

ANNUNCICOM



ANNUNCICOM IC

**Network-based, stand-alone
intercom system for
custom home installations
and commercial applications**



User Manual Version 01.20

For Firmware 01.20 (23. Feb. 2006)

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I Introduction

Congratulations on the purchase of your Annunicom IC from Barix AG.

What exactly is the Annunicom IC? The Annunicom IC (IC stands for "Intercom") is a network-based intercom, featuring fast setup, operation over existing network connections, flexible use and easy reconfiguration.

The Annunicom IC can work with other Annunicom IC devices in a standalone configuration or can seamlessly interoperate with IT equipment like PCs.

Up to two buttons (Talk & Door, Talk & Emergency etc) plus relay output interface are available, which allow the use of the Annunicom in talkback and door entry solutions.

Applications include

- Door intercom, talking over TCP/IP networks
- Alarming in public infrastructure, for example airports
- Remote paging connectivity via networks
- Residential intercom with network connectivity
- Automatic announcement systems

Each device can be configured to directly talk to up to 8 targets, via broadcast, or with the last calling station.

An unlimited number of communication partners can be selected via web browser or serial interface (directory connection).

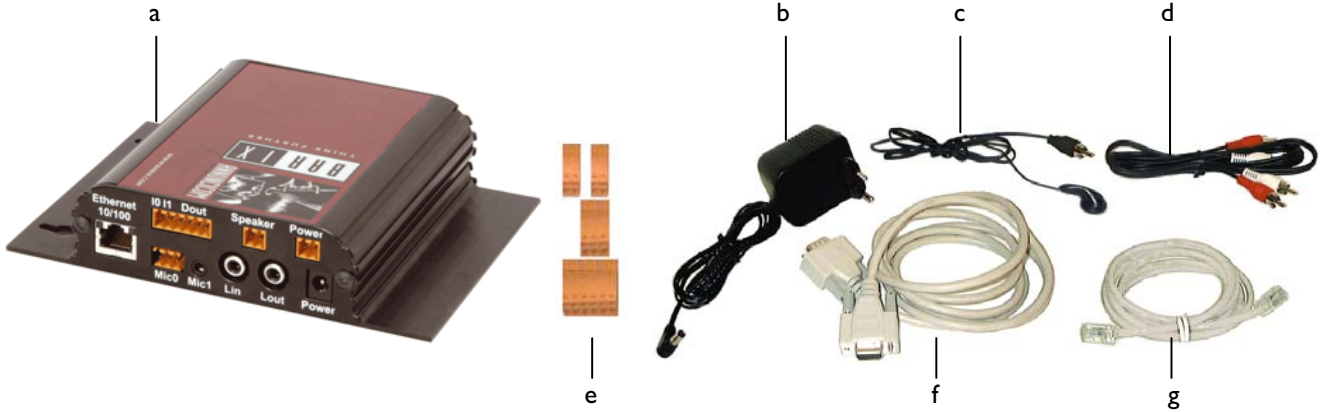
The Annunicom IC is the ideal solution to monitor entrances and to provide intercom and alarming functionality in large residential, commercial and military building complexes like airports, office buildings, malls and residential housing areas. It can also be used along highways or in tunnels to provide IP based intercom capabilities.

No need for extra wiring when using existing network infrastructure or operating wireless, hence saving implementation time and costs. Using only standard TCP/IP protocols, connecting remote facilities is simple, and no changes to the existing WAN infrastructure are necessary.

2 Features

- Semi duplex two-way communication using mono MP3 streams.
- 10/100 Mbit Ethernet connection
- Two button input (e.g. Talk & Door) plus relay output interface
- Controllable via a standard web browser (PC, PDA, Web tablet) or via a serial port
- Line in, Line out, built in amplifiers for microphone and speaker
- Features **SonicIP**® and **IPzator**™ technology
- Easy integration into existing IT and intercom infrastructure

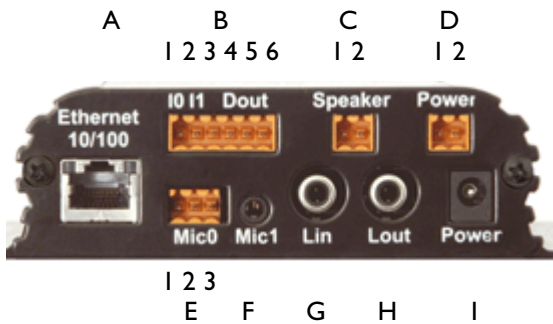
3 Package content



- a Annunicom IC
- b Power supply
- c Earphone
- d RCA stereo cable
- e Spring terminals
- f Serial cross cable
- g Network cable

4 Getting to know your Annunicom IC

Rear side



- A RJ45 for LAN 10/100 Half/Full duplex**
This port is for the connection to your network.
- B IO connector**
1: Input 0, 2: Input 1, 3: Input Ground, 4: Relay normally open, 5: Relay common, 6: Relay normally closed
- C Speaker connector**
1: SPKR-, 2 SPKR+ (40hm, 2 Watt)
- D Power in connector**
1: Ground, 2: +9 to 24 VDC
- E Mic input connector**
1: Mic, 2: Mic Power, 3: Ground
- F Mic input Jack**
tip: Mic, ring: Power, End: Ground
- G Line input RCA**
- H Line output RCA & SonicIP Headphone**
- I Power in**
ring: Ground, center : +9 to 24 VDC

Front side



- 1 Serial port (RS-232)**
This port is for a serial connection to your computer.
- 2 Red and green LED for status display**
- 3 Reset button**
Press this button shortly to reset the Annunicom IC. If you press it until the red light flashes (about 5 seconds) the device will be reset to factory defaults.

5 Installation

Once the Annunicom IC is connected to your network, it will automatically receive an IP address from your **DHCP** server (Internet gateways run usually a DHCP server). If no DHCP server can be reached, our **IPzator** function will search the network for a free IP address. The Annunicom IC will announce the IP address using **SonicIP** technology.

5.1 Connecting the Annunicom IC to your audio equipment

Connection to audio equipment is possible by offering two different audio output options:

For connection to an amplifier, the Annunicom IC features a mono RCA output (H). Simply connect the included stereo RCA cable (d) to the audio input on your amplifier using the red plugs on each side.

For connection to a speaker, the Annunicom IC features a speaker output (C). Connect the wires into the 2-pin spring terminal connector (e) and plug it in.

Connecting audio sources is possible by offering two different audio input options:

For connection to an audio source, the Annunicom IC features a mono RCA input (G). Simply connect the included stereo RCA cable (d) to your audio output using the white plugs on each side.

For connecting a microphone, the Annunicom IC features two microphone inputs (E+F). Connect the wires into the 3-pin spring terminal connector (e) and plug it into input E or plug in the microphone directly into input F.

5.2 Connecting the Annunicom IC to your power supply

Connection to power supply is possible by offering two different options:

To connect the included power supply, the Annunicom IC features the power connector (I). Plug the power supply (b) into the power jack (I) of the Annunicom IC and the other end into the power outlet of the wall.

To connect to an existing 9 to 24 Volt DC power supply, the Annunicom IC features the power connector (D). Connect the wires into the 2-pin spring terminal connector (e) and plug it in.

5.3 Connecting the Annunicom IC to your network

STEP 1

Plug the included network cable (g) into the network port of the Annunicom IC (A) and the other end into your hub or switch.

STEP 2

Plug the included earphone (c) into the RCA output (H) and put it in your ear.

Get the pen and paper ready to write down the IP address that will be announced in step 5.

The announcement of the IP address is called **SonicIP**.

STEP 3

Plug the power supply (b) into the power jack (I) of the Annunicom IC and the other end into the power outlet of the wall.

NOTE

When power cycling the Annunicom IC we recommend to disconnect/connect the power supply at the wall socket. To prevent electrical overload of the device the power supply should only be plugged into the wall socket with the power supply connected to the Annunicom IC first.

STEP 4

The Annunicom IC will now search for a **DHCP** server to get an IP address and announce this address over the earphone.

Example: 192.168.0.12 (Voice: one nine two dot ...)

Make sure you write this IP address down. If no **DHCP** server is found then our **IPzator** function will search the network for a free IP address (this could take up to 5 minutes).

NOTE

Your Annunicom IC is now ready to start working, we recommend, however, that you set a **Static IP** address so that the IP address will not change every time you power up the Annunicom IC.

See section 8.1 how to set a Static IP.

6 Controlling the Annunicom IC

The Annunicom IC has a local web server built in. You can control the Annunicom IC from anywhere on your network using a standard web browser (from your PC, PDA or web tablet).

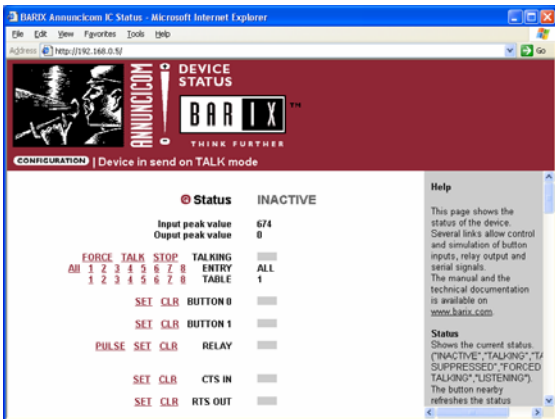
STEP 1

Open your web browser.

STEP 2

Type in the IP address of the Annunicom IC in the address bar then press Enter.

You should now see the device status panel of the Annunicom IC in the browser window:



F1

F2

F3

F1 User control interface

This frame shows the volume control options and the link to the configuration pages.

F2 Status and control

This frame shows the current device status. Several links allow control and simulation of button inputs, relay output and serial signals.

F3 Help

This frame shows the help for the available links in the device status page.

6.1 User control interface



ANNUNICOM IC

A click on the Annunicom IC logo will bring you to the Barix homepage. (www.barix.com)



This action increases the volume in steps of 5 %.



VOLUME SLIDER

This action lets you adjust the volume level. Click closer to the + (plus) sign for higher volume or closer to the - (dash) sign for lower volume.



This action lowers the volume in steps of 5 %.



A click onto this button will bring you to the device configuration page.

6.2 Status and control

Status		INACTIVE
Input peak value	674	
Output peak value	0	
FORCE	TALK	STOP
TALKING		
ALL	1 2 3 4 5 6 7 8	ENTRY
	1 2 3 4 5 6 7 8	TABLE
SET CLR	BUTTON 0	
SET CLR	BUTTON 1	
PULSE SET CLR	RELAY	
SET CLR	CTS IN	
SET CLR	RTS OUT	

Status

Shows the current status. ("INACTIVE", "TALKING", "TALKING SUPPRESSED", "FORCED TALKING" and "LISTENING"). The button nearby refreshes the status information.

Input peak value

The number [0..32767] shows the peak value of the device input (Line in or Mic In).

Output peak value

The number [0..32767] shows the normalized peak value of the encoder when encoding (e.g. Talk) or the the normalized peak value of the decoder when decoding (e.g. Listen).

TALKING

Click the "FORCE" link to force the talking (not visible on "*send always*"). This overrides the "TALKING SUPPRESSED" mode, e.g. when an other device is talking to this device.

Click the "TALK" link to start talking (not visible on "*send always*").

Click the "STOP" link to stop talking (not visible on "*send always*").

The indication next to TALKING has the following meaning:

GREY: not talking, GREEN: talking, RED: forced talking

ENTRY

Select "All" for talking to all configured entries (targets) in the active table. To talk to a specific entry (target) click on the respective number.

TABLE

Click on the respective number to select a table.

BUTTON 0 and 1

Click the "SET" link to simulate the button beeing pushed. Click the "CLR" link to simulate the button beeing released. The indication next to "BUTTON" has the following meaning:

GREY: released, GREEN: pushed (simulation is not shown!)

RELAY

Click the "TOGGLE" link to activate the relay for the "Relay toggle duration" time, adjustable in "Settings" under "I/O".

Click the "SET" link to activate the relay.

Click the "CLR" link to deactivate the relay.

The value next to "RELAY" has the following meaning:

GREY for inactivated, GREEN for activated

CTS IN (RS-232)

Click the "SET" link to simulate CTS beeing activated.

Click the "CLR" link to simulate CTS beeing deactivated.

The indication next to "CTS IN" has the following meaning:

GREY: inactiv, GREEN: activ (simulation is not shown!)

RTS OUT (RS-232)

Click the "SET" link to activate RTS.

Click the "CLR" link to deactivate RTS.

The indication next to "RTS OUT" has the following meaning:

GREY: inactiv, GREEN: activ

Tips

- To configure the device click on the "CONFIGURATION" button.

- The white triangle next to the Annunicom IC logo as well as the "+" (above) and the "-" sign (below) can be used to change the volume temporarily.

- This page can be customized to meet installation requirements. Download the developement kit from www.barix.com.

7 Device Configuration

To enter the Annunicom IC device configuration you can log onto its local web server.

STEP 1

Open your web browser

STEP 2

Type in the IP address of the Annunicom IC and press Enter

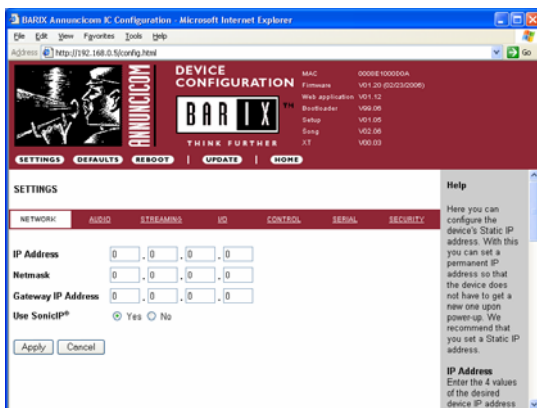
Example: 192.168.0.12

STEP 3

Click on the Config button



7.1 Configuration Overview



A

C

B

D

A MENU FRAME

This frame shows the available menu icons. A click on SETTINGS brings you to the settings page when you are on the DEFAULTS, REBOOT or UPDATE page. A click on HOME brings you to the device status page.

B INFO FRAME

This frame shows the Annunicom IC's MAC address and the installed version of Firmware, Web application, Bootloader and Setup.

C SETTING TABS

This bar shows the available tabs within the settings menu.

D HELP FRAME

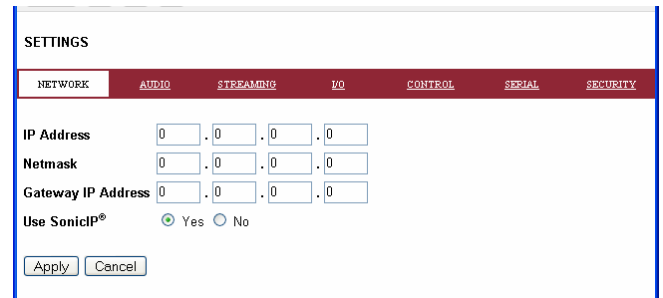
This frame shows the help to all settings and menus.

7.2 Network settings

Here you can configure the Annunicom IC's **Static IP** address.

With this you can set a permanent IP address so that the device does not have to get a new one upon power-up.

We recommend that you set a **Static IP** address.



IP Address

Enter the 4 values of the desired device IP address e.g.: "0.0.0.0" for automatic discovery (DHCP, IPzator, AutoIP) "192.168.0.12" for an internal LAN

Netmask

Enter the 4 values of the desired **Static IP** e.g.: "255.255.255.0" for a C class network.

Gateway IP Address

Enter the 4 values of the desired Gateway IP address e.g.: "0.0.0.0" for no Gateway "192.168.0.1" for a Gateway in a LAN

Note: The Gateway has to be set only when connecting to other devices over the WAN (through a router).

Use SonicIP

If set to yes, the Annunicom IC will announce its IP address over the audio output.

To store these settings click on Apply button. The device will restart with the new settings.

7.3 Audio settings

These settings adjust the audio input and output.

Input source

Choose the desired input source.
On Detect Source the device chooses the input with higher audio level during start up.

Microphone gain

Choose the desired gain ("21" - "43.5" dB) for the microphone.

A/D amplifier gain

Choose the desired gain ("-3" - "19.5" dB) for the A/D amplifier.

Loop Input to Output

Choose "Yes" to hear the attached input on the local Line Out (For testing only, feedback may occur when using a speaker).

Encoding

Choose between six different MP3 encodings (from "MPEG1 / 48 kHz" down to "MPEG2 / 16 kHz"), four different G.711 encodings (aLaw/uLaw, 8 or 24 kHz) and two 16bit PCM encodings (8 or 24 kHz). The network bandwidth used by G.711 at 8 kHz is 64kBit/sec and 192kBit/sec at 24 kHz sampling frequency. PCM uses 16 bit and therefore needs the double bandwidth (128kBit/sec @ 8 kHz and 348kBit/sec @ 24 kHz). For MP3 bandwidth usage see the next parameter.

ATTENTION: Make sure to set all devices with the same encoding setting when choosing G.711 or PCM.

Encoding Quality

Choose between "0 lowest" and "7 highest" in steps of 1. The Encoder Quality table below shows the average bit rate in kbit/s for the quality settings and sampling frequencies in kHz.

Qual.	0	1	2	3	4	5	6	7
44.1	65	68	73	80	90	105	125	140
22.05	35	38	40	45	50	60	75	90

Volume

Choose between "0%" and "100%" in 5% steps.

Bass

Choose between "-10" and "10".

Treble

Choose between "-10" and "10".

Loudness Level

Choose between "0" and "20".

Loudness

Choose between "0" and "20" and switch the Loudness "On" or "Off".

MP3 Frame CRC

If set to "enable", the encoder will include the CRC-16 to each MP3 frame.

MP3 Bitreservoir Mode

The Bitreservoir is used to compensate the differences between the predefined frame sizes. If set to "used", the encoder will use the bitreservoir.

MP3 Copyright Protection

"Enable" or "disable" the copyright protection bit in the MP3 bitstream.

MP3 Stream Type

Select between a "copy" or an "original" bitstream in order to set the appropriate bit in the MP3 bitstream.

MP3 Emphasis

Select emphasis "none", "50/15 us" or "CCITT J.17".

7.4 Streaming settings

These settings adjust the streaming mode, parameters and destinations.

Own Name

Streaming mode

Trigger Level only for mode "send on Level"

Pre Trigger Start msec

Post Trigger Play msec

Buffer Underrun Mode (TCP)

Background Stream TCP Flow Control

Stream Packet Strategy (MP3 only)

Non MP3 Packet Size Bytes

Play Buffer Bytes

Receive Timeout msec

TCP Priority Rx Port

UDP Priority Rx Port

UDP Receiver Port

UDP Tx Source Port

Radio Path

Stream from table to origin source

Table

SNMP

Trap Target IP Address

Low Audio Level Left Right

High Audio Level Left Right

Trap Repeat Left sec Right sec

Silence Timeout Left sec Right sec

Own Name

You can enter the name of the Annunicom IC here. This name will be returned when using the DISCOVER command (see technical documentation)

Streaming mode

"send always" will stream always

"send on TALK/CTS" will stream if the TALK button (command) is pressed or CTS (Pin 8 Serial connector) is connected to a positive supply like 9VDC (Pin 4 Serial connector), see section I/O settings on how to configure CTS behavior

"send on Level" will stream if the incoming audio signal is above the Trigger level

"auto answer" will stream back for the Post Trigger Play duration after a stream has been received

"receive only" can receive a stream but will never send one

Trigger level

Is only used when Streaming mode is *"on Level"*.

Set to a value between 0 and 32767.

Open the device status page and look for the Input peak value to get a hint for the trigger value. This page refreshes itself every second.

Pre Trigger Start

Pre Trigger Start can be adjusted to prevent cut offs when audio should be sent earlier than detected. It defines the amount of time that will be streamed before the actual trigger occurred. This feature is most likely used in combination with the send on level feature.

Post Trigger Play

Post Trigger Play can be adjusted to prevent cut offs when audio should be sent longer than detected. It defines the amount of time that the device will continue streaming after the actual trigger has been cleared. This feature is most likely used with the send on level feature.

When Streaming mode is set to *"auto answer"* this defines the duration the device will stream back after a stream has been received.

Buffer Underrun Mode (TCP)

The Buffer Underrun Mode (TCP) defines the action if a TCP stream is slower than the real stream from the encoder. In this case the output streaming buffer underruns and cannot hold older data anymore. The device can then *"disconnect"* the TCP connection or it can *"skip"* the stream directly to the encoder stream without disconnecting TCP.

Background Stream TCP Flow Control

This defines the behaviour of the receiving TCP stream when interrupted by a priority message. When set to *"throw away data"* the received stream will be disregarded and continues with new data after the priority message has ended. Use this setting when receiving from a real-time encoder such as the Barix Annunicom. When receiving from a pre-recorded streaming application (background music / information broadcasting) the setting should be changed to *"stop stream"* to prevent loss of music/information.

Streaming Packet Strategy (MP3 only)

The Streaming Strategy defines how a MP3 packet is built and sent. On *"lowest latency"* the encoded data will be sent directly after the encoding. On *"optimal package"* the packet will be filled up before sending.

Non MP3 Packet Size

Defines the size of a non MP3 packet (G.711/PCM) sent by the device. The smaller the packet size the smaller the audio delay between sending and receiving device but more network packets are sent. Increase the packet size when

the stream gets interrupted in the receiving device (due to network traffic caused by other devices like PC's)

Play Buffer

Defines the amount of bytes that will be stored before playing the received stream. Lower this value to minimize delay, increase this value to prevent dropouts.

Receive Timeout

Defines the amount of time between the end of a received stream and switching to preparation of talking.

TCP Priority Rx Port

Enter the port number on which this device will listen for a TCP Priority message.

Set to a value between 0 (disabled) and 65535.

UDP Priority Rx Port

Enter the port number on which this device will listen for a UDP Priority message.

Set to a value between 0 (disabled) and 65535.

UDP Receiver Port

Enter the port number for receiving a UDP stream.

Set to a value between 0 (disabled) and 65535.

UDP Tx Source Port

This setting is only used when working with a custom software application. Enter the source port number to be used when sending a UDP stream. Set to a value between 0 and 65535. When set to 0 the source port is set to the same port as selected in destination port in section Stream to. If destination is set to *"origin source"* then UDP Receiver Port is used.

Radio Path

Enter a radio path to listen to the transmitted stream of this Barix Annunicom using a device that is able to play MP3 radio stations (also PC software like WinAmp).

The URL to connect is **http://x.x.x.x/p**. Where **x.x.x.x** is the IP address of this device and **p** is this Radio path.

Example: <http://192.168.0.24/xstream>

The device can serve up to six concurrent radio streams.

Stream

Choose if the stream should be sent to the targets defined in the tables *"from table"* or to the device from where the last communication came *"to origin source"*.

Table

There are 8 tables consisting of 8 destinations to stream to. If you have changed any setting above you should hit the Apply button on the bottom of the page to save your changes before selecting a table for configuration.

SETTINGS

NETWORK AUDIO **STREAMING** IP CONTROL SERIAL SECURITY

[back to streaming settings](#) Table 1 2 3 4 5 6 7 8

TABLE 1

Entry	Conn. type	IP #	#	#	#	Port #
1	Raw UDP	0	.0	.0	.0	:0
2	not used	0	.0	.0	.0	:0
3	not used	0	.0	.0	.0	:0
4	not used	0	.0	.0	.0	:0
5	not used	0	.0	.0	.0	:0
6	not used	0	.0	.0	.0	:0
7	not used	0	.0	.0	.0	:0
8	not used	0	.0	.0	.0	:0

Apply Cancel

There 8 streaming destination entries.

Conn. type

Choose the type of connection:

"not used" for unused destinations

"Internet Radio" for an internet radio station (1 user) (default)

"Raw UDP" for a UDP connection

"Raw TCP" for a TCP connection

IP # # #

Enter 4 values of the destination IP address e.g.:

"0.0.0.0" for unused destinations (except when the connection type is set to UDP it will be broadcasted e.g.

"192.168.0.255")

"0.0.0.0" for connection TCP + port if this device is used as a TCP listener waiting for a connection from a streaming device. (default)

"192.168.0.34" for a directed connection

Port

Enter the port number for each destination (between *"0"* and *"65535"*). If this port is set to *"0"* then the default ports are used (Internet Radio *"80"*, TCP *"2020"*, UDP *"3030"*).

Note

The default setting (factory defaults) for the streaming destination # 1 is *"Raw UDP 0.0.0.0:0"*. This means it is UDP broadcasting on port 3030!

To store these settings click on the Apply button.

The device will restart with the new settings.

Trap Target IP Address

Enter the IP address of the SNMP trap destination.

Low Audio Level

Define the low audio level for the trap generation. A trap will be generated as soon as the audio level goes below this value (and the silence timeout is run out).

High Audio Level

Define the high audio level for the trap generation. A trap will be generated as soon as the audio level goes above this value.

Trap Repeat

Define the repeat interval for the SNMP trap sending. The trap will be repeated if the values are still according to the defined trap stages after this repeat time.

Silence Timeout

Define the time that has to run out before a trap is sent when the audio level is below the defined low audio value.

Notes

The choice of settings to distribute the stream to the other station(s) depends on your environment and desired functionality.

If the reception of up to 8 streams need to be guaranteed we recommend using TCP since lost packets are retransmitted automatically.

If the stream is intended to be received by many devices we recommend using UDP broadcast (as long as all devices are on the LAN as broadcast is not passed over a WAN by the routers).

If your network infrastructure is capable of multicasting use multicast to reduce the traffic generated by broadcasting.

A mix of all the above is possible as each of the 8 destinations allow an individual choice of connection type.

7.5 I / O settings

These settings adjust the device behavior for inputs and outputs (attached buttons, the serial RTS/CTS signal and the relay pulse duration).

Command Broadcasting

Configures the execution behavior of command "r=c=XX". When in "compatibility mode" the command will be issued as a UDP broadcast unconditionally. When set to "secure mode" the command will be issued only if a communication with another device has taken place (in the last 2 minutes). The command will be sent to that device only! Use the "secure mode" when setting up multiple door stations wired to door strikes.

Init Sequence

Enter one or more commands that will be executed on start up (power on or reset).

I0 pushed command

Configures which command should be issued when the I0 button is pushed (see further below for commands).

I0 released command

Configures which command should be issued when the I0 button is released (see further below for commands).

I1 pushed command

Configures which command should be issued when the I1 button is pushed (see further below for commands).

I1 released command

Configures which command should be issued when the I1 button is released (see further below for commands).

Relay pulse duration

Defines the amount of time (in tenths of a second) the relay will be activated (the door strike will buzz) when the "PULSEDOUT" command (c=80) is received.

CTS close command

Configures which command should be issued when the CTS signal on the serial connector is activated (see further below for commands).

CTS open command

Configures which command should be issued when the CTS signal on the serial connector is deactivated (see further below for commands).

RTS pulse duration

Defines the amount of time (in tenth of a second) the RTS output will change when the "PULSERTS" toggle command (c=95) is received.

Commands

Multiple commands can be added using the & (Ampersand) character. They will be executed sequentially in the order as they appear in the configuration field.

TALKING MODE

c=83 : Activate the talking mode
c=84 : Deactivate the talking mode
c=91 : Activate the forced talking mode

STREAMING

c=77 : Set destination Syntax :
c=77&entry=x&ip=a.b.c.d&port=p&type=t
For x use 1 to 8 (Streaming destination 1 to 8)
a.b.c.d is the IP address to stream to
p stands for the port number to be used
For t use 0 (not used), 1 (Raw UDP) or 2 (Raw TCP)
Example:
c=77&entry=2&ip=192.168.0.100&port=3030&type=1 sets the destination 2 to Raw UDP to IP 192.168.0.100 on port 3030

I/O

c=78 : Activate the relay
c=79 : Deactivate the relay
c=80 : Pulse the relay for the preset time
c=85 : Simulate the I0 button being pressed
c=86 : Simulate the I0 button being released
c=87 : Simulate the I1 button being pressed
c=88 : Simulate the I1 button being released

SERIAL

c=89 : Simulates the CTS Signal being activated
c=90 : Simulates the CTS Signal being deactivated
c=60 : Activates the RTS Signal
c=61 : Deactivates the RTS Signal
c=80 : Pulse the RTS Signal for the preset time

REMOTE COMMANDS

r=x : send the command x to the last calling station
remotely

r=a.b.c.d:p/x : send the command x, using UDP, to the
remote IP a.b.c.d on the optional port p. Default if no port
is defined is the configured UDP command port.

Example:

*r=192.168.0.99:12301/c=83 (sets the remote station to
talking mode)*

For further commands refer to the technical
documentation available on www.barix.com.

7.6 Control settings

These settings adjust the control port properties.

SETTINGS

NETWORK AUDIO STREAMING I/O CONTROL SERIAL SECURITY

UDP command port

TCP command port

Web server port

Serial Port

UDP command port

Defines the port where the device will receive commands via UDP. To disable set this port number to "0".

TCP command port

Defines the port where the device will receive commands via TCP. To disable set this port number to "0".

Web server port

Defines the port where the webserver of the device can be reached. If set to "0" the default HTTP port (80) is used.

Serial port

Define the functionality of the serial port. "Command Interface" means the port is used as command interface. "Keypad" disables the serial command interface and uses the port for a keypad.

7.7 Serial settings

These settings adjust the serial port, local port and serial gateway properties.

SETTINGS

NETWORK AUDIO STREAMING I/O CONTROL SERIAL SECURITY

RS-232

Baud rate

Data bits

Parity

Stop bits

Flow control

Local port

Destination IP

Destination port

Baud rate

Select the serial transmission speed (300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600 and 115200 Baud).

Data bits

Select "7" or "8" data bits.

Parity

Select "no", "even" or "odd" parity.

Stop bits

Select "1" or "2" stop bits

Flow control

Select the type of flow control: "none", "Software (XON/XOFF)" or "Hardware (RTS/CTS)".

Local port

Defines the port on which the serial port can be accessed for serial gateway application. Only when "Local port" is set to "0" the serial port can be used as a command interface. If the active serial gateway is enabled and the "Local port" is set to a value then this will be the source port of the TCP connection. On "0" a random source port is used.

Destination IP

To have this device actively establish a serial gateway select the destination IP address to the device where the serial data will be transmitted to (and received from). Select "0.0.0.0" when the serial port is only used local.

Destination port

Defines the port for the active serial gateway function (see destination IP).

Notes

Both settings, Gateway destination IP and Gateway destination port have to be set to enable the function.

When Serial Gateway is activated the serial port cannot be used as a command interface. This also applies for the device on the other side of the "Serial Gateway".

To establish a "Serial Gateway" between two devices only one device has to be activated. In other words:

Only one device will need a Gateway destination IP and Port set.

The other device needs the Local Port to be set to the same value as entered in the Destination Port of the first device.

On power up the active device will connect to the selected device and will try to reconnect automatically in case of a lost connection. This allows you to establish a serial connection between the attached devices on each side over LAN or WAN.

7.8 Security settings

These settings can be used to secure the access to the Annunicom IC on several levels. The status is shown next to each password (set or not set). Access is free for levels without a password (default setting).

Level	Password	Status
Save Configuration	<input type="text"/>	not set
View Configuration	<input type="text"/>	not set
Control/Command	<input type="text"/>	not set
4 (User)	<input type="text"/>	not set
5 (User)	<input type="text"/>	not set
6 (User)	<input type="text"/>	not set
Listening	not protected	
SNMP Community RWrite	not protected	
SNMP Community Read	not protected	

Save Configuration

Enter up to 24 characters to secure the saving of the device configuration (Clicking the "Apply" button). Without a valid password the device configuration can not be saved! Enter 25 characters to erase the current key.

Save configuration password usage

If the password is set the user has to type in the password in the "Save Config Password field" before hitting the "Apply" button.

Without a valid password a warning will be displayed and the changes don't save.

View Configuration

Enter up to 24 characters to secure the viewing of the device configuration (Clicking the "Config" button). Without a valid password the device configuration can not be viewed! Enter 25 characters to erase the current key.

View configuration password usage

When the password is set the user clicking on the "Config" link has to type in the password into the password field of the pop up window (the user name does not matter).

Only one user can log in at a time. Further connections will be refused while one user is logged in.

To log out click on the "Logout" link next to the "HOME" icon in the menu bar.



Please hit your browser's Reload button if the "Logout" link is not visible while logged in.

Control / Command

Enter up to 24 characters to secure the access to all control and command interfaces (WEB/CGI, Serial, TCP, and UDP). Without a valid password the device can not be controlled. Enter 25 characters to erase the current key.

Note

This security option should be used very carefully and is intended for advanced users only and helps to completely secure the devices homepage against unauthorized access.

Level 4 to 6 (User)

Enter up to 24 characters to secure the access to customized web pages in 3 levels. Intended for advanced users only, for details see the Technical Documentation. Without a valid password these user web pages cannot be viewed. Enter 25 characters to erase the current key.

Listening

Choose which level is used for preventing unauthorized listening to an Annunicom IC as an Internet Radio, or "not protected" for access for all.

SNMP Community RWrite

Choose a password for the Read and Write Community, or "not protected" to ignore both the read and write communities or "no write access"

SNMP Community Read

Choose a password for the Read Community, or "not protected" to ignore the read community or "no access"

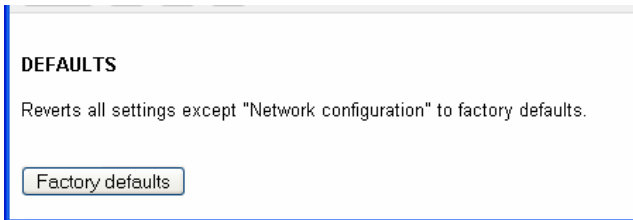
Note that the Community RWrite setting takes priority. This means that if the Community RWrite is set to not protected, Community Read is ignored.

7.9 Reverting to factory defaults

Click on the DEFAULTS button to enter the defaults page.



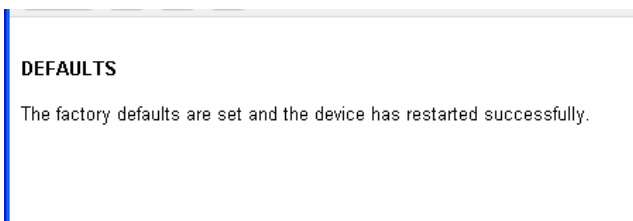
You will see the following screen:



Click on "Factory defaults" to revert all settings except "Network configuration" to factory defaults. While restarting the device the following screen appears showing a number counting down:



Upon start up the following screen appears stating the successful reverting to factory defaults:



Hard default settings

To revert all settings (including the network settings) to factory defaults the Reset button has to be pressed for about 5 seconds while the Annunicom IC is powered.

Important note

Use this method if a connection to the Annunicom IC cannot be established. This can happen if you have set a Static IP address once, switched off Sonic IP and then forgotten the IP address.

The Hard default settings sets the IP Address to automatic discovery (0.0.0.0) and enables SonicIP.

If this fails we recommend downloading the Annunicom IC Rescue Kit from www.barix.com.

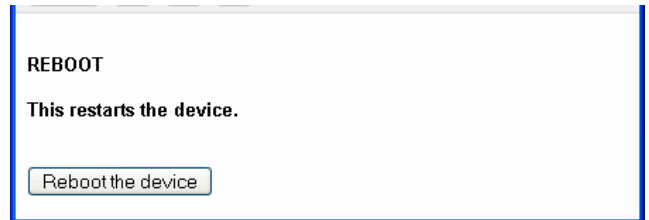
Unzip the Kit and read "readme1st.txt" for instructions. This Rescue Kit reloads the entire firmware, resets the device to factory default settings using the supplied serial cross cable and a PC running W2K or XP.

7.10 Rebooting the device

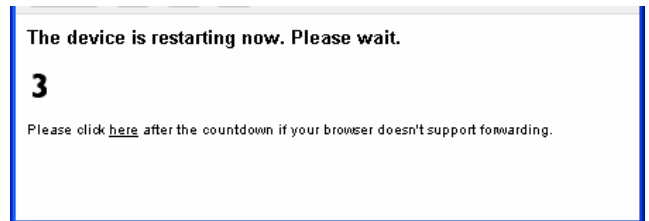
Click on the REBOOT button to enter the reboot page.



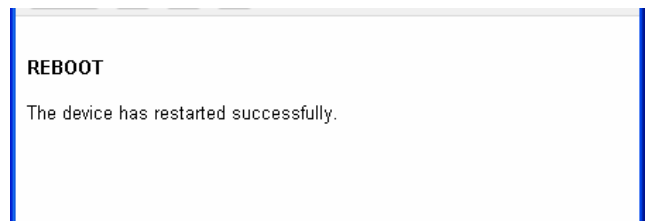
You will see the following screen:



Click "Reboot the device" to restart the Annunicom IC. While restarting the device the following screen appears showing a number counting down:



Upon start up the following screen appears stating the successful restart:



7.11 Updating the device

Barix constantly enhances the capabilities of their products. Therefore we recommend keeping the software on the Annunicom IC up-to-date.

To download the latest firmware version please visit www.barix.com.

Click on **downloads** and then click on **Annunicom IC**. Scroll down to the section **Firmware**. Download the firmware update package and unpack to a local drive. If your device can not be reached over the network using a browser the Rescue Kit can be used.

Read "readme1st.txt" for instructions. This Rescue Kit reloads the entire firmware, resets the device to factory default settings using the supplied serial cross cable and a PC running W2K or XP.

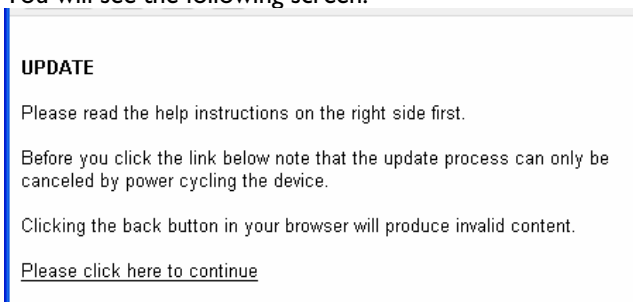
If your device is reachable by browser follow the next steps to update you device over the network.

STEP 1

Click on the UPDATE button to enter the update page.

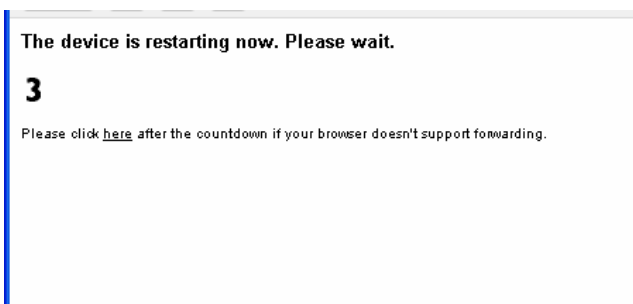


You will see the following screen:



STEP 2

Click on "Please click here to continue" to launch the update process. The device will restart in a special mode called Bootloader and the following screen appears showing a number counting down:



Upon start up the following screen appears ready for the update process.



STEP 3

To upload an update click on "Browse..." to locate the file you want to update.

The file is named **annunicomic_version_date.bin**

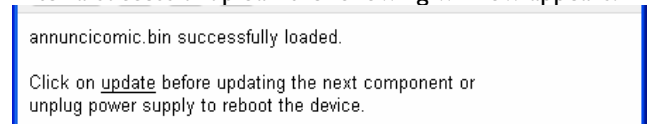
Example: annunicomic_r0104_20040914.bin

If you load the wrong file the device will not work and then the Rescue Kit must be used.

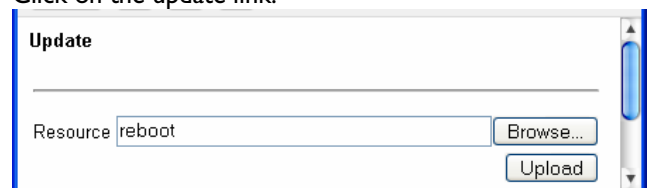


Once selected, click on "Upload". This process can take a few minutes.

After a successful upload the following window appears:



Click on the update link.



Type "reboot" in the resource field and click on "Upload".



STEP 4

Click on the "here" link to reload the devices main page.

8 The “How To” section

8.1 How to set the Annunicom IC for listening using WinAmp

Follow these steps to ensure correct settings in the Annunicom IC.

STEP 1

Open your Web Browser

STEP 2

Type in the IP address of the Annunicom IC and hit enter.
Example: 192.168.0.12

STEP 3

Click on the Configuration link.

STEP 4

Click on the STREAMING tab in the SETTINGS menu

STEP 5

Choose "send always" in the Streaming mode field.

STEP 6

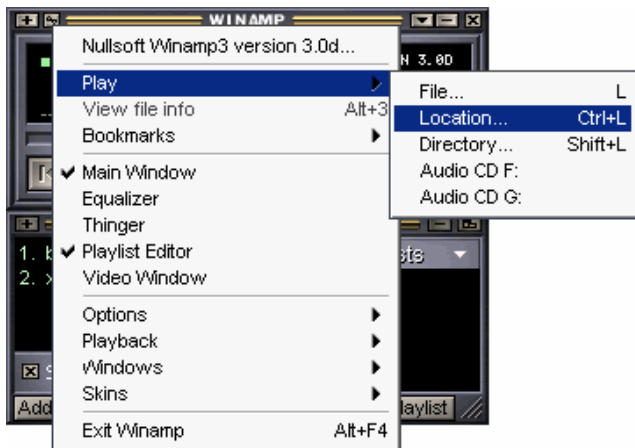
Make sure that Radio Path says: /xstream and that at least one entry in the active table (usually table 1) is set to "Internet Radio 0.0.0.0 : 0"

STEP 7

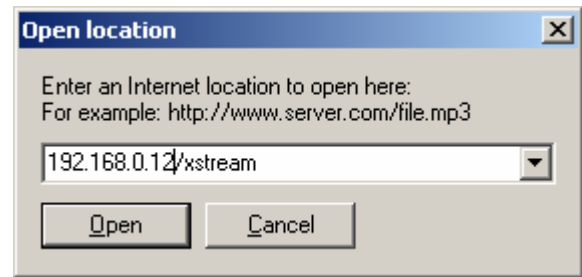
Open WinAmp

STEP 8

Under the file menu choose Play Location (Play URL in version 5) or hit CTRL and L on your keyboard.



STEP 9



Enter the IP address of your Annunicom IC followed by /xstream.

Example: 192.168.0.12/xstream

Hit the Open button.

STEP 10

WinAmp will open the stream and buffer it. Wait a few seconds (to fill the buffer) before you can hear the input signal in WinAmp.



NOTE

Once this works you can also try to set the Streaming mode to "send on TALK/CTS". Every time TALK is activated WinAmp will start playing.

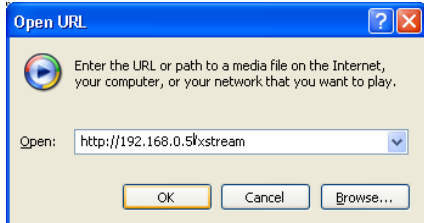
Also test the impact of different Quality and Sampling frequency settings. Play with the Buffer settings in WinAmp to reduce dropouts or minimize delays.

8.2 How to listen using Windows Media Player

Follow the steps 1 to 6 in chapter 8.1 to ensure correct settings in the Annunicom IC.

STEP 1

Open your Windows Media Player and click on **Open URL** under the menu **File**.

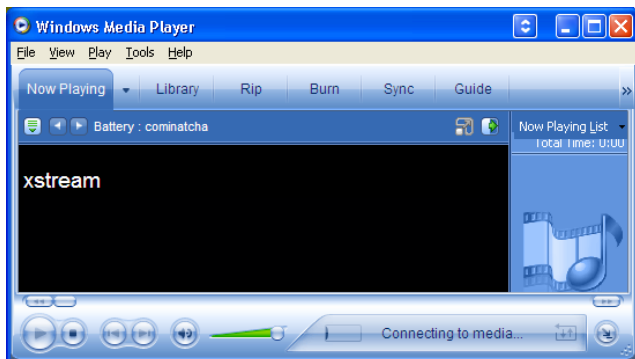


Enter the IP address of your Annunicom followed by /xstream. Example: *192.168.0.5/xstream*

Hit the OK button.

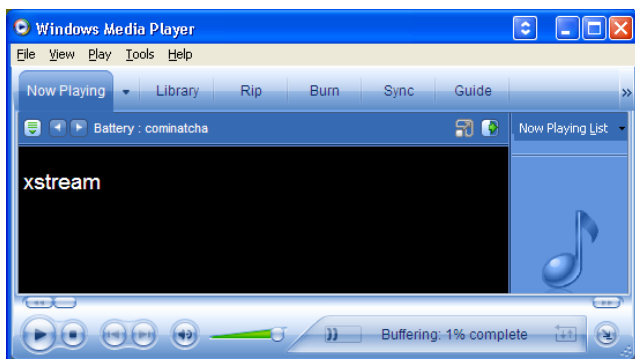
STEP 2

The Media Player will open the stream and connect to the Annunicom. This is indicated by a single “)” going from left to right and back in the stream bar on the bottom right.



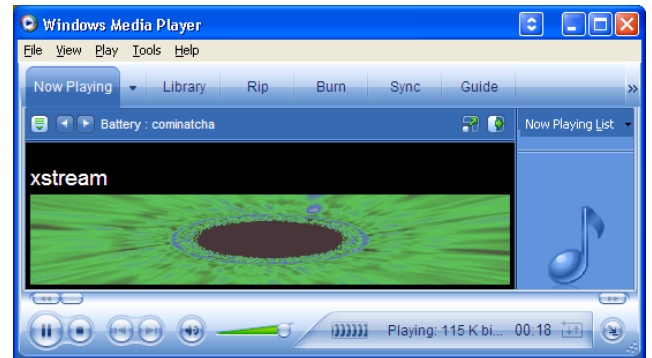
STEP 3

The Media Player will connect and indicate this by the Play button appearing and a steady display of two “))” in the stream bar on the bottom right and as buffering proceeds the number of “))” will increase.



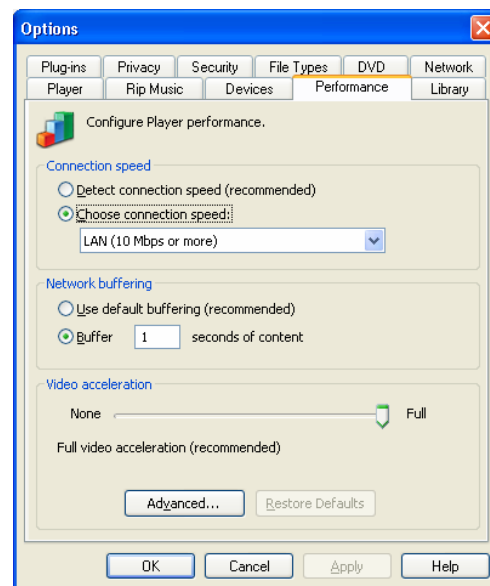
STEP 4

The Media Player is programmed for playing streams from a server and calculates the buffer automatically. Because the Annunicom is streaming in real-time the buffer calculation assumes a slow connection and would buffer for about 2 minutes. This can be shortened by clicking on the Play button. The playback then starts immediately.



STEP 4

If you think that the delay is too big the Media Player can be tuned to shorten it. Change the setting in the Performance Tab (under the menu Tools/Options) as shown below



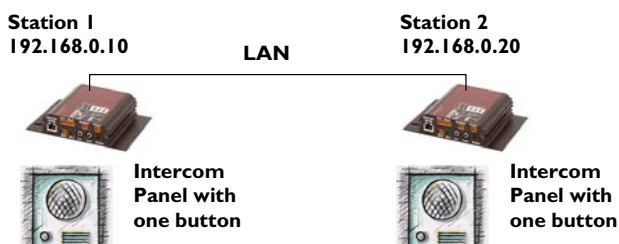
and make sure that you click on Play as soon as the button appears.

9 Application notes

This section will show you how to set the Annunicom IC devices in common applications.

9.1 Two station intercom

Situation: two stations with one TALK button each. Annunicom IC's default settings are already configured to allow two station intercom with only a few changes.



9.1.1 Station 1 configuration

Wiring

Station 1 is connected to an intercom panel:
 Speaker to speaker out (C).
 Microphone to Microphone In (E or F).
 The TALK button to Input 0 (B1 and B3).

Network settings

If you have a DHCP Server in your network the device will automatically get an IP address and no changes are needed. Skip this step and go to Audio settings.

Use the following settings if you prefer to have a Static IP or if no DHCP server is available.

The screenshot shows the Network settings configuration window. The IP Address is set to 192.168.0.10, the Netmask is 0.0.0.0, and the Gateway IP Address is 0.0.0.0. The Use SonicIP option is disabled (No).

SonicIP is disabled; no need to hear it on power up as the IP Address is static and known and the device will stay powered most of the time.

Audio settings

The screenshot shows the Audio settings configuration window. In the Input section, the Input source is set to Mic. Microphone gain is 21 dB, and A/D amplifier gain is -3 dB. Loop Input to Output (MP3 only) is set to No. Encoding is MPEG1 / 44.1 kHz (MP3), and MPEG Encoding quality (MP3 only) is 7 Highest. In the Output section, Volume is 50%, Bass and Treble are 0, and Loudness Level is 20 with the On option selected.

Change the Input source to "Mic".

The Microphone Gain as well as the Volume might need adjustment later on depending on the microphone and speaker used. Quality and Sampling frequency settings can be decreased to lower the network traffic but this will increase the playback delay.

Streaming settings

The screenshot shows the Streaming settings configuration window. Own Name is Station 1. Streaming mode is set to send on TALK. Trigger Level is 1000. Pre Trigger Start and Post Trigger Play are both 0 msec. Buffer Underrun Mode (TCP) is disconnect. Background Stream TCP Flow Control is throw away data. Stream Packet Strategy (MP3 only) is lowest latency. Non MP3 Packet Size is 1200 Bytes, and Play Buffer is 4096 Bytes.

No changes needed.

Streaming mode is set to talk when the TALK command is activated (i.e. TALK button pressed). Post Trigger Play is set to talk on for 1 second after the button has been released. This prevents cut offs. When receiving a stream, 4096 Bytes will be buffered first before playing it back over the speaker. Lower this value to minimize delay, increase this value to prevent dropouts. The stream will be transmitted using a UDP broadcast on port 3030.

IO settings

No changes needed.

The IO pushed command c=83 will activate the TALK mode when the TALK button is pressed.

The IO released command c=84 will deactivate the TALK mode when the TALK button is released.

Security settings

These settings need not to be changed for now. Adjust them later according to your security needs.

Adjustments for Station 1 are completed.

9.1.2 Station 2 configuration

Wiring

Station 2 is connected to an Intercom panel:
Speaker to speaker out (C).
Microphone to Microphone In (E or F).
The TALK button to Input 0 (B1 and B3).

Network settings

If you have a DHCP Server in your network the device will automatically get an IP address and no changes are needed. Skip this step and go to Audio settings.

Use the following settings if you prefer to have a Static IP or if no DHCP server is available.

SonicIP is disabled; no need to hear it on power up as the IP Address is static and known and the device will stay powered most of the time.

Audio settings

Change the Input source to "Mic".

The Microphone Gain as well as the Volume might need adjustment later on depending on the used microphone and speaker.

Quality and Sampling frequency settings can be increased to lower the playback delay but this will slightly increase network traffic.

Streaming settings

No changes needed.

See details under Station 1 configuration.

IO settings

No changes needed.

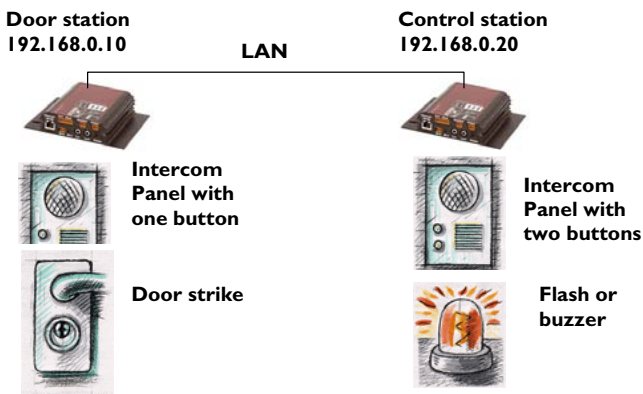
See details under Station 1 configuration.

Security settings

These settings need not to be changed for now. Adjust them later according to your security needs.

9.2 Door station and control station

Situation: one door and one control station. A visitor can push the RING button to activate the buzzer on the control station. Pushing the TALK button on the control station permits to talk to the door station. When releasing the TALK button the visitor can talk for a predefined time. Pushing the DOOR button on the control station will activate the door strike to let the visitor in.



9.2.1 Door station configuration

Wiring

The door station is connected to an intercom panel: Speaker to speaker out (C). Microphone to Microphone In (E or F). The RING button to Input 1 (B2 and B3). The door strike to Relay normally open (B4) and Relay common (B5).

Network settings

The screenshot shows the network configuration interface. The IP address is set to 192.168.0.10, the netmask to 0.0.0.0, and the gateway IP address to 0.0.0.0. The 'Use SonicIP' option is disabled, indicated by the 'No' radio button being selected.

SonicIP is disabled; no need to hear it on power up as the IP Address is static and known and the device will stay powered most of the time.

Audio settings

The screenshot displays the audio configuration settings. Under the 'Input section', the 'Input source' is set to 'Mic'. The 'Microphone gain' is 21 dB and the 'A/D amplifier gain' is -3 dB. The 'Loop Input to Output' option is set to 'No'. The 'Encoding' is set to 'MPEG1 / 44.1 kHz (MP3)' and the 'MPEG Encoding quality' is set to '7 Highest'. Under the 'Output section', the 'Volume' is 50%, 'Bass' and 'Treble' are both 0, and 'Loudness Level' is set to 'Off'.

Change the Input source to "Mic".

The Microphone Gain might need adjustment later on depending on the used microphone. Same goes for Volume depending on the speaker. Quality and Sampling frequency settings can be increased to the lower the playback delay but this will increase network traffic slightly.

Streaming settings

The screenshot shows the streaming configuration settings. The 'Own Name' is 'Door' and the 'Streaming mode' is 'auto answer'. The 'Trigger Level' is 1000, and the 'Post Trigger Play' is 12000 msec. The 'Buffer Underrun Mode' is set to 'disconnect', and the 'Background Stream TCP Flow Control' is 'throw away data'. The 'Stream Packet Strategy' is 'lowest latency', the 'Non MP3 Packet Size' is 1200 Bytes, and the 'Play Buffer' is 4096 Bytes.

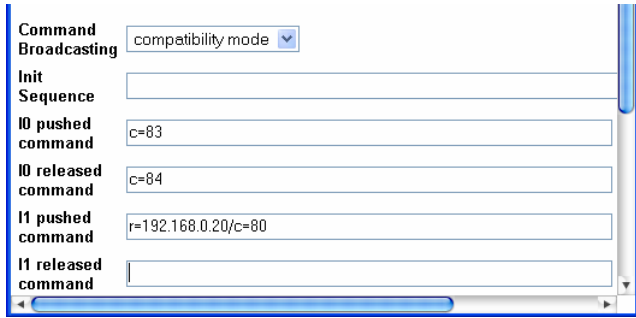
The door station is set to auto answer for 12 seconds (Post Trigger Play) using UDP broadcast. When receiving a stream, 4096 Bytes will be buffered first before playing it back over the speaker. Lower this value to minimize delay, increase this value to prevent dropouts.

TABLE 1

Entry	Conn. type	IP #	#	#	#	Port #
1	Raw UDP	0	0	0	0	0

The stream will be transmitted using a UDP broadcast on port 3030.

IO settings



The I1 pushed command r=192.168.0.20/c=80 will activate the relay on the control station for the Relay toggle duration time set in the control station when the RING button is pressed on the door station panel.

The I1 released command has to be blank.

Adjust the Relay toggle duration according to the specification of the door strike used.

All other commands are not used and can be left blank or as is.

Security settings

These settings need not to be changed for now. Adjust them later according to your security needs.

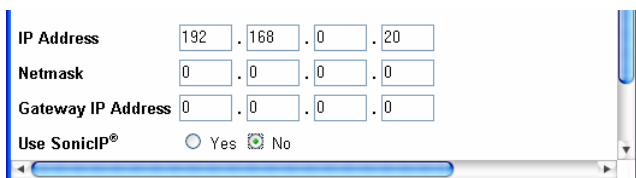
9.2.2 Control station configuration

Lets take a look on how to configure the control station.

Wiring

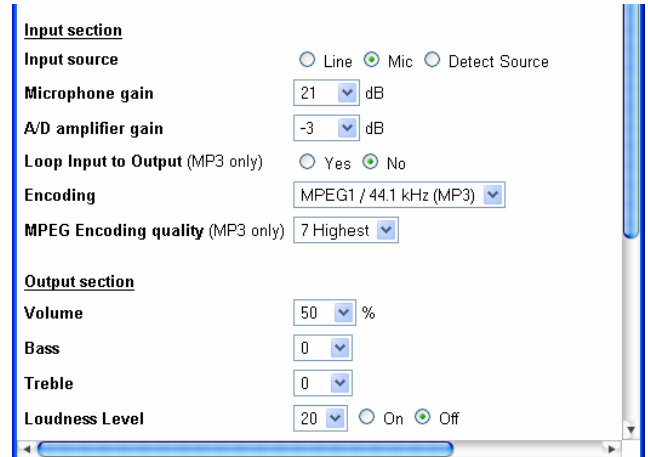
The control station is connected to an intercom panel:
 Speaker to speaker out (C).
 Microphone to Microphone In (E or F).
 The TALK button to Input 0 (B1 and B3).
 The DOOR button to Input 1 (B2 and B3).
 The flash or buzzer to Relay normally open (B4) and Relay common (B5).

Network settings



SonicIP is disabled, no need to hear it on power up as the IP is static and known and will not be power cycled anyway.

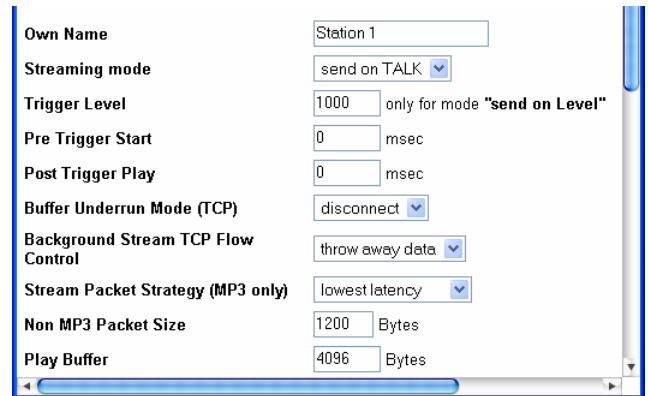
Audio settings



Change the Input source to "Mic".

See details under Door station configuration.

Streaming settings



No changes needed.

The control station is set to talk only when the Talk button is pushed using UDP broadcast.

Pre Trigger Start can be adjusted to prevent cut offs when starting to talk too early.

Post Trigger Play can be adjusted to prevent cut offs after the button has been released.

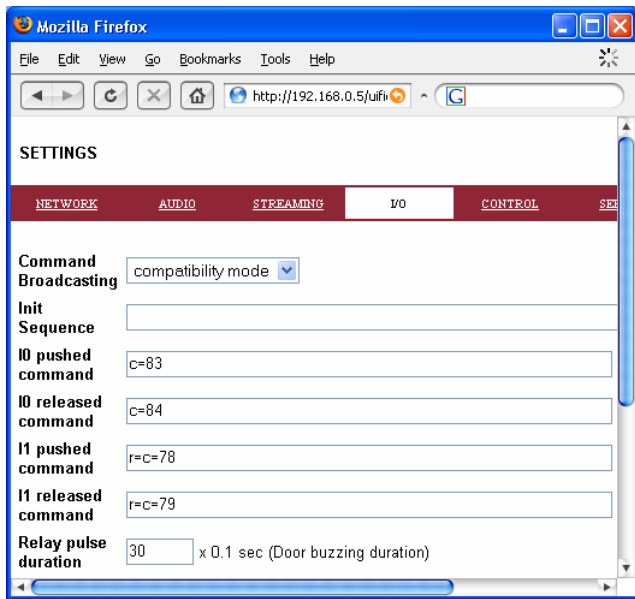
When receiving a stream, 4096 Bytes will be buffered first before playing it back over the speaker. Lower this value to minimize delay, increase this value to prevent dropouts.

TABLE 1

Entry	Conn. type	IP #	#	#	#	Port #
1	Raw UDP	0	0	0	0	3030

The stream will be transmitted using a UDP broadcast on port 3030.

IO settings



The I0 pushed command c=83 will activate the TALKING mode in the control station when the Talk button is pressed on the control station panel and deactivated when released (c=84).

The I1 pushed command r=c=78 will activate the relay on the door station and hence open the door strike as long the DOOR button is pushed.

To prevent the door from being opened by pressing the door button without someone first pushing the Bell button change the Command Broadcasting to “secure mode”

The I1 released command r=c=78 will deactivate the relay on the door station and hence lock the door.

Another way is to use a pulse command instead: Change the I1 pushed command to r=c=80 and leave the I1 released command blank. Adjust the Relay pulse duration on the other station according to the spec of the used door strike.

Adjust the Relay pulse duration according to your needs of the flash or buzzer duration. The setting 30 means that the flash will light up (or the buzzer will sound) for 3 seconds when someone pushes the Ring button at the door.

All other commands are not used and can be left blank or as is.

Security settings

These settings need not to be changed for now. Adjust them later according to your security needs.

For further application notes please visit www.barix.com.

10 Advanced user section

10.1 Network configuration using supplied serial cable

STEP 1

Open a Terminal program.

STEP 2

Go to the settings menu and adjust the following settings: Baud rate 9600 bit/sec, 8 Data Bits, no Parity and 1 Stop Bit.

STEP 3

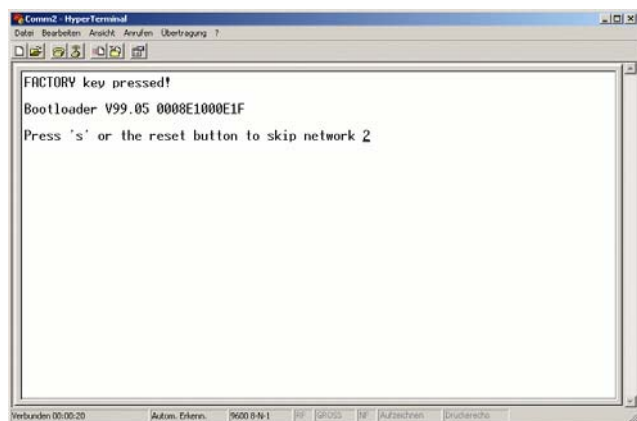
Unplug the power supply of the Annunicom IC.

STEP 4

Connect the supplied serial cable to your PC's COM port and to the serial port of the Annunicom IC.

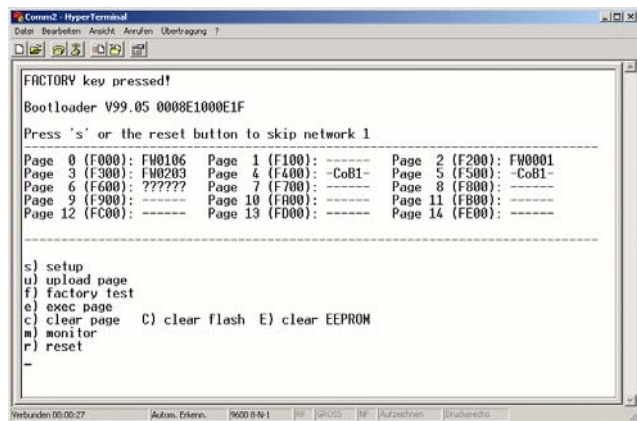
STEP 5

Keep the Reset button pushed and plug in the power supply. Release the Reset button as soon as you see the following screen:



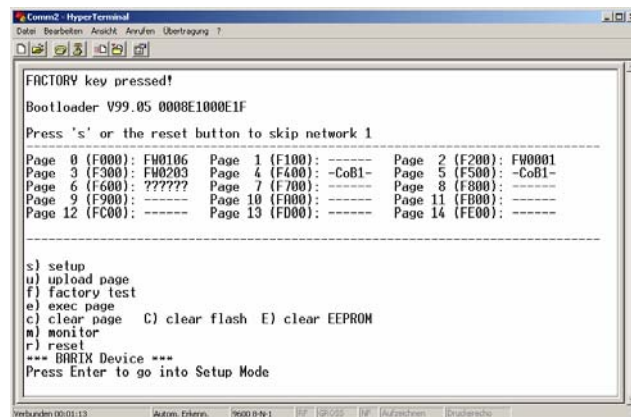
STEP 6

Hit <S> to skip network discovery if not connected to a network and the following screen appears:



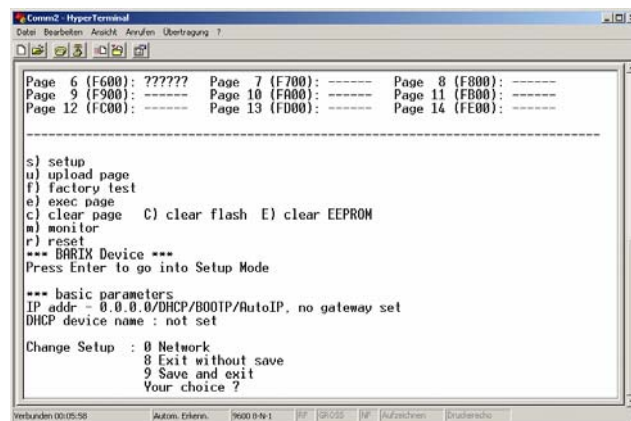
STEP 7

Hit <S> to get to the Annunicom IC setup.



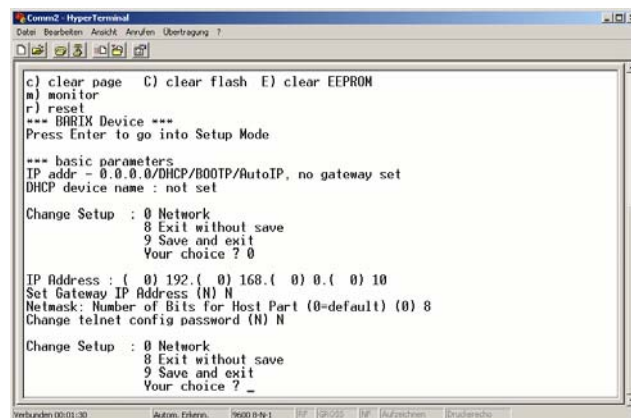
STEP 8

Hit <enter> to enter the Annunicom IC setup mode.



STEP 9

Type in <0> and hit <enter> to enter the Network configuration. Enter all requested values:



STEP 10

Type in <9> and hit <enter> to save the Network configuration.

10.2 Network configuration using Telnet

STEP 1

Unplug the power supply of the Annunicom IC.

STEP 2

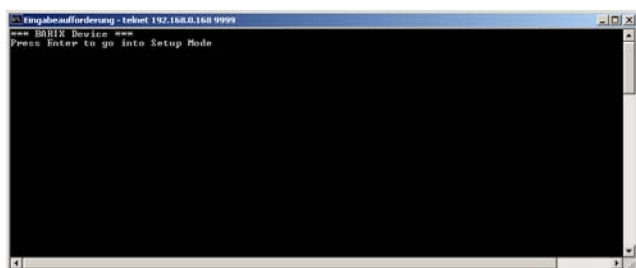
Keep the Reset button pushed and plug in the power supply. Release the Reset button after 5 seconds.

STEP 3

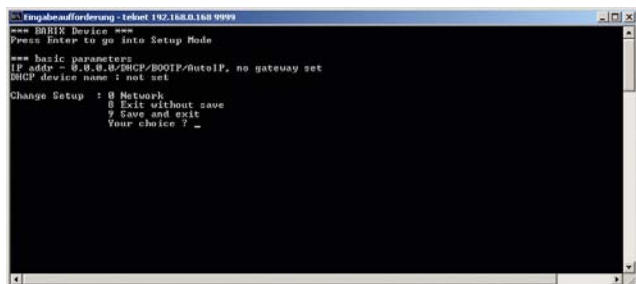
Run a command session. Type telnet with the IP address announced by SonicIP on port 9999.

Example: `telnet 192.168.0.168 9999`

You will see the following screen:



Hit <enter> to access the Annunicom IC in the setup mode.



STEP 4

Type in <0> and hit <enter> to enter the Network configuration. Enter all requested values.

STEP 5

Type in <9> and hit <enter> to save the Network configuration.

10.3 Control APIs for serial and Ethernet

For integration of the Annunicom IC into various control applications and home automation systems, Barix has developed a control API (Application Protocol Interface) for the serial port and Ethernet UDP and TCP control.

Serial Port control API

The serial port on the Annunicom IC can be used to send control commands from a home automation system and other PC or embedded applications. In the device configuration the serial port can be adjusted to suit your application.

For a detailed list of serial commands refer to the Annunicom IC Technical Documentation available on the Barix website www.barix.com

Ethernet UDP or TCP control commands

The same control commands used on the serial port can be used as UDP or TCP commands over Ethernet.

For more information and a detailed list of UDP and TCP control commands refer to the Annunicom IC Technical Documentation available on www.barix.com

10.4 Expert settings

There is also the possibility to disable some IP protocols. Change the IP address in the serial-, Telnet- or Web configuration to:

0.0.1.0 to disable AutoIP

0.0.2.0 to disable BOOTP

0.0.4.0 to disable DHCP

11 FAQ and Troubleshooting

Q: I don't see any status lights on at all.

A: Make sure the power cable is correctly plugged into the unit and make sure the power supply is plugged into the wall.

Q: Red status light is flashing red.

A: Make sure the network cable is plugged into the unit. The status light on the jack indicates if you are connected to the network or not. Make sure the Music Server program is running on the network. You can also ping the device to see if it's on your network.

Q: How do I ping the Annunicom IC to see if it's on my network?

A: You can ping any device on your network by opening a DOS command box.

Type ping and the IP address of the unit to see if you can get a response.

Example: ping 192.168.2.10

The proper response would be to see the message "reply from 192.168.2.10".

If you see the message "request timed out", it means that the Annunicom IC is not on your network or that you have entered the wrong numbers for the IP address.

Q: When I type in the IP address into the browser I get a "This Page Cannot Be Displayed" Message

A: This means that you cannot connect to the Annunicom IC. There could be a couple of different reasons. Make sure you are typing in the IP address correctly. Check the cables to make sure the Annunicom IC is properly connected to the network.

Q: Will the Annunicom IC work on my operating system?

A: The Annunicom IC works on virtually any operating system, to control the Annunicom IC a standard web browser is all you need.

Q: How can I prevent delays during speech transaction ?

A: There is no clear recommendation! This is depending from the customer's environment. But the delay is adjustable by the parameters play buffer, encoding quality and sampling frequency. A poor sound/voice quality will fill the default buffer slower than a good sound/voice quality. But note, a higher sound quality causes also much more network traffic !

12 Technical specifications

Audio Format:

MP3 8 to 144 kBit VBR (Variable Bit Rate) Mono
Decoder supports also CBR (Constant Bit Rate)

Audio Interfaces:

Microphone In (3.5 mm Jack, 3 pin, phantom powered for electret microphones)

Line In (RCA 2Vpp max, level)

Headphone/Line Out (RCA, 4.2Vpp max)

Speaker Out, 2-Watt (Speaker min. 4 Ohm)

volume, bass and treble adjustable by browser

Network Interface:

RJ45 10/100 Mbit Ethernet (Auto), TCP/IP,

UDP, ICMP, DHCP, AutoIP, SonicIP®, IPzator™,

Integrated web server for control and configuration

Control Interfaces:

DSub 9pin male, 9600 Baud 8, N, I

2 Inputs for Buttons (e.g. "Talk" and "Door" buttons)

1 Relay output for door strike or buzzer

Miscellaneous:

Two LED (red and green) status indicators

Reset/Factory default button

Power requirements:

9 - 24 VDC input range, approx. 4 Watt

12 VDC 1 A, 230 VAC (EC) or

110 VAC (US) power supply included

Case:

aluminum elox,

6.5" x 1.5" x 5"

165 mm x 38 mm x 127 mm

Weight: 480 grams

Certifications:

FCC, CE

User Interface:

browser based (integrated web server),
serial port or Ethernet control API for home
automation systems

13 Dictionary

DHCP

Short for Dynamic Host Configuration Protocol, DHCP is a protocol used to assign an IP address to a device connected to a Network.

DOS

Microsoft DOS (Disk Operating System) is a command line user interface. MS-DOS 1.0 was released in 1981 for IBM computers. While MS-DOS is not used commonly today, it still can be accessed from Windows 95, XP, Windows 98 or Windows NT by clicking Start / Run and typing command or CMD in Windows 2000.

IP

Short for Internet Protocol, the IP is an address of a computer or other network device on a network using IP or TCP/IP. Every device on an IP-based network requires an IP address to identify its location or address on the network.

Example: 192.168.2.10

IPzator

Barix IPzator™ technology is designed for the purpose that the Annunicom IC can create its own IP address according to the network structure in case it can't receive one from your network. If DHCP, AUTO IP or BOOTP fail, IPzator will create an IP address within the subnet and test it. If the address works and is not being used by another device on the network, it will give the address to the Annunicom IC.

MAC address

Abbreviation for Medium Access Control, a MAC is a unique address number formatted in hexadecimal format and given to each computer and/or network device on a computer network. Because a MAC address is a unique address a computer network will not have the same MAC address assigned to more than one computer or network device.

Example: A1:B2:C3:D4:E5:F6

Netmask

A number used to identify a sub network so that an IP address can be shared on a LAN (Local Area Network). A mask is used to determine what subnet an IP address belongs to. An IP address has two components, the network address and the host address. For example, consider the IP address 150.215.17.009. Assuming this is part of a Class B network, the first two numbers (150.2) represent the Class B network address, and the second two numbers (.017.009) identify a particular host on this network. The Netmask would then be 255.255.0.0

Ping

Ping is a basic Internet program that lets you verify that a particular IP address exists and can accept requests.

Example: ping 192.168.2.10

SonicIP

Barix SonicIP® technology is designed to vocally announce the Annunicom IC's current IP address. This makes it easier and faster to obtain the necessary network information. To make use of SonicIP plug in the included earphone into RCA audio out, connect the network and plug in the power supply. It will announce the address over the earphones right after power up.

Static IP

A Static IP is a fixed IP address that you assign manually to a device on the network. It remains valid until you disable it.

Telnet

Telnet is a user command and an underlying TCP/IP protocol for accessing remote computers. On the Web, HTTP and FTP protocols allow you to request specific files from remote computers, but not to actually be logged on as a user of that computer. With Telnet, you log on as a regular user with whatever privileges you may have been granted to the specific application and data on that computer.

Example: telnet 192.168.2.10

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For information about our devices and the latest version of this manual please visit www.barix.com.

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