

# CDT

## *Service and Installation Manual*

Manual Revision Oct 2014



© 2014 Cimarron Technologies Corp., Escondido, CA, USA.

All rights reserved. No part of this manual may be reproduced in any way without the express written permission of Cimarron Technologies Corporation.

Cimarron Technologies Corp.  
934 S. Andreasen Suite G  
Escondido, CA 92029 USA

Voice: 760-738-3282 (Sales)  
760-738-3283 (Service)  
FAX: 760-480-0233  
Email: [service@cimtechcorp.com](mailto:service@cimtechcorp.com)  
Web: [www.cimtechcorp.com](http://www.cimtechcorp.com)

Cimarron Technologies Corp. is a licensee of the Motorola MDC-1200<sup>®</sup> Protocol technology.

MDC-1200<sup>®</sup> is a registered trademark of Motorola Inc.

GE Star<sup>®</sup> is a registered trademark of General Electric Corporation

Manual CDT Oct 2014

Revision	Date	Description
Oct 2014	10/20/14	New release.

Contents

**SECTION 1 - DESCRIPTION .....4**

**SECTION 2 - SPECIFICATIONS.....6**

**SECTION 4 - INSTALLATION.....7**

**CDT Operation Example .....9**

**CDT Operation Example – Radio Disable .....9**

**CDT Operation Example – Radio Disable using Ambush.....11**

**CDT Operation Example – Radio Disable - Alias .....12**

**CDT Operation – using GE-Star.....12**

**SECTION 11 – C PLUS PROGRAMMING.....13**

**SECTION 13 – SOME NOTES .....14**

**INDEX.....16**

## SECTION 1 - Description

The Cimarron model CDT Hand Held Terminal is used with the C Plus series dispatch display units as a means to target and transmit commands to individual units. The CDT allows the C Plus to transmit MDC-1200 or GE-Star outgoing commands.

If an Acknowledgement (ACK) is transmitted from the targeted unit, the ACK will be displayed indicating to the operator that the command was received.

The CDT is Alias compatible.

Commands may be transmitted in the "Send" or "Ambush" mode.

### S) Send.

In this mode, the C Plus sends the command to a target immediately.

### A) Ambush.

In this mode, the C Plus stores the command. The C Plus then waits to hear from the target (by decoding its ID), then sends the command. This allows the dispatcher to send Radio Disable, Selective Call, and other commands even when the target radio is turned off or out of communication range. A maximum of 10 messages can be queued for transmission.

The CDT hand held terminal contains a 30-button membrane keypad and a 4 x 20 character LCD packaged in a shock resistant plastic case.

The CDT plugs into the RS-232 port in the rear of the C Plus dispatch display by way of a 6' coil cord. Power is supplied to the CDT by way of the coil cord.

The CDT requires the Encode Option. (Contact Cimarron for pricing details)

## Outgoing Commands Supported

The precise way in which a targeted radio responds to commands vary by manufacture and radio model. The following are general descriptions.

MDC-1200<sup>®</sup> Format:

- Voice Selective Call
  - The command will cause the target radio to "paged" with a beep or flashing display.
- Radio Check
  - The command causes the target radio to key quickly and transmit it's PTT ID.
- Call Alert (Short)
  - A more aggressive page.
- Call Alert (Long)

A more aggressive page in which contains a source and destination ID.

- Radio Disable  
Will disable the target radio transmit and receive circuits as far as the targeted user is concerned. The radio will appear dead. The radio is not actually dead, and in fact can receive commands such as Radio Enable.
- Radio Enable  
Returns a disabled radio to full operation.

GE Star<sup>®</sup> Format:

- Call  
The command will cause the target radio to “paged” with a beep or flashing display.
- Cancel  
Cancel the Call Command.
- Disable  
Disable the target radio.
- Enable  
Enable the target radio.
- Monitor  
Forces the target radio to key for a set length of time allowing a dispatcher to listen in.
- Interrogate  
Same as Radio Check above.

### **Inbound Data Displayed**

- Decoded ID's in Hex or Decimal
- Aliased ID's (Optional Feature. Contact Cimarron for pricing details)
- Acknowledgements to commands

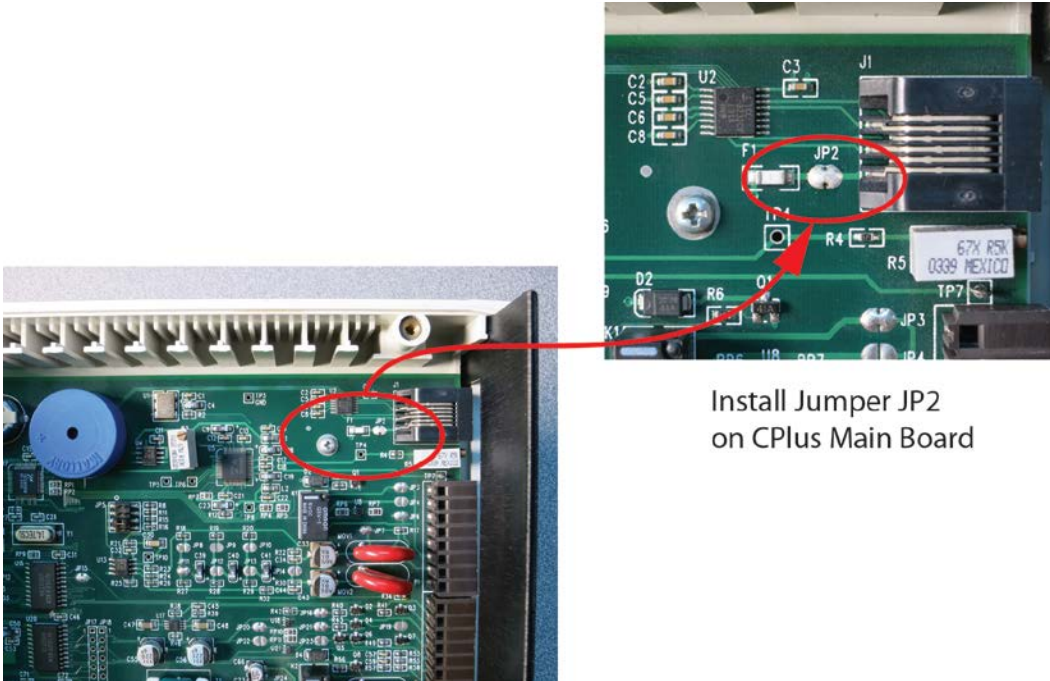
## SECTION 2 - Specifications

<b>Data Formats</b>	MDC-1200 <sup>®</sup> , GE Star <sup>®</sup>
<b>Compatibility</b>	C Plus I, II, II ver 1.27 and later.
<b>Display Type</b>	80-character monochrome LCD
<b>Keypad</b>	30 key
<b>Interface</b>	RS-232C, ASCII
<b>Enclosure</b>	General Electric Cycolac ABS
<b>Dimensions</b>	Height: 8.25" Width: 4.10" Depth: 1.15"
<b>Weight</b>	8 oz.
<b>Power</b>	5 VDC $\pm$ 5% at 20 mA (Supplied by the C Plus)

## SECTION 4 - Installation

### C Plus Setup:

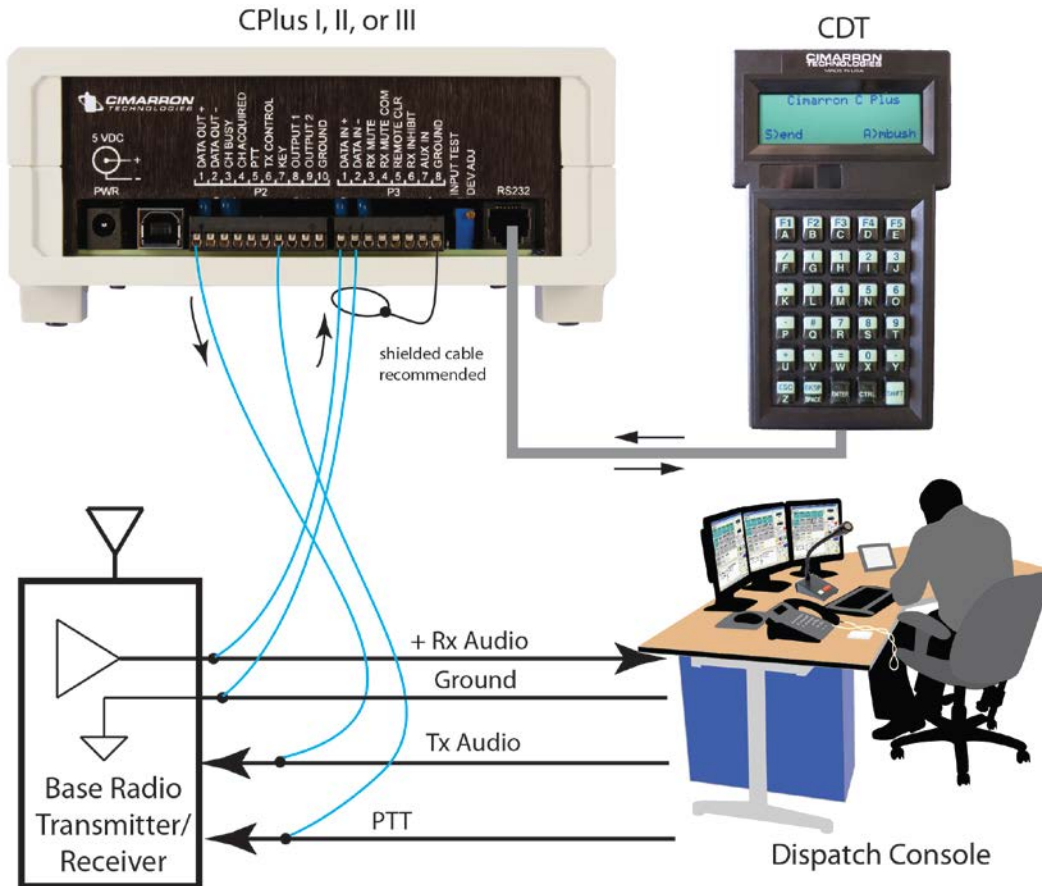
Remove the top from the C Plus Decoder and install Jumper JP2 as shown. The jumper supplies +5 VDC to the CDT.



Install Jumper JP2  
on CPlus Main Board

## Radio system installation.

For full Command and Acknowledgement operation, the C Plus must be connected to receive and transmit audio to the radio system. The minimum connections required are shown below. Additional wiring may be necessary for your system. Contact Cimarron Technical support for advice if needed.





## CDT Operation Example

Send a Command (MDC-1200):

The CDT can send any of the following commands:

- Voice Selective Call
- Radio Check
- Call Alert (Short)
- Call Alert (Long)
- Radio Disable
- Radio Enable

### CDT Operation Example – Radio Disable

To transmit a Radio Disable Command (example target ID = A123), do the following:

<pre>Press ENTER...</pre>	<p>Upon power-up, the CDT will display the message shown to the left. Press the “ENTER” button on the keypad to begin operation.</p>
<pre>Cimarron C Plus S)end      A)mbush</pre>	<p>After a successful power-up, the CDT will display the message shown to the left. Press the “S” button on the keypad.</p>
<pre>Enter I)d or A)lias? ID = A123 Alias = XXXXXXXX</pre>	<p>Press the “I” button, then enter the ID (up to 4 characters 0000 to DEEE) of the target unit to be disabled. Press “ENTER”.</p>
<pre>Cimarron C Plus S)hort call V)SC L)ong call  D)isable R)adio chk E)nable</pre>	<p>After the ID has been entered, this menu will appear. Press the “D” button on the keypad. The C Plus will immediately key the radio and transmit the Radio Disable command.</p>
<pre>Cimarron C Plus Disable message sent to ID A123 MESSAGE ACKNOWLEDGED</pre>	<p>The targeted radio will Acknowledge the Disable command, then Disable itself. The CDT will display “MESSAGE ACKNOWLEDGED” informing the dispatcher that the target radio has been disabled.</p>

*Failure to see the Acknowledgement could mean:*

- 1. The target radio is out of range.*
- 2. The target radio is turned off.*
- 3. The target radio does not have the Acknowledgement function.*
- 4. The C Plus is not receiving the ACK from the radio system due to wiring problems.*

## CDT Operation Example – Radio Disable using Ambush

The Ambush allows the C Plus to patiently wait for the target radio to transmit. Upon hearing the Target radio's ANI ID, the C Plus will immediately transmit a command (for example a Radio Disable). This way if the target radio was out of range or turned off, as soon as it returns in range and is keyed, it will be disabled. The C Plus is truly waiting in Ambush!

To transmit a Radio Disable Command using Ambush, do the following:

```
Press ENTER...
```

Upon power-up, the CDT will display the message shown to the left. Press the "ENTER" button on the keypad to begin operation.

```
Cimarron C Plus
S)end      A)mbush
```

After a successful power-up, the CDT will display the message shown to the left. Press the "A" button on the keypad.

```
Enter I)d or A)lias?
ID = xxxx
Alias = XXXXXXXX
```

Enter the ID (or Alias if the Option has been purchased) of the unit to be disabled.

```
Cimarron C Plus
S)hort call V)SC
L)ong call  D)isable
R)adio chk E)nable
```

After the ID has been entered, this menu will appear.

Press the "D" button on the keypad.

The C Plus will store the ID of the target radio and patiently wait to hear from the radio. When the target radio ID is decoded, the C Plus will immediately key the base radio and transmit the Radio Disable.

```
Cimarron C Plus
Disable message sent
to ID A123
MESSAGE ACKNOWLEDGED
```

The targeted radio will Acknowledge the Disable command, then Disable itself. The CDT will display "MESSAGE ACKNOWLEDGED" informing the dispatcher that the target radio has been disabled.

## CDT Operation Example – Radio Disable - Alias

To transmit a Radio Disable Command using an Alias (example target ID = BACKGATE), do the following:

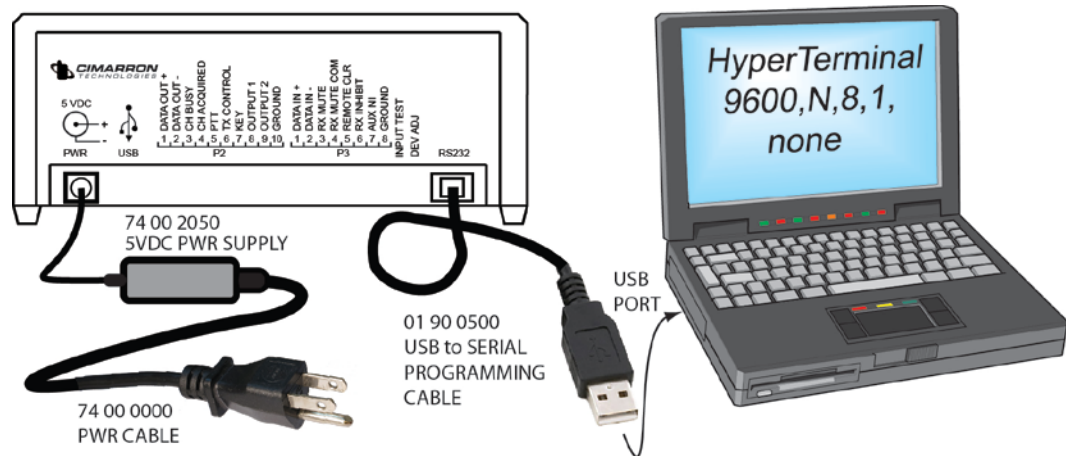
- |  |  |
|--|--|
| <pre>Press ENTER...</pre>  | <p>Upon power-up, the CDT will display the message shown to the left. Press the "ENTER" button on the keypad to begin operation.</p>   |
| <pre>Cimarron C Plus S)end      A)mbush</pre>  | <p>After a successful power-up, the CDT will display the message shown to the left. Press the "S" button on the keypad.</p>  |
| <pre>Enter I)d or A)lias? ID = xxxx Alias = BACKGATE</pre>                             | <p>Press the "A" button, then enter the Alias of the target unit. The Alias must match the Alias stored in the C Plus Alias Table. For this example, Alias = BACKGATE. Press "ENTER".</p>                                  |
| <pre>Cimarron C Plus D)isable  E)nable M)onitor  I)ntgate C)all     X)cancel</pre>     | <p>After the Alias has been entered, this menu will appear.</p> <p>Press the "D" button on the keypad.</p> <p>The C Plus will immediately key the radio and transmit the Radio Disable command in the MDC-1200 format.</p> |
| <pre>Cimarron C Plus Disable message sent to Alias BACKGATE MESSAGE ACKNOWLEDGED</pre> | <p>The targeted radio will Acknowledge the Disable command, then Disable itself. The CDT will display "MESSAGE ACKNOWLEDGED" informing the dispatcher that the target radio has been disabled.</p>                         |

## CDT Operation – using GE-Star

CDT operation using the GE-Star format is identical to MDC-1200 operation except that some GE-Star Commands differ slightly in name.

## SECTION 11 – C Plus Programming

The C Plus will recognize and operate the CDT with no special programming required. However some programming may be necessary to optimize the C Plus for a particular radio system. Programming is performed using a laptop and included software menus as shown below. Please consult the “C Plus Service and Installation Manual” for programming instructions.



## SECTION 13 – Some Notes

- The RS-232 Port on the C Plus is taken up by the CDT. The RS-232 Port is not available to drive a dispatch console or a printer when the CDT is connected.
- Alias is an optional feature that must be purchased separately. When purchased, the Alias ID's are programmed into and reside in the C Plus not the CDT.
- The CDT may operate with MDC-1200 or GE-Star data formats but not both. The C Plus controls the format in use. Please refer to the "C Plus Service and Installation Manual" for instructions on switching data formats.

# Product Warranty

Cimarron Technologies Corporation (Cimarron), Warrants its standard products, to be free from defects in material and workmanship for **three (3) years** from date of shipment. If a defect occurs, it will be repaired or replaced (at our option) without charge for materials and labor if returned to the factory. Un-interrupted service replacements are not provided. All Warranty work will be performed at Cimarron's factory and in no case shall Cimarron bear the cost of on-site labor.

Products returned under this Warranty must be unmodified. Cimarron reserves the right to refuse Warranty repairs or replacements for any products that are damaged or not in original form.

This Warranty does not apply to any parts damaged due improper use--including accident, neglect, unreasonable use, physical abuse, and improper installation--or to unauthorized alterations or modifications of the equipment. Warranty excludes damage caused by lightning, fire, floods, damage caused by environmental extremes, power surges, over voltages, or transients.

Cimarron's Warranty does not extend to batteries or fuses nor does it cover products not originally manufactured by Cimarron, such as printers, PCs, hand held terminals, or radio equipment. Repair by other than Cimarron, will void this guarantee. In-Warranty merchandise must shipped, freight prepaid, to Cimarron. Cimarron will return, freight prepaid UPS Ground, the repaired or replaced equipment to purchaser, within the United States.

Out of Warranty repairs will be billed at an hourly rate approved by the customer before work is performed. Cost of replacement parts and shipping will be quoted and must be customer approved prior to repair.

This Warranty applies to the original purchaser of the equipment only unless a clear chain of proof of purchase can be provided to prove product age. Cimarron is not liable under this Warranty, or any implied Warranty, for loss of use or for other consequential or damage experienced by the purchaser. Some states do not permit the exclusion or limitation of implied warranties or consequential damages. This Warranty provides special legal rights, the purchaser may have other rights which may vary from state to state. Cimarron makes no Warranty other than the one set forth above. Such Warranty is in lieu of all other warranties, express or implied, including but not limited to any express or implied Warranty of merchantability or fitness for particular purposes, and such constitutes the Warranty made with respect to the products. No guarantee is made with respect to the products as to system performance unless such a guarantee has been set forth in a separate contract document signed by Cimarron Technologies Corporation

Cimarron makes no other Warranty or representation implied or express for its products, designs and derivatives with respect to merchantability, fitness for a particular purpose or any other matter. Cimarron products are not intended, authorized or warranted by Cimarron to be suitable for use in life support, medical or other critical applications that may involve risks of death, personal injury or severe property or environmental damage. Cimarron in addition to the warranties disclaimed above specifically disclaims any and all warranties implied or express for use in such applications. Cimarron products in such applications are understood to be fully at the risk of the customer, and that Cimarron is thereby indemnified against all damages.

Limitations of Liability. Cimarron shall not, under any circumstances, be liable for any compensatory, consequential, incidental, future or punitive damages, whether in contract, tort or any other legal theory, arising from the use of, or in conjunction with its products. The aggregate liability of Cimarron to customer under this agreement for any claim arising from use of its product is limited to the invoice price of the product. Each party acknowledges that the other party has entered into this agreement relying on the Limitations of Liability stated herein and that those limitations are an essential basis of the bargain between the parties.

Obligation to Indemnify. Customer agrees to indemnify, defend and hold Cimarron, its manager(s), and applicable third parties (e.g. licensors, suppliers, consultants and contractors) (collectively "Indemnified Persons") harmless from and against any and all third party claims, liability, loss, and expense (including damage awards, settlement amounts, and reasonable legal fees), brought against any Indemnified Person(s), arising out of, related to or which may arise from use of Cimarron products.

# INDEX

---

**A**

Ambush.....9, 11

---

**C**

CDT hand-held terminal.....4

---

**D**

Description.....4  
Dimensions.....6

---

**F**

Formats.....6

---

**I**

Installation..... 7

---

**J**

Jumper..... 7

---

**P**

Power..... 6

---

**S**

Specifications..... 6

---

**W**

Warranty ..... 15