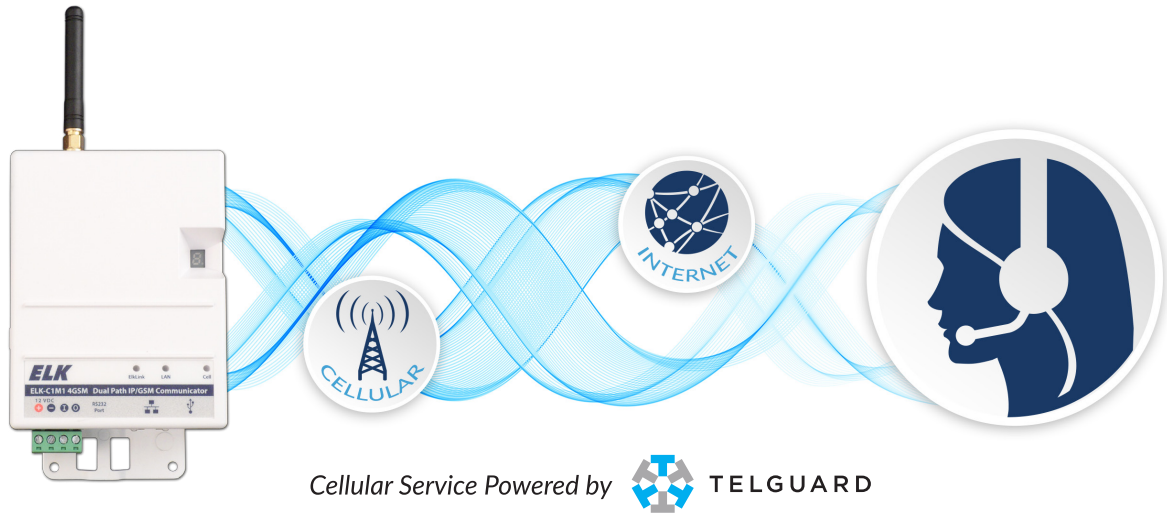


ELK-C1M1 Information Addendum



In addition to its super fast, dual path, alarm communications capability, the C1M1 also boasts support of Elk-RP remote programming of the M1 Control by the Alarm Company, and remote services operation by End Customers. Both these capabilities can be accomplished without any need for local port forwarding or static IP address assignment. This C1M1 addendum was created to focus on, and assist with, the setup and operation of features not covered in the C1M1 Install Manual. There are reasons why the C1M1 Install Manual does not cover all these features. With regards to the Install Manual of the M1 Control, that manual does not currently provide any mention of the C1M1 simply because it predates the existence of the C1M1. Elk will continue to add content to this addendum and welcomes your input and suggestions.

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IMPORTANT NOTES:

- To be UL compliant and 100% compatible with the ELK-C1M1 Communicator the ELK-M1 Control should be running FW 5.3.10.
- ElkRP version 2.0.34 is required for use with the ELK-C1M1 Communicator.

NOTICE: Drawings, illustrations, diagrams, part numbers, etc. are provided as reference only and are based on equipment available at the time the information was created. All information contained in this document are subject to change without notice.

ELKLINK - End Customer Login "Invitations" for remotely controlling M1 through the C1M1

The ElkLink website provides a login portal for End Customers. From here an End Customer can Arm and Disarm their M1 system through the C1M1. They can also setup email or text notifications, view history, and perform any other future operations. The following limitations exist on the End Customer portal. 1) ElkLink only allows operation of a single area/partition (Area #1) 3) ElkLink only provides a single End Customer login per C1M1. Multiple family members will need to share a common End Customer login.

IMPORTANT! Setting up End Customer logins in ELKLINK can only be accomplished by Alarm Company personnel. Those personnel must hold Authority credentials with the level of: Admin or Reg. Personnel with ViewOnly credentials can review settings of an existing End Customer but cannot setup or edit.

- 3.1. Log-in to the ElkLink site.
- 3.2. Choose the **End Customer** tab.
- 3.3. Choose **NEW** from the left margin.
- 3.4. **First Name, Last Name, Email Address, Mobile Number, Mobile Carrier** Complete all these fields with the information belonging to the individual you are inviting as the End Customer. An email invitation will be sent to this person with a link for them to use in registering their choice of login name and password. The mobile number/carrier fields are needed if the customer wishes to have text notifications.

Service Provider / Alarm Company These fields are completed automatically using the stored Alarm Company account info.

Device MAC This is the most critical field to be completed. Use the pulldown arrow to find and choose the Device MAC of the C1M1 unit that was installed for this End Customer. ElkLink will display the Device MAC of all C1M1 units registered under your Alarm Company that HAVE NOT ALREADY been assigned to an End Customer. If you don't see the Device MAC for the unit you are installing there is a chance that it may have already been assigned an End Customer Login. **IMPORTANT:** Each C1M1 allows only 1 End Customer Login to be assigned to it.

Add New End Customer

END CUSTOMER

Login Name: [Will be set in user activation]

First Name *:

Last Name *:

Email Address *:

Mobile Number *:

Mobile Carrier *:

Service Provider *:

Alarm Co Name *:

Device MAC *:

Please use edit mode to add more devices, maximum devices can accommodate is 25.

* Denotes Required Fields / Selected devices will be removed

Save Cancel

- 3.5. Choose **Save** after you have completed all fields. Inform the End Customer to expect an invitation via email. Make sure they understand to respond to this email, at which time they will be allowed to choose their login name and password.
- 3.6. **Remote Arm/Disarm** - The M1 Control will not allow remote arm/disarm by an End Customer unless a Remote Disarming Code has been programmed into the C1M1 Device setup. This code must match a functional and operating Arm & Disarm User Code programmed in the M1 Control. We recommend assigning the very last User Code (e.g. User Code 199) just so it will be less likely to be deleted or changed accidentally. The code itself must match what is programmed in the C1M1 Device setup. Be sure to select or place a check mark in Arm and Disarm boxes under the Authority Level for this User Code. A suggested name for this code would be: "C1M1 Remote." C1M1 will supply this code to the M1 each time the End Customer uses their ElkLink End Customer website or SmartPhone App to perform an Arm or Disarm command.

To set the C1M1 Remote Disarming Code choose the ElkLink **Devices** tab. Locate the Device by its Device MAC number and click on that number. The View Device screen should appear. Choose the **EDIT** button to open the screen for editing. Complete the field titled: **Remote Disarming Code**. Choose the **Update** button to save this new information. This will update the database and the C1M1.

Programming the M1 for Communicating through the C1M1

To be UL compliant and 100% compatible with the ELK-C1M1 Communicator the ELK-M1 Control should be running FW 5.3.10.

Setting up and programming of the M1 parameters necessary for communications using the C1M1 may be done from the Keypad Installer Level programming or from the ElkRP Programming Software.

1. Programming from the Keypad Installer Level

From the M1 Keypad enter the Installer Level Programming mode by pressing ELK, 9, RIGHT Arrow, and then entering the Installer Programming code. Navigate to Menu 08, Telephone Account Setup and press the RIGHT arrow key to select. The first screen shows the name currently assigned for Tel #1. A customized name is not required. Use the DOWN or UP arrow keys to scroll and view each menu option. Press the RIGHT arrow key to select and program the desired option.

Telephone #1 - This is the one and only telephone number that MUST be programmed in order to use the C1M1. Program each option as follows:

- 1.1. Program option 01 (Format) as "06 = Ethernet". This is required for M1 IP communications.
- 1.2. Program option 02 (Priority) as "0 = Always Report".
- 1.3. Skip options 03 and 4 (Number and Dial Attempts). These do not pertain to IP communications and may be skipped.
- 1.4. Program the Areas (partitions) to be identified at the Central Station by entering a non-zero number (e.g. 009999, 000001, etc) into the respective Acct code locations (Options 05 thru 12, Acct # for Areas 1 - 8). The C1M1 will not report an area if the acct number is blank (000000). NOTE: The actual Account Number which identifies the M1 Customer to the Central Station is programmed and stored in the C1M1 via the ElkLink web portal. C1M1 reports that single Acct number and includes extended information that identifies the area (partition) to the Central Station.
- 1.5. Program option 13 as "Yes" if you wish to enable reporting of Zone Alarms, Zone Restorals, and Zone unbypasses.
- 1.6. Program option 14 as "Yes" if you wish to enable reporting of Zone Bypasses.
- 1.7. Program option 15 as "Yes" if you wish to enable reporting of Zone Troubles.
- 1.8. Program option 16 as "Yes" if you wish to enable reporting of User Openings and Closings.
- 1.9. Program option 17 as "Yes" if you wish to enable reporting of Global System (AC, Low Battery, etc.) events.

NOTE: Telephone or "dialed" number is the legacy method used by M1 for communicating alarms. Of the available 8 telephone numbers in the M1 only Telephone #1 is required as part of the process for enabling C1M1 Cellular and IP communications. The other 7 numbers can still be used for digital or voice dialing if the client still has a working POTS (plain old telephone) line. In that case Telephone #2 could be setup and utilized as a digital dialer backup for the C1M1 should it ever be unsuccessful in reaching the Central Station. Keep in mind that since C1M1 is a Dual Path Communicator, it backs up itself using the its two different communications pathways (IP and Cellular).

Reporting Codes - Menus 09, 10, 11, 12, and 13. Each of these Menus lists reporting codes grouped by category.

- 1.10. Program each reporting code (Zone, User, System Event, etc.) that needs to be reported by entering a non-zero value (e.g. 01, 99, etc.) Reporting codes with a value of 00 will NOT be reported.

Test and Verify Alarm Signal Transmissions via Cellular, IP, or both

Trip several alarms on the M1 Control and verify that the central station receives them.

If you are having problems getting reliable alarm signal transmissions, additional adjustments may be necessary.

- Recheck signal strength. You need at least 2 bars of service [**2**] to be assured of reliable service.
- Check antenna connector and make sure it is seated correctly.

NOTE: A screw-on, externally mounted, remote cellular antenna can be connected in place of the factory stubby antenna to reach an area that provides better cellular signal than where the M1 Control and C1M1 are mounted. These remote antennas are available from Alarm Distributors or Cellular accessory stores and have various mounting options and cable lengths. Elk Products offers a magnetic mount remote antenna with a 6 meter (approx. 19 ft.) cable. Part number: ELK-WA003

2. Connecting and programming from the ElkRP Software

Download and install the latest version (v2.0.34) of the ElkRP PC Programming Software from Elk Products website. Connect to the M1 Control and program all necessary communications options. It will be necessary to create a new (blank) client M1 account in ElkRP unless you have previously used ElkRP to program this M1 Control.

There are two ways to connect ElkRP to the M1 Control when a C1M1 is installed. The first is referred to as Local Connect, the second is Remote Connect.

- 1) **Local Connect via USB** - This requires a USB Serial Cable (Serial A to USB Mini B) from your PC to the USB port on the bottom edge of the C1M1. This is a common cable that may be purchased locally. Elk Products offers this cable for sell as part number ELK-USBCM. After the cable is connected to your PC and plugged into the C1M1 your PC should auto-detect, located, and install the appropriate USB software driver. **NOTE: The C1M1 has to be powered up in order for the PC to recognize the cable.**

Open the M1 Account and set the Network Adapter as "C1M1" on the Account Details screen. Fill in the System URL/IP that is assigned to the C1M1. The "Find C1M1" box may help with this process. The C1M1 non-secure port is defaulted to "2101". If the secure port is ever utilized it will always be "1" number higher than the non-secure port. Leave the boxes for Use Secure port and Passphrase blank for now. ALWAYS be sure to fill in the MAC Address that is assigned to the C1M1. This number is printed on the right side of the C1M1 housing.

To connect locally, use the Connection drop down icon and select the option for: On-site Local. A second fly-out window will open and allow you to select: PC USB Port TO Device USB (if available). The ElkRP should now connect via USB to the M1 Control.

Most all modern PCs have at least one USB serial port. The best part about the C1M1 having a USB serial port is that it is now possible to locally program via a direct wire (USB Cable) without disrupting or interfering with the C1M1 connection to M1's serial Port 0.

- 2) **Remote connect** - This uses an Intermediate server known as the "ELK Proxy." If you have already filled in the MAC Address of the C1M1 then you can choose Network Proxy from the ElkRP Connection drop down icon. This will open a login window. You must enter your ElkLink login credentials to validate yourself with the ELK Proxy server. These credentials may be saved for future use or you may choose to enter them each time manually for better security. After a short delay the ElkRP should now connect via the ELK Proxy server to the M1 Control.

Older "legacy" ElkRP connection methods that are still supported:

- A) **Local IP connect from a PC on the customer's LAN to the C1M1 LAN (IP) Port.** By default the C1M1 is enabled to accept inbound connections via its LAN (IP) Port. Its setting is: Enabled > Non-Encrypted Only. Changing this setting can only be done using the C1M1 Diagnostic Utility. Other options are: Enabled > Encrypted Only, Enabled > Non-Encrypted & Encrypted, Disabled > No Inbound via LAN. If set as encrypted then a key (encryption key) must be generated and known (shared) by the C1M1 and the ElkRP software. The C1M1 uses AES encryption and implements an easy to recall Passphrase method to generate a secure and invisible encryption key.
- B) **Local Serial connect from PC to the M1 main serial Port 0 using Serial Cable.** This is rarely used anymore nor is it recommended because this disrupts interaction between the M1 and the C1M1 while the main serial port connection is being used by the PC.

Program a Telephone #1 - As mentioned on the previous page this is the one and only telephone number that MUST be programmed in order to use the C1M1. Program each option as follows:

- 2.1. Open/create an M1 Account, then connect ElkRP using one of the methods mentioned above.

In the left column click the (+) symbol beside **Telephones**. If there is no Telephone 1 then choose New from the menu bar (or right click the mouse button) and add a Telephone 1. If Telephone 1 exists then click it once to edit its settings.

C.S. Telephone: 1

Type 0 = Always report to this number

Name XYZ Central Stat

Number to dial

Reporting format 6 = IP

Dialing attempts 1

Report the following using this number

- ☒ Area events, alarms, restorals, and unbypasses
- ☒ Zone bypasses
- ☒ Zone troubles
- ☒ User events (opens/closings)
- ☒ Global system events

Select Areas

Select the areas allowed to report to this Central Station

- ☒ Area 1
- ☐ Area 2
- ☐ Area 3
- ☐ Area 4
- ☐ Area 5
- ☐ Area 6
- ☐ Area 7
- ☐ Area 8

Send to Control

M1XEP Setup

Central Station data is entered on the M1XEP Setup window.

The M1XEP Setup button is not used! ElkRP displays this whether you have an M1XEP or not. The necessary setup for a C1M1 Communicator (IP address, Port, DNIS, and CS Acct number) is setup and managed from the ElkLink website portal.

- 2.2. Program the Priority for Telephone #1 as: "Always Report".
- 2.3. No name is required for Telephone #1. This is optional and may be skipped.
- 2.4. There is no need to program the fields for Number to Dial or Dial Attempts.
- 2.5. Program the Format for Telephone #1 as: IP (6)
- 2.6. In the section titled "Report the following using this number", check the box beside the events (Areas events, Zone bypasses, Zone troubles, User events, Global events) that you wish to have the C1M1 report.
- 2.7. In the section titled "Select Areas", check the box for the area(s) programmed. If no box is checked, C1M1 won't report.
NOTE: The Account Number which identifies the Customer to the Central Station is programmed and stored in the C1M1 via the ElkLink web portal. C1M1 reports that single Acct number and includes extended information to identify the area (partition) to the Central Station.
- 2.8. If you wish to setup Telephone #2 as a digital dialer backup to Telephone #1, add or edit Telephone #2 and program it as type: "Backup." Telephone #1 will be the primary means of communications and Telephone #2 will only be used as digital dialer backup should Telephone #1 (C1M1) be unsuccessful. Dual reporting (to both) may also be selected by configuring the Type for both numbers as: "Always Report." NOTE: Your Central Station may charge additional fees for dual reporting.
- 2.9. Select the Send to Control button to program these settings. **ElkRP must be connected to the M1 Control!**

Reporting Codes (RCs)

- 2.10. In the left column of ElkRP click the (+) symbol beside **Communicator**. This expands into 5 categories of "RC" (report codes). Select one at a time and review the available report codes. For each report code you wish the C1M1 to report you must set its value to 01 (non zero). Reporting codes that have a value of 00 will NOT report.
Remember to click the Send to Control button on each category screen. **ElkRP must be connected to the M1 Control!**
- 2.11. Click on Save to retain all your new settings in this account.

Test and Verify Alarm Signal Transmissions via Cellular, IP, or both

Trip several alarms on the M1 Control and verify that the central station receives them.

If you are having problems getting reliable alarm signal transmissions, additional adjustments may be necessary.

- Recheck signal strength. You need at least 2 bars of service [**2**] to be assured of reliable service.
- Check antenna connector and make sure it is seated correctly.

NOTE: A screw-on, externally mounted, remote cellular antenna can be connected in place of the factory stubby antenna to reach an area that provides better cellular signal than where the M1 Control and C1M1 are mounted. These remote antennas are available from Alarm Distributors or Cellular accessory stores and have various mounting options and cable lengths. Elk Products offers a magnetic mount remote antenna with a 6 meter (approx. 19 ft.) cable. Part number: ELK-WA003

C1M1 Diagnostic Utility

Elk created a special diagnostic software utility whose primary purpose is to provide local diagnostic information during a phone conversation with a member of Elk's Technical Support team. This utility is not required for setup of the C1M1's Central Station Alarm Reporting as all CS reporting settings must be established through the ElkLink website. This utility provides "read-only" visibility of these settings. Beyond alarm reporting, the C1M1 does include some local options that require this utility in order to be setup. These options include: 1) Assignment of a Static LAN IP Address. (Factory setting is DHCP which is fine for most purposes), 2) Enabling of inbound LAN IP connections and Port assignments for 3rd party integration partners, 3) Setup of Encryption & Passphrase to enable secure traffic on the inbound IP LAN port, 4) Enabling of Device Discovery for AMX or Control4 integration, 5) Enabling of fail reporting and time delay for the LAN or CELL connectivity. 6) Enabling of the front cover tamper switch. This diagnostic software utility can be downloaded from Elk's website.

IMPORTANT: The inbound LAN connectivity is factory enabled to Non-Encrypted Only and set to Port 2101. If you wish to enable Encrypted connectivity using the Diagnostic Utility the Port will automatically be 1 digit higher than unencrypted port assignment.

Elk-C1M1 Configuration Tool - Version 1.2.20

File Sync Tools Help

Configuration Settings

Local Area Network (LAN) Configuration

Assign LAN Network: Automatic

IP Address: 192.168.101.117

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.101.1

DNS Server: 192.168.199.11

Tamper Switch Select: Front Only

Inbound Connection via LAN

Selection: Enabled > Non-Encrypted Only

Unencrypted Port: 2101 Encrypted Port: 2102

Passphrase: **** Show

☐ Enable Device Discovery - AMX or Control4

Local Settings

☒ Enable Report of LAN Failure Delay: 3 minute(s) after fail

☒ Enable Report of CELL Failure Delay: 3 minute(s) after fail

Diagnostics

Device Model: Elk C1M1 4GSM

Application Version: 0.0.000

Bootloader Version: 0.0.0

Hardware Version: 0.0

App Build Date: 0000/00/00.00:00:00

ID: 00000000000000000000

IMEI: 0000000000000000

Central Station Reporting

IP for Receiver (Primary): 000.000.000.000:0000

IP for Receiver (Backup): 000.000.000.000:0000

Account Code: 0000

DNIS: 0000

Reporting Path: Ethernet with Cellular Backup

Existing Errors: 0

Connection Status Info (All times are GMT)

Device Local "Acquired" Time: 2016/07/28,17:57:51

ElkLink

Connected: Yes, Cell

Last Msg via Ethernet: N/A

Last Msg via Cellular: 2016/07/28,17:47:24

Last Closed: 2016/07/28,15:00:00

Receiver (Primary)

Sync'd: Yes, via Both

Last Msg via Ethernet: 2016/07/28,17:57:21

Last Msg via Cellular: 2016/07/28,15:00:36

Receiver (Backup)

Sync'd: Yes, via Both

Last Msg via Ethernet: 2016/07/28,17:57:51

Last Msg via Cellular: 2016/07/28,17:48:06

Proxy Server

Connected: No

Last Msg via Ethernet: N/A

Last Msg via Cellular: N/A

Last Closed: N/A

SN: 0000000000 MAC: 000000000000 LAN Com Port COM4

Click to Disconnect **CONNECTED**

NOTE: Use of this utility requires a USB Serial A to Mini-B Cable connection (part # ELK-USBCM) with your PC.

1. Connect the ELK-USBCM cable between your PC and the C1M1. Make sure the C1M1 is powered up and then launch the Utility software. The PC should automatically discover the Com Port and display it along the bottom of the screen. **DO NOT** launch the Utility software until you have everything plugged in and powered up!

2. Click the lower right hand button labeled "Click to Connect"

The Serial Number and MAC Address of the connected C1M1 will now be displayed along the bottom. Along this same line the Utility also displays the status of the LAN connection and the Cell service status.

NOTE: All information in the example above is for instructional use only. Nothing is displayed until after a C1M1 is connected.

HARDWARE OVERVIEW

Dipole Antenna

Cell (Service) Red LED

Normal = ON solid. This indicates that a Cell tower is within range and the unit has established a connection.

Blinking indicates limited or no service.

LAN (Activity) Green LED

Normal = Blinking. This indicates that communication is occurring with the Local Area Network (LAN)

ElkLink (Connect) Orange/Yel LED

Normal = ON solid. This indicates that C1M1 has an established connection with the ElkLink portal. Note: A continuous connection to ElkLink is not mission critical for CS reporting. This LED may occasionally be off for short time periods.

Removable Terminal Block

Power Input (12 VDC)

This power shall be supplied from an Aux. Power output on the M1 Control.

Input

Not currently enabled - future use

Output

Not currently enabled - future use

RS232 Port (3 Pin)

Connects to the M1 Main Serial Port 0 via the supplied jacketed 3 wire cable.

LAN (IP) Port

For connection to the client's IP LAN (Local Area Network) for Dual Path communications. If no LAN is available the C1M1 may still be used but in single path (Cellular Only) operation mode.

USB Port (Mini B)

Allows a local USB equipped PC to be connected to the C1M1 for local programming of the M1 Control using the ElkRP software. There's no need for a PC RS232 port and no need to attach your PC to the customer's IP network!

7 Segment Display

Sequentially displays 1 character at a time to reveal: Signal Strength, Error Codes, IP Address. Data is grouped in short packets with a key letter prefix. In process communications are also displayed.

b bars of cell signal - The letter is followed by a single digit from 0 to 5.

Example: **b 3** reveals 3 bars of service.

E Errors - The letter is followed by two digits. Examples of error codes are:

E01 = Application not loaded

E02 = Radio Module Power Fail

E03 = No SIM card installed.

E04 = Inactive Unit

E05 = Low (Poor) Signal Strength

E06 = No Service or unregistered on Cell Network

E07 = Unable to communicate with M1

E08 = Cellular radio module not detected

E09 = No Internet Service (LAN detected)

E10 = No LAN detected (check cable)

E11 = Central Station not configured in ElkLink

E12 = CS Receiver failed to respond

E13 = No DHCP Server found

A Address - The LAN IP address is displayed 1 character at a time during the first 2 minutes after power up. C1M1 supports IPv4 addresses. These consist of 4 octets having a value of 0 to 255. Each octet will be separated by a decimal point.

Example: **A 192.168.0.100**

NOTE: CS reports take priority over the display of the LAN IP address which could make it difficult to view the address sequentially during power up. The LAN IP address display may be repeated by removing the cover from the C1M1 and then pressing the small rubber plunger of the tamper switch button 5 times quickly. Replace the cover when done.

Communications Activity:

□ Communications to the Central Station will be displayed as a clockwise rotation of the outer 6 elements on the display. A decimal point in the the lower right corner will illuminate if the report is being sent over IP (Ethernet).

8 Communications to ElkLink will be displayed as a figure 8 circulation of all 7 elements on the display.

□ Communications via the USB serial port will be displayed as a clockwise rotation of the lower 4 elements on the display.