



**Connecting radios all over the world**

**Special Functions  
Options and Extras**

V 2.2

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A Mimer SoftRadio system can be configured in many ways. This paper describes some of the special functions that have been made to different customer needs. All are available as hardware or software options. Please also see “Basics” and “Customer examples”.

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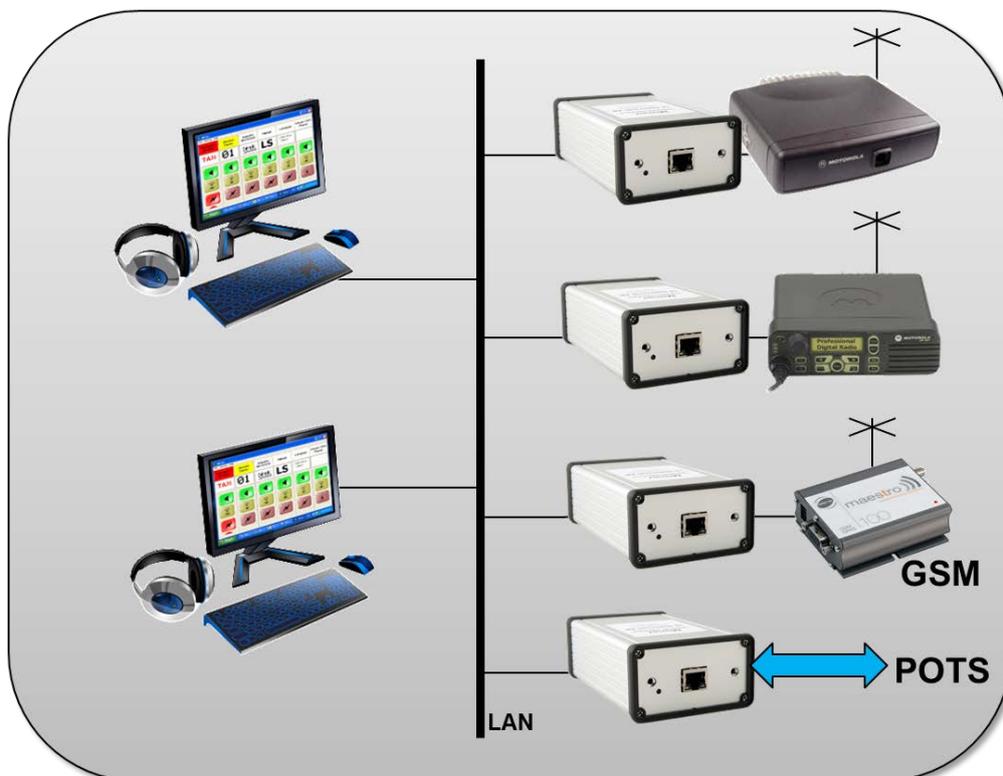
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## 2 Phone Access

There is an option to Mimer SoftRadio that changes the layout of one or more of the eight radio device panels to a phone access panel. Instead of pushing “send” you will push a handset symbol and doing so open a number pad, with a second push a speed dial list pops up.

In this way an operator can access phone lines through the same PC software and the same headset that is used for radio.

Calls can be made, received and put on hold for other operators to take over.



With the option CrossPatch, phone calls and radio calls can be patched together by the operator.

Please observe that phone calls are made in full duplex and therefore a headset or a handset is needed.

(A desk microphone and speakers will cause audio feedback.)

## 2.1 Analogue Phone

Connection of the actual phone line is made through a Network Interface. It connects to a standard two wire, DTMF phone line (POTS). It can also be a fixed cellular phone with POTS access.

## 2.2 Mobile Phone

Connection to mobile phone modems, i.e. GSM, can be made through a special NetworkInterface. The audio is analogue and the operation is done through AT-commands. We currently use the modem "Maestro 100".



## 2.3 Digital Phone

Connection to digital VoIP switches are under development. This will be a SIP interface.

## 3 Intercom

It is sometimes needed that dispatchers can speak to each other when they are in different rooms or they are using headsets that screen them from each other.

An extra device panel can then be used for intercom instead of radio or phone. This means that pushing the PTT on that panel will send audio to the other operators and if they have chosen to have their speakers open for intercom, they will hear. There is also a tone button to alert other dispatchers.

In small systems an extra Network Interface is needed for this. In larger systems with a NetworkRepeater this can, with an option, be used for virtual intercom connection and no extra Network Interface is needed.

There is also an external unit for intercom that can be connected through 2-wire line to the system. This is for use in areas where radio is not an option. For example at a fire incident in a tunnel. Cable length can be up to 1km and special rolls are available with 250m each.



When connecting external devices, a Network Interface is needed.

## 4 Hardware options

### 4.1 Mimer VoiceLog

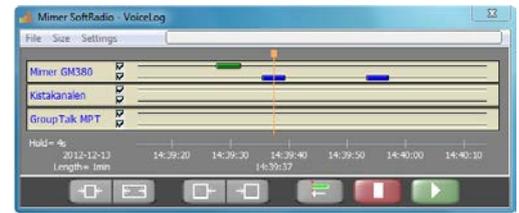
Mimer VoiceLog is a software program that records all sounds in a SoftRadio-system. The software can be delivered preinstalled on a Windows computer or separate on a disk.

Recordings are made separate and time stamped for each radio channel and for each operator, so it is easy to follow up.

Every radio operator gets the possibility to backtrack in his own conversations for a pre-set time, for example one hour or a day. This is useful when a message was hard to hear, you don't have to ask the radio user to repeat, just back track on your VoiceLog.

In order to check what was said during a special incident. A "Supervisor" can listen to all recordings in the systems memory. Depending on hard drive size and traffic load, it can be for example one year back in time. After that, the information, if needed, can be stored on tape or CD through ordinary Windows programs and routines.

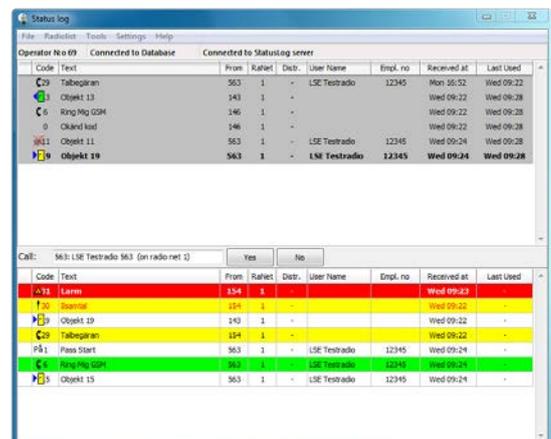
Mimer VoiceLog is Windows software that runs on most Windows computers or Servers.



### 4.2 Mimer StatusLog

Mimer StatusLog is a server application, it receives and logs incoming status calls from the field.

Every computer in the network will display the same information in real time. Every incoming status is logged in the system with a time stamp. Status can for example be "log-in", "lunch", "going in to the customer" etc. Status messages can also be exported to other systems.



Mimer StatusLog will also log voice requests from users in the field. In that manor all calls to the operators will be made to one radio number and put into a queue, disregarding how many operators that is on duty. The operators can then handle the calls in the correct order and choose which operator is the right one to handle every call. Every call is time stamped when it is received, when it is first answered and when it is last handled.

A priority call or an emergency call is given a higher status and can be hooked up with an external alarm signal to alert the operators. An emergency will trigger a red square across all screens and an alarm tone from the computer until one operator clears the alarm.

StatusLog systems are always custom designed since there are so many varieties of needs.

At the moment StatusLog is available for MPT & 5-tone systems.

Mimer StatusLog is Windows software that runs on most Windows computers or Servers.

#### 4.3 Mimer ObjectLog

With the expansion Mimer ObjectLog, StatusLog can also be used as a Guard Tour system to keep track of guards that need to report at certain intervals when they walk alone in buildings. If they haven't sent a status for a pre-set time then a warning comes and after another pre-set time the alarm is triggered.



The system will also keep track of each guards work schedule. If he for example has not reported that he is at the right place at the right time. An alarm will be raised.

Mimer ObjectLog is Windows software that runs on the same server as the StatusLog.

#### 4.4 Tone Decoder

The Network Interface can be fitted with a tone decoder. The decoder can then be used instead of the decoder in the radio or used for systems with base stations without decoders.

The purpose is to send the decoded tone message to the computer software and then depending on coding, selectively call different operators with different tone sequences or to make call queues.

Taxi companies want to see which taxi pressed the button first when answering a call. This can be done via a short tone burst at each PTT from the car. A special tone decode software (Mimer Local CallLog) will then display which car was first to answer, please see below.

## 5 Software Options

### 5.1 SoftRadio XL

As an expansion to Mimer SoftRadio there is a larger version. As a standard the operator can handle up to 8 devices (radio, phone, VoiceLog etc). With the XL option each operator can handle up to 30 devices and even more if needed.

The XL-option also gives some new features allowing grouping of the devices in separate tabs and repositioning of the device panels, making it easier for the operator to handle his recourses.

The Tabs function is very useful when you have large systems where you need to group the radios depending on the task at hand for the operator. You might want to put them on the tabs for example geographically or day/night time use. All tabs but one can be password protected.

With SoftRadio XL you can also expand with more options, like Multiple Hotkeys, I/O Control and Programmable SoftKeys. Please see below.

### 5.2 CrossPatch

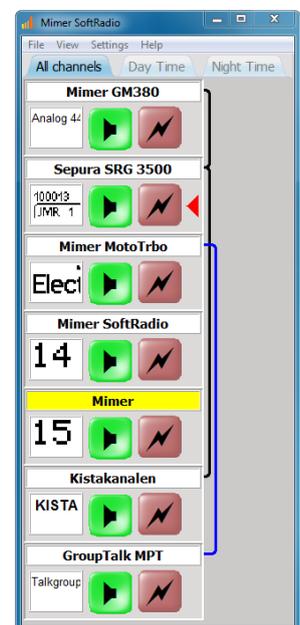
CrossPatch is an option that gives the operator the ability to Patch (cross connect) two or more radios together. This can be used for example as a connection of radio channels in different frequency bands or an analogue channel and a digital talk group or radios in different coverage areas/towns.

CrossPatch helps migration from old to new technology when all users don't have to change radio units at the same time. It is also convenient at for example a rescue site where fire men use one simplex channel on site and another for calling home to dispatch. These two can be cross patched and the coverage area become totally different.

You can patch two by two, three by three etc, or if needed all available radios can be in the same patch. Each operator can make several patches at the same time.

A radio that is hooked up in a patch by one operator can still be used by all operators. But it cannot be hooked up in a new patch while patched by the first operator.

The operator that has made the patch is in control over the patch and the only one that can disconnect the patch.



Patching also works between radio and phone if phones are in the system.

### 5.3 GroupSend

GroupSend is an option that allows the operator to transmit on more than one radio at the same time. This is useful for example at taxi companies that do not know under which base station coverage the car is. Or at companies with old and new radio systems and a message needs to get out to all at the same time.

Another use would be to connect it together with a PA system, so that when an important message goes out over the PA, it also goes out on all radio channels at the same time. Useful for those working in noisy environment with a headset on.



### 5.4 Selective Calls

To make selective calling easier from Mimer SoftRadio there is an option for a speed dial list. The list is easy to use and easy to edit. It is set up for each computer separately but can be copied so that all have the same list.

At the moment Short Dial List works with 5-tone and MPT-Systems.

### 5.5 Local CallLog

With a 5-tone decoder in the Network Interface all incoming tones are decoded and sent as data messages to Mimer SoftRadio. The software can then be set to react to different selective codes.

The Local CallLog will display a list of the last incoming calls with a time stamp. Each operator PC can be given its own call, group call and/or alarm call to react to.

It can be different selective calls on different radios.

### 5.6 Multiple Hotkeys

Multiple HotKey is an option that lets the operator assign separate keys on the keypad for each radio's PTT. Using an external numerical keypad for this is recommended. (SoftRadio XL needed)

### 5.7 I/O Control

The Network Interface placed at the radio has some I/O:s that are free to use. The number of I/O:s vary between radio type. With this option at the operator, he/she can remotely control these I/O:s.

This can be used for alarms (burglar, temperature, SWR) at the radio site or for example to remotely open the lock on the radio sites door. (SoftRadio XL needed)



## 5.8 Programmable SoftKeys

With this option the operator can assign special soft keys in his/her SoftRadio that copies other keys.

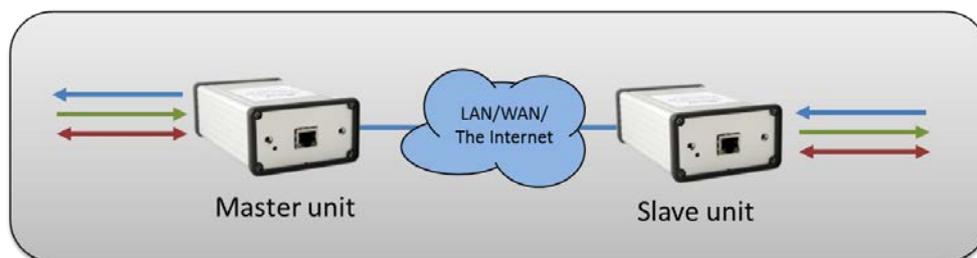
For example to be able to easily change channels on several radios without having to open their virtual control heads each time. (SoftRadio XL needed)

## 6 Mimer SoftLine

Two Network Interfaces can be set up against each other over a LAN or over the Internet with one as master and one as slave. Between them there will be a virtual 4-wire audio line, a virtual RS232 serial data connection and some logical in/outs.

This is useful for older radio systems with desk top consoles, switches etc that can't be changed out, when the leased lines are very expensive. It can also be used for totally different purposes than radio connection.

Mimer Softline will work over LAN, WAN or the Internet.

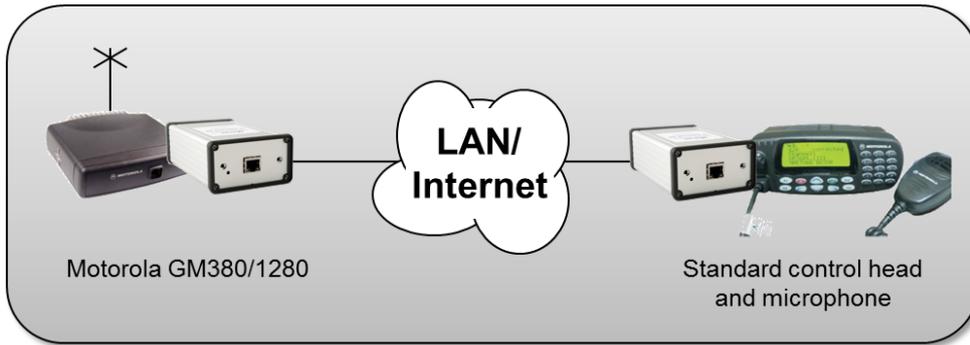


### 6.1 SoftLine Motorola

Some customers do not wish to use a PC as the operator position, they prefer to use the radios standard control head, microphone and speaker. But they still need to either remote control over long distance or they need to remote control via fiber optic cable.

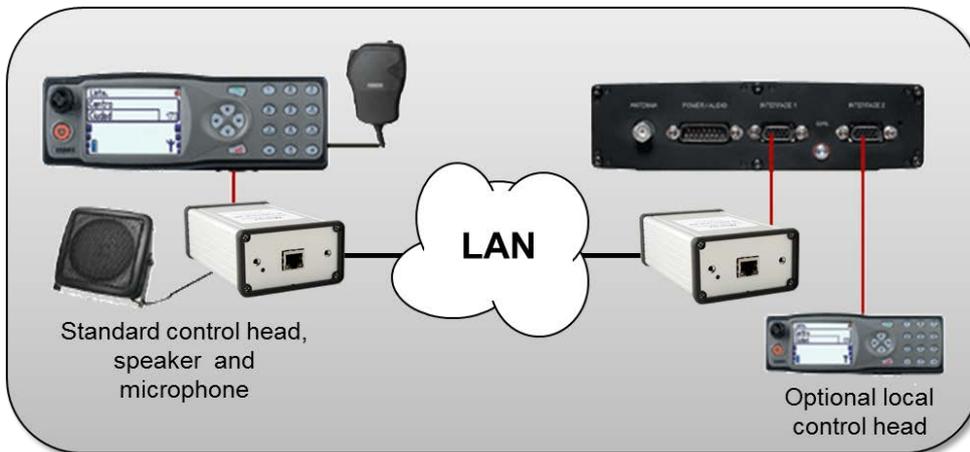
Via Softline Motorola two network interfaces can be connected together over an IP-net. One interface will be connected to the radio and one connected to the control head.

The solution fits to Motorola GM380, GM398, GM399 and GM1280 radios.



## 6.2 SoftLine Sepura

As above this solution can also be built for Sepura Tetra radios. Since the Sepura has double control head capability, you can have one local and one remote control head or install two systems and have two remote control heads.



## 7 Mimer RadioServer

In larger systems where TCP is used the Network Interface can only connect to one user at a time. This can be expanded by installing a RadioServer at the base station site. The server will allow up to 64 connections at different (or the same) operator centrals to connect at the same time. With one radio connected you can have 64 operators. With two radios you can have 32 operators etc.



This is perfect when you have for example a taxi company with local operators during the day and remote at night.

The Mimer RadioServer is a self-contained small Linux computer running on low power DC. It will start by itself if there has been a power failure. It has low power consumption and is easy to install also with power back up.

More info is available here:

[www.softradio.se/Documents/Server-NetworkRepeater.pdf](http://www.softradio.se/Documents/Server-NetworkRepeater.pdf)

## 8 Mimer NetworkRepeater

For larger dispatch centrals where many local users' needs to access remote stations over the Internet.

The NetworkRepeater handles all logon to the remote radios with their Network Interfaces and makes them appear to the system as local radios that any number of users can access without extra network load.

In this way the internet path will not be so heavily loaded as if all users would access all radios and there is no need for RadioServers.

This is the right solution for large operator centrals with base stations spread out and connected over the internet.

Mimer NetworkRepeater is Windows software that runs on most Windows computers or Servers.

More info is available here:

[www.softradio.se/Documents/Server-NetworkRepeater.pdf](http://www.softradio.se/Documents/Server-NetworkRepeater.pdf)



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