control side of the user interface or the arrow on the left hand side of the bar.

The expanded list appears similar as shown below.

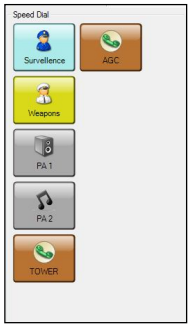
When opened up the Intercom Menu will stay open until collapsed by double clicking on

the same bar used to open. Use the Intercom list as a Speed Dial or Direct Access function by double clicking on any item in the list and the system will automatically take the appropriate action to connect the desired operator. The generated call will appear in the Communications Control Area of the screen.

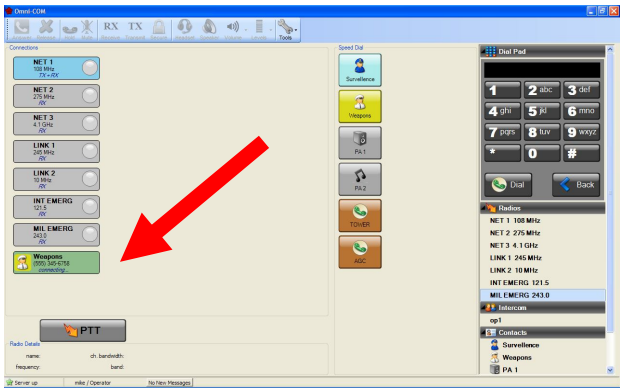


12 Speed Dial/Direct Access Area

Speed Dial or Direct Access numbers are used to instantly place a new call, activate a preset conference, access shared lines, by pressing a preconfigured Speed Dial Button or Direct Access Button. These are set up by the system administrator who defines the contracts, assigns the icons to be displayed and the color of the button. The area will be similar to the window to the right.



These buttons are single action buttons that will automatically invoke the necessary action on the first touch or click. Repeating the click will invoke the action again. The generated call Icon will appear in the Communications Control Area of the screen.



13 Telephone and Intercom Call Handling

13.1 Call Status Indicators

Telephone and Intercom calls are treated and handled in the same manner. By default, all telephone and intercom calls are connected to the headset device. The background color of the line Icon indicates the status of calls during the various stages of the call progress. In addition, the italicized text on the Icon shows the call status.

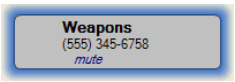
Un-answered outgoing call.

Un-answered incoming call.

An active call.

Call on hold

Call on Mute



13.2 Placing Calls

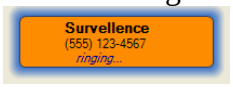
Calls can be placed by using speed dials or preset buttons (see Para 8), the contact list (see Para 7.3), and the dial pad (see Para 7.1).

13.3 Answering Calls

To answer an incoming call,

press the Answer Button

and the first displayed call will be answered.

To select a particular incoming call from the list on the screen, select the Line Display of the desired line, 

and press the Answer Button.

13.4 Placing a call on Hold

To place a call on hold

Select the active call you wish to place on hold,

select the Hold Button;

The line Icon text and color will change to reflect the hold status.

13.5 Retrieving a call on Hold

To retrieve a call on hold

Select the hold call you wish to retrieve,

Then select the Hold Button;

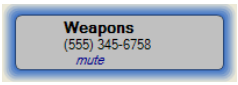
The line Icon text and color will change to reflect the active status.

13.6 Muting a Call

To place a call on Mute

Select the active call you wish to place on Mute,

select the Mute Button;

The line Icon text and color will change to reflect the mute status. 

13.7 Un-Muting a Call

To un-mute a call;

Select the muted call you wish to un-mute,

select the Mute Button;

The line Icon text and color will change to reflect the active status.

13.8 Placing a Call on Speaker

By default, the telephone calls are connected to the headset device at the operator workstation. Should you wish to have the audio sent to the speaker instead of the headset, you must do so by directing the audio there. This is on an individual call basis and the headset/handset microphone must still be used for the operator to talk.

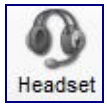
To direct the call to speaker

select the call Icon,

select the Speaker Button.

To change the call back to headset

select the call Icon,

select the Headset Button. 

13.9 Releasing Calls

To release a call,

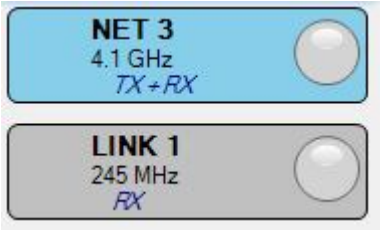
select the call Icon,

select the Release Button.

14 Radio Call Handling

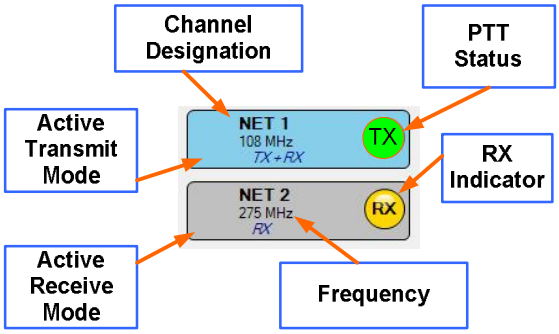
14.1 Active Radio Channel Buttons

As previously stated, Radio channels that have been selected for use by the operator will appear in the Communications Control Area as a button. The radio button will be similar as to the ones shown below.



NOTE: By default all selected radios will come up in the RX active & TX inactive state with the audio directed to the speakers.

The radio buttons contain specific information about the state of the radio as shown below:



The RX and TX control buttons are used in conjunction with the selection of a radio channel that has been highlighted for further action or action focus as detailed above. When a channel is highlighted for further action the current RX & TX states will be shown in the color indication of the RX & TX buttons.

14.2 Select a Channel for TX

To select a channel for TX,

select the Radio Channel Icon,

select the TX Button.

The Channel Icon text and color will change to reflect the active status.

14.3 Unselect TX on a Channel

To unselect TX on a channel

select the Radio Channel Icon,

select the TX Button.

The Channel Icon text and color will change to reflect the active status.

14.4 Select a Channel for RX

To select a channel for RX,

select the Radio Channel Icon,

select the RX Button.

The Channel Icon text and color will change to reflect the active status.

14.5 Unselect RX on a Channel

To unselect RX on a channel

select the Radio Channel Icon,

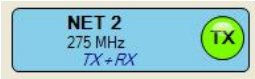
select the RX Button.

The Channel Icon text and color will change to reflect the active status.

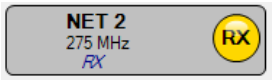
14.6 Keying a Radio Channel

To Key a radio channel, the desired channel or multiple channels must have been previously enabled for TX (see Para 10.1.2).
To key the radio channel(s) select and hold down the on screen PTT or the PTT button on a handset or headset. When finished transmitting, release the PTT button and the channels will immediately return to the non-transmit or receive state.

14.6.1 Channel TX Indicator



The Channel TX indicator turns Green and displays the text TX when the channel is in the active PTT mode.
Channel RX Indicator



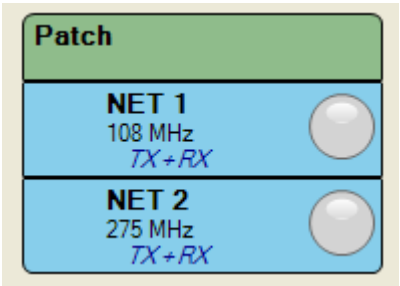
The Channel RX indicator turns Yellow an displays the text RX when received audio is present.

14.7 Radio to Radio Coupling

Automatic radio PTT - within a patch or radio coupling, the radios are configured to be automatically keyed (PTT) when the other circuits within the group exceed an audio level (VOX) threshold (or if the operator physically PTT and the group is not in a muted or held state). The thresholds are defined on a circuit by circuit basis - to adjust, select the "other" circuit, select the Levels toolbar item and adjust the VOX threshold as required - which will display a white bar in the vu Meter relative to the audio levels being received on the circuit (see Para 9.9).

14.7.1 Create Radio to Radio Coupling

To create a radio to radio coupling you must join the two selected channels into a Patch. This is done utilizing the drag and drop features of the GUI. Simply grab the channel Icon to be coupled and drag it over the other desired channel Icon. The hover text “Add to Conference” will appear at which time release the dragged Icon. The patch (see below) will be created where the received audio on channel A will be retransmitted on channel B and vice versa utilizing VOX keying. To adjust the VOX and Gain Levels see Para 9.9.



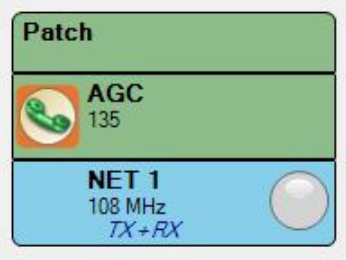
14.7.2 Remove Radio from Radio Coupling

To remove a channel from radio to radio coupling you simply grab the channel Icon to be uncoupled and drag it out of the Patch Area. As you move the dragged Icon the hover text “Remove from Conference” will appear at which time release the dragged Icon.

14.8 Radio to Telephone Patching

14.8.1 Create Radio to Telephone Patching

To create a telephone to radio patch you must join the two selected channels into a Patch. This is done utilizing the drag and drop features of the GUI. Simply grab the Line Channel Icon to be patched and drag it over the other desired Radio Channel Icon. The hover text “Add to Conference” will appear at which time release the dragged Icon. The patch (see below) will be created where the received audio on the telephone will be transmitted on channel the radio channel and the received audio from the radio will be heard on the telephone. To adjust the VOX and Gain Levels see Para 9.9.



14.8.2 Remove Radio from Telephone Patch

To remove a telephone call from radio to telephone patch you simply grab the Line Icon to be uncoupled and drag it out of the Patch Area. As you move the dragged Icon the hover text “Remove from Conference” will appear at which time release the dragged Icon.

14.9 Create Telephone Conference

To create a telephone conference you must join the selected calls into a conference. This is done utilizing the drag and drop features of the GUI. Simply grab the Line Channel Icon to be coupled and drag it over the other desired Line Channel Icon. The hover text “Add to Conference” will appear at which time release the dragged Icon. The conference (see below) will be created where all conference members can converse.

14.9.1 Remove Telephone Conference

To remove a telephone call from a conference you simply grab the Line Icon to be uncoupled and drag it out of the conference. As you move the dragged Icon the hover text “Remove from Conference” will appear at which time release the dragged Icon.

Annex A

List of Acronyms

Acronym	Expanded Form
DTMF	Dual Tone Multi Frequency
I/O	Input/Output
IP	Internet Protocol
LAN	Local Area Network
LED	Light Emitting Diode
PBX	Public Branch Exchange
PC	Personal Computer
PSTN	Public Switched Telephone Network
PTT	Push To Talk
RX	Reception
SIP	Session Initiation Protocol
TDM	Time Division Multiplexing
TED	Touch Entry Device (touch screen)
TX	Transmission
USB	Universal Serial Bus
VoIP	Voice over Internet Protocol
VOX	Voice Operated Keying