



# Application Note

## Configuring the Cisco UC500 with the Cyberdata Callbox Door Bell

Voice Technical Marketing  
May 2008

### Introduction

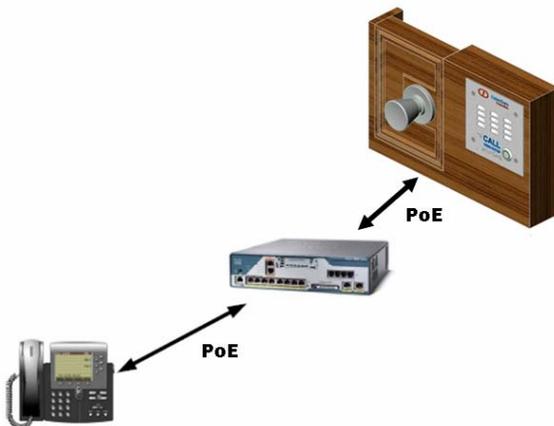
Cyberdata has designed a "Callbox Unit" that allows for remote control of a door entrance from an IP Phone. This provides an affordable door access solution for SMB's.

A call is initiated from the Callbox to a predetermined extension; after answering the call and verifying the caller's identity, the IP phone user can open the door from his desk by just entering a code, which triggers a relay and releases the door latch.

This Callbox is a generic SIP endpoint. By leveraging the SIP CME feature in IOS, it is possible to integrate with this device and explore the potential uses of the solution.

### Basic Topology

The picture below shows the tested topology for this integration:

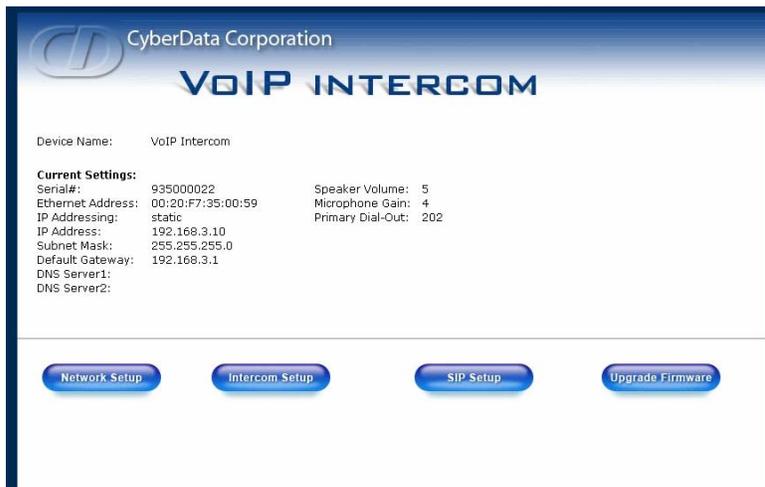


## Callbox Configuration

The following configuration steps must be executed *before* connecting the Callbox to the UC500/CME device.

Connect your PC directly to the Callbox. The administration of the Cyberdata Callbox is done via HTTP. By opening a browser to <http://192.168.3.10> the default settings can be modified. Default username/password combination is "admin/admin".

There are four configuration tabs: *Network Setup*, *Intercom Setup*, *SIP Setup* and *Upgrade Firmware*.



The above page shows the current configuration on the Callbox. Please write down the MAC address, as it will be needed later for configuring the UC500/CME device.

### **SIP Setup**

For the Callbox, extension 700 is used. Username and password for authentication against SIP CME is "700/ext700" respectively. The "Button Dial-out" setting controls the call destination. After pressing the "Call" button on the Callbox, IP Phone with DN 202 is called.

CyberData Corporation  
**VOIP INTERCOM**

**SIP Setup**

SIP Server:  \*

Outbound Proxy:  \*

Remote SIP Port:  \*

Local SIP Port:  \*

SIP User ID:  \*

Authenticate ID:  \*

Authenticate Password:  \*

SIP Registration:  Yes  No \*

Unregister on Reboot:  Yes  No \*

Register Expiration (minutes):  \*

Button Dial-Out:  
Primary Number:  \*

\* changing this parameter causes system reboot when saved

[Save Settings](#)

These parameters have a corresponding setting on the UC500/CME Device:

**SIP Server:** = CME Device Primary address

**Remote SIP Port:** = 5060 (default)

**Local SIP Port:** = 5060 (default)

**SIP user ID:** = CME "voice register dn xx" Number

**Authenticate ID:** = CME Voice Register Pool, User Name

**Authenticate Password:** = CME Voice Register Pool, User password

### Intercom Setup

The most important parameter on this screen is the DTMF activation code, which represents the key sequence (while on a call) that the IP phone user must punch in to trigger the relay on the Callbox Unit ("321" in this example). A future enhancement will change this to a single digit.

**Intercom Setup**

Device Name:

Change Username:

Change Password:

Re-enter New Password:

Speaker Volume (0-9):  \*

Microphone Gain (0-9):  \*

Auxiliary Relay:  On  Off

DTMF Relay Activation Code (3 digit):

Relay Activation Duration (0-9)sec:

\* changing this parameter causes system reboot when saved

[Save Settings](#) [Relay Test](#) [Audio Test](#)

## Network Setup

DHCP will be used in this implementation. The settings on this page have to be changed last, to guarantee continuous access to the Callbox prior to connecting it to the UC500/CME device.



The screenshot shows the 'Network Setup' page for a VoIP Intercom device. At the top, there is a logo for CyberData Corporation and the text 'VOIP INTERCOM'. Below this, the 'Network Setup' section contains several input fields: 'IP Addressing' with radio buttons for 'Static' and 'DHCP' (selected), 'IP Address' (192.168.3.10), 'Subnet Mask' (255.255.255.0), 'Default Gateway' (192.168.3.1), 'DNS Server1', and 'DNS Server2'. A note below the fields states: '\* changing this parameter causes system reboot when saved'. A 'Save Settings' button is located below the fields. At the bottom of the page, there are four navigation buttons: 'Intercom Setup', 'SIP Setup', 'Upgrade Firmware', and 'Home Page'.

After this last step, connect the unit to the UC500/CME device LAN ports and proceed to the next section.

## UC500 Configuration

The configuration on the UC500/CME device is very straightforward. A new DHCP pool is used for the Callbox unit. Additionally, the SIP CME feature is used to register a generic SIP endpoint.

These are the IOS CLI commands that needed on the UC500/CME device:

```
ip dhcp pool Callbox ---- Pool to ensure the Callbox always gets the same IP
 host 192.168.10.11 255.255.255.0
 hardware-address 0020.f735.0059 ----- MAC Address of the Callbox Unit
 default-router 192.168.10.1
```

!

```
voice register global
 mode cme
 source-address 10.1.1.1 port 5060 ----- IP used for SIP Registrar/Proxy
 max-dn 1
 max-pool 1
```

!

```
voice register dn 1
 number 700 ----- Directory Number Assigned to the Callbox
 no-reg
```

!

```
voice register pool 1
 id mac 0020.F735.0059 ----- MAC Address of the Callbox Unit
 number 1 dn 1
 dtmf-relay rtp-nte ----- RFC2833 DTMF Relay is the only method supported
 username 700 password ext700 ----- Authentication Information
```

```
codec g711ulaw
no vad
!
end
```

The Call box has extension 700, and username 700. It calls IP phone 202, which is registered using SCCP.

## Technical Support

For **Cisco Technical Support** information, please contact the *Planning, Design and Implementation Helpdesk* on:

[www.cisco.com/go/pdihelpdesk](http://www.cisco.com/go/pdihelpdesk) (Cisco.com Login required)

Or call

**800 GO CISCO** (Select "PDI")

For **Cyberdata Product Support**, visit:

[www.cyberdata.net/contact.html](http://www.cyberdata.net/contact.html)

Or call

**831 373 2601 ext. 333**

## Documentation Resources

Cisco Unified Communications Manager Express

[www.cisco.com/go/ccme](http://www.cisco.com/go/ccme)

Cisco Smart Business Communications System

[www.cisco.com/go/sbcs](http://www.cisco.com/go/sbcs)

Cisco Smart Business Communications System Supportwiki

[supportwiki.cisco.com/sbcs](http://supportwiki.cisco.com/sbcs)