

## VoIP Simulated Communications



### Features

- > Realistic UHF, VHF, HF, or inter-ship communication equipment, either virtual or modular
- > No RF transmissions as a result of VoIP Technology
- > Optional ability to record audio transmissions for playback
- > Easily integrated into a bridge simulator training environment

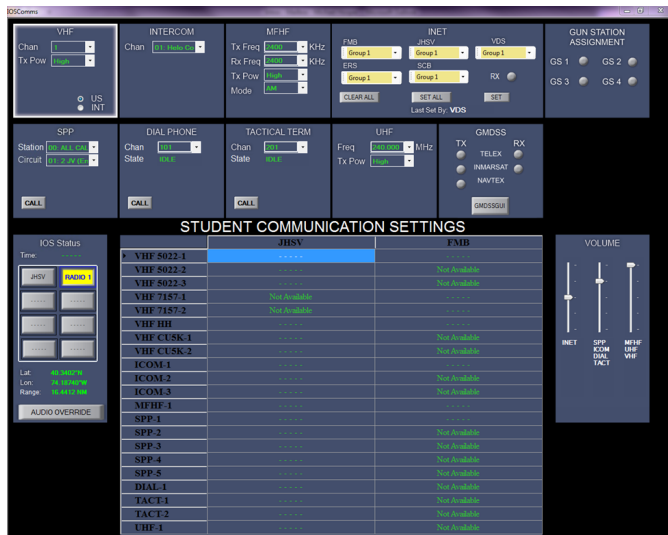
In addition to our Radar Simulation capabilities, Buffalo Computer Graphics (BCG) offers two different types of Voice over Internet Protocol (VoIP) communications equipment. The first type uses real radios which we modify to remove all RF capability. This allows the student to get the hands on experience of a real radio without transmitting over radio frequencies and interfering with radio operations in the surrounding vicinity. The radio maintains its functionality thereby providing the true realism to the operator.

The second type uses virtualized panel simulators as a means to train operators on the use of radios or other communication equipment. We transform the operator interface of almost any real device to a software package which mimics the look, feel and operation of the real unit. Starting from a picture of the device, BCG creates a virtual representation of the operator panel. Then using the Operator/User Manual of the unit, BCG engineers replicate the input and display functions of the user interface. In most cases full functionality can be recreated with the virtual panel, offering a realistic training experience.

For the instructor control BCG offers our IOSComms application to monitor and participate in the student voice communication. Also, BCG has a Master Control Station that allows the user to oversee multiple radio training systems simultaneously. The operator can group sets of students in different scenarios and the groups cannot interact with students in other groups.

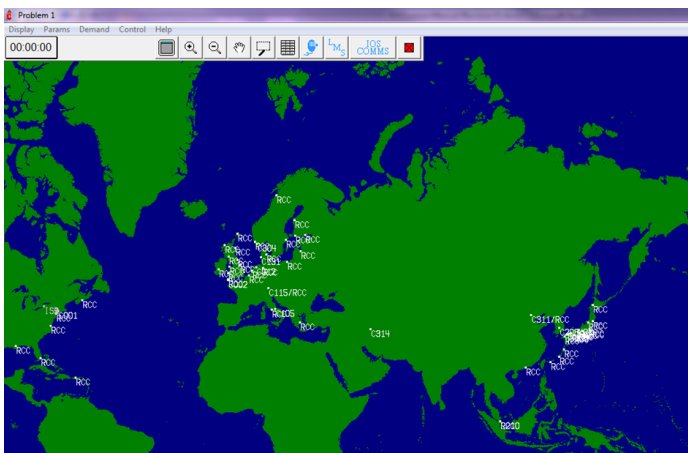
All of BCG's communications systems utilize VoIP technology. The VoIP software allows for an all-digital environment within a standard network configuration. This also enables training scenarios to be recorded and played back for student feedback and skill development. BCG is willing to customize all of our communications products so contact us with your specific needs.

## Instructor Operator Control for Voice Communications (IOSComms)



### Features of IOSComms:

- ◆ Allows the instructor to monitor student-to-student & student-to-instructor communications
- ◆ All instructor voice communication takes place through a single display
- ◆ IOSComms can monitor up to 99 radios during a given training scenario
- ◆ Supports integrated multi-bridge simulators from a single user interface
- ◆ IOSComms allows the instructor to quickly determine the status of all student devices
- ◆ Student radios can be placed anywhere in the world and be given simulated motion and way points
- ◆ Allows the instructor to role-play between 10 predefined locations by clicking a single button to simulate multiple ships, land stations and aircraft
- ◆ Scenarios may be saved and replayed later in real-time, slow-motion, or fast-time
- ◆ Audio received by student is generated with range noise effects based on their position relative to transmitting radio
- ◆ Optional voice recording capability

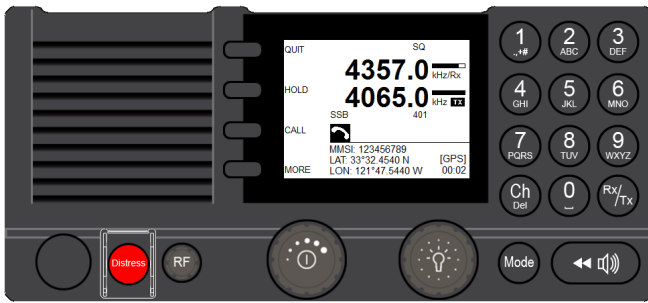


### Global Maritime Distress and Safety System (GMDSS)

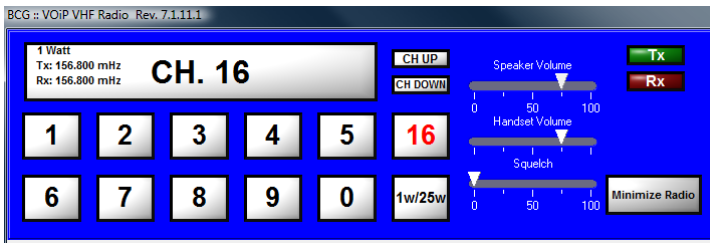
Buffalo Computer Graphics also offers GMDSS simulators that are fully compliant with STCW and IMO requirements. Our GMDSS Training Systems are designed to meet the needs of those schools or institutions providing GMDSS operator courses.

- ◆ A variety of configurations to fit the needs of individual schools or training centers, these include: a completely virtual system on a Windows PC, a table top console with virtual devices, or a table top console with modified real equipment.
- ◆ The trainer provides students with a mixture of stimulated real-communication equipment and virtual devices to aid in understanding and implementing GMDSS operational procedures and functions.
- ◆ Coverage can be simulated in all four Sea Areas
- ◆ Instructor software (G-MaST) provides full scenario generation with record & replay capability for training
- ◆ Additional information on our GMDSS simulation can be found at our website

## VIRTUAL RADIOS



**MF/HF DSC Radio**

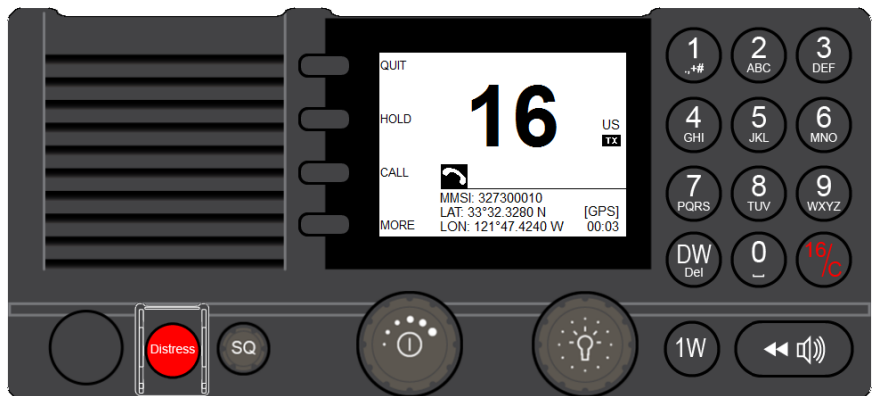


**Generic VHF Radio**

### Features:

- ◆ Software runs on any Windows computer
- ◆ Operator control using monitor and mouse (touchscreen option is available)
- ◆ Full radio functionality as applicable (i.e. VHF, UHF, or MF/HF frequencies)
- ◆ Functioning watch channel (s)
- ◆ DSC radios have full DSC functionality
- ◆ Range Noise effects modeled over the VoIP network
- ◆ Available with a handset, headset or desktop microphone with speaker
- ◆ Secure radios are available with simulate crypto loading and antenna configuration

**VHF DSC Radio**



**AN/PRC-150  
Military-Grade  
Tactical Radio**

Contact BCG for information and pricing on our full line of Maritime Simulation products.

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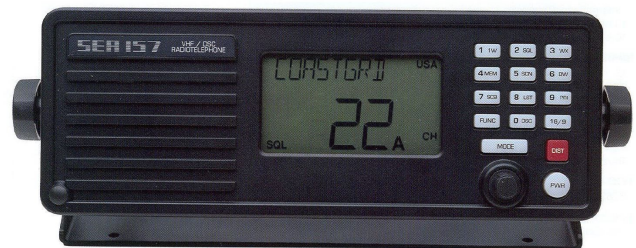
## HARDWARE RADIOS

### Features:

- ◆ RF components replaced with BCG VOIP hardware for operation without RF emissions
- ◆ Simple shared network interface
- ◆ Operate in same system as BCG's virtual radios
- ◆ Units maintain full radio functionality
- ◆ Functioning watch channel(s)
- ◆ Full DSC functionality (if equipped)
- ◆ Range Noise effects
- ◆ Transmitter power level selectable
- ◆ Sound effects such as range noise, lightning discharge available on receive side
- ◆ Helicopter sound effect available on transmit side
- ◆ Available with a handset, headset or microphone with speaker
- ◆ Custom packaging can be designed to meet the customer's needs
- ◆ Generic units available with look and feel of real unit at reduced price



**MF/HF Radio**



**VHF DSC Radio**



**Generic VHF Radio**

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## OTHER SIMULATED COMMUNICATION COMPONENTS



### *Sound Powered Phone*

- ◆ Available with 8 channels (rotary switch) or 99 channels (thumbwheel switch)
- ◆ Call buzzer in unit
- ◆ Supports optional external speaker
- ◆ Heavy duty wall mounted unit

### *Intercom*

- ◆ 8, 12, or 24 channel availability
- ◆ Built-in speaker
- ◆ Separate handset and speaker controls for volume
- ◆ Available with handset or microphone
- ◆ Connection for optional external speaker
- ◆ Heavy duty wall mounted unit



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## OTHER SIMULATED COMMUNICATION COMPONENTS



### ***Public Address Simulator***

- ◆ Multi-Channel selector switch allows for multiple configuration options
- ◆ Integrated into IOS Comms software
- ◆ Standalone Communications Device

### ***Tactical Voice Terminal***

- ◆ Flush or wall mounted communication device
- ◆ Operates on a touch panel
- ◆ Multi-color lights to indicate Plain or cypher transmissions, Detect, or Disconnection.



### ***TA-970 (Secure Handset)***

- ◆ Up to 100 switch selectable call channels
- ◆ Call buzzer in unit
- ◆ Indicator lights provide status of unit
- ◆ External speaker ready (option) with 'mute' switch
- ◆ Speaker volume control

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