

C Plus III

Multi Format ANI Decoder/Encoder

Compatible With:

MDC-1200®

GE-STAR®

FleetSync™

DTMF

BENEFITS:

- Identify every transmission source
- Reduce nuisance and obscene transmissions
- DSP signal processing decodes extremely weak, distorted or noisy signals
- Identify Emergency or ManDown transmissions

FEATURES:

- Large, high visibility main display
- 5 or more ID'S displayed at a time (1 in the main, 4 in the lower window)
- Dual or Triple ANI formats decoded in same unit
- Automatic Emergency Acknowledgement (all formats)
- 2 Mb Flash Memory
- Field Upgradable
- "Ambush" function automatically responds when "missing" units become active
- "Authorize" function controls repeater access
- "Enunciate" function sounds unique tones for user defined ID's
- Real Time Clock for time and date stamped data
- DTMF - 8 Characters with Status at Beginning or End
- Data Mute Relay
- Full Duplex Operation
- Linkable with other units for Multi-Channel operation
- Diagnostics Built-in
- Decode and display FleetSync "Group ID's"

OPTIONS:

- Aliasing - 4000 ID's, 27 Characters
- Encoding MDC-1200, FleetSync, or GE-STAR 2-way commands
- Dual Decode (any two formats)
- Triple Decode (any three formats)
- Tone Remote Interface (wire line)
- Factory setup and configuration
- 19" Rack Mount Kit

ID-Aliasing

The C Plus III includes 2 Mb of flash memory. The memory allows the user to program a look-up table of alpha characters. When the ANI number is received, it is converted up to 27 alpha numeric characters in the display.

For example: ID = 1234 could display "JohnBell NorthDivisionGate2". A full character set is available with upper and lower case, symbols, and digits. Greater than 4000 ID's may be stored.



The **C Plus III** dispatch display decodes and identifies the type and source of each radio transmission in a compact, easy-to-read unit. The **C Plus III** displays a numeric or optional character ID.

The unit decodes and displays the identity of PTT ANI, Emergency, ManDown and Stuck Mic messages by posting the remote radio's ID and flashing the message in the large display. The last 20 received messages are held in memory for review at anytime.

Up to 8 DTMF characters may be displayed. The user may define the 1st or last character to be a status. Status characters can be programmed to trigger an audible alarm and or Out 1 or Out 2.

An RS-232 port output the ID, the message type, time, date, and channel number for a permanent record of channel activity.

Receipt of a ManDown or Emergency message causes a pulsing tone, a flashing display and triggers one of two external alarm driver circuits. Several tone alternatives are programmable, including the absence of any tone.

During the reception of ANI data, a form C relay becomes active. The relay may be wired back through the receiving radio or dispatch console in order to mute the data burst. Several modes of Mute operation are available.

With the optional encode function, the **C Plus III** encodes MDC-1200, FleetSync, and GE-STAR 2-way commands. Select Call, Radio Check, and Call Alert are available for MDC-1200. Select Call, Radio Kill and Interrogate are among the functions available for GE-STAR and FleetSync. All 2-way functions are fully compatible with factory built-in signaling features available from the major radio manufacturers.

The **C Plus III** includes several new features. "Ambush", "Authorize" and "Enunciate" are described on the following page.



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C Plus III

SPECIFICATIONS

Electrical

- **SIGNALING FORMATS**
 - GE-STAR® - PSK 400 bps on 1600Hz +/- 1.5% carrier
 - MDC-1200® - FSK 1200 bps at 1200/1800 Hz
 - FleetSync™ - MSK 1200 bps at 1200/1800 Hz
 - NYSP GE-STAR - format containing special bit values
 - DTMF - Up to 8 Characters
- **POWER REQUIREMENT**
5 VDC +/- 5% at 2.0 A. External 120 VAC power supply included. High efficiency, Green Power approved. 90 - 264VAC input with overvoltage protection.
- **RADIO SYSTEMS**
Conventional or Trunking compatible.
- **DATA INPUT (for Decoding)**
Single ended: 30mV to 12Vpp, Balanced: 600 ohm to -30 to +10dBm. High Z: -36 to +4dBm. No adjustment necessary due to AGC.
- **DATA OUTPUT (for Encoding)**
Single ended: to 14Vpp, Balanced: 600 ohm to +10dBm, High Z: to +16 dBm. Potentiometer adjustable to allow radio transmit deviation setting.
- **SOUNDER**
Audible 3400 Hz 80dB(A) @ 2 ft. Programmable for 5 different tones.

DISPLAY

- **FRONT PANEL DISPLAY**
Upper row: 8 red 5x7 matrix high intensity LED's, 0.7" high.
Lower row: 28 red 5x7 matrix high intensity LED's 0.3" high. Upper and lower case symbols, and digits programmable with Alias option installed. The front panel will show up to 5 of the most current ID's received (1 in upper, 4 in lower).
- **FRONT PANEL CONTROLS** - Review, Clear.
- **PRINTER OUTPUT**
A serial port outputs RS-232 ASCII, identifying each decoded message. Printer output is programmable and can include the unit ID, message type (8 characters), time, date, and channel number. If Alias option is installed, printer will also print the aliased ID, message, and assignment (27 total characters).
- **DISPLAY RESET**
A connection is provided to allow the front panel to be cleared remotely by footswitch or other means.
- **MESSAGE REVIEW**
The last 20 data messages from the review memory can be displayed, one at a time via the Review push button. The display is returned to real time by receipt of any message, or by the return push button, or by no operator activity for ten seconds.
- **MDC-1200**
Decodes and displays entire HEX ID set. Emergency and Mandown will be acknowledged. With Encode option installed, supports Voice Select Call, Radio Check, Call Alert (long), Call Alert (short).
- **GE-STAR**
Decodes and displays all known variations. Emergency and Mandown will be acknowledged. With Encode option, supports Selective Call/Cancel, Radio Disable/Enable, Mic Monitor, and Interrogate.
- **FleetSync**
Decodes and displays FleetSync Basic and FleetSync Ver 2.0, PTT ANI, Emergency (ST99) and ManDown (ST98). Emergency and Mandown will be acknowledged. Entire set of Fleet and Unit ID's. Fleet range 100 to 349. ID range 1000 to 4999. Encode option, supports Selective Call/Cancel, Radio Disable/Enable, Mic Monitor, Interrogate, and Status Messages.
- **DTMF**

Allowed Characters	0 through 9, A, B, C, D, * or E, # or F
Maximum Length	8 characters or 7 plus status
Twist Acceptance	-8 to +4 dB
Noise Tolerance	-12dB
Frequency Tolerance	2.5% of DTMF Frequency
Min. digit length	programmable 25mS to 5000mS
Max. inter-digit pause	programmable 50mS to 9999mS
Status Reporting	If enabled, first or last received character = status
ID Qualifying	If enabled, maximum of 5 character prefix qualifies decode



PROGRAMMABLE FUNCTIONS

- **AMBUSH**
Cimarron's "Ambush" feature permits the user to set the C Plus to transmit a Radio Kill or Select Call as an ambush for a turned off or out-of-range radio. When the target radio returns to range and transmits his ID, the C Plus responds by sending the command.
- **AUTHORIZE**
Cimarron's "Authorize" feature permits the user to program a list of authorized ID's. The C Plus will then respond only to those ID's. The auxiliary outputs can be connected to drive SMR or repeater control circuits.
- **ENUNCIATE**
Cimarron's "Enunciate" feature allows the user to program unique tones to be sounded when specific ID's are decoded.
- **AUXILIARY OUTPUTS**
2 open collector outputs will each sink 500mA. Active for 2 seconds. Programmable for Emergency, Man-Down, Stuck Mic, Authorize, Ambush, or other user defined functions.
- **DISPLAY MODES**
Select: ANI, Message and Assignment, Scrolling, or Taxi Bidding.
- **OUTPUT FORMATS**
Select: Cimarron ANI, MCC, Modat, 1207/BED-31, CML, NYSP, Cimarron translated, Generic 21 Bit.
- **DECODER OPERATION**
Select: Chan #, Base ID, Time, Date, Printer baud rate, Printer on/off, Beeper tones.
- **ENCODER OPERATION (included)**
Select: On/Off acknowledgements to EMER messages, Attack Delay Time, Preamble Length (GE-STAR only).
- **ENCODER OPERATION (optional)**
Select: MDC-1200, FleetSync, or GE-STAR 2-way functions. Connect optional CDT Hand Held Terminal or CAD system to enter the 2-way commands.
- **DIAGNOSTICS**
Select: Loop Back, Data Modulation, Outputs toggle.

INTERFACES

- **KEYING OUTPUT**
Open collector output capable of sinking up to 500mA.
- **DATA MUTE RELAY OUTPUT**
Form C Relay, 1.0A at 24VDC (N.O. and N.C. contacts). Mode 1: Active during ANI burst. Mode 2: Unmutes only after data burst reception and active COS.
- **RS-232 SERIAL**
RJ-11 (6 pin modular phone type) connector. Used to output data decodes for connection to CAD or serial printers. Also capable of accepting 2-way encode/decode commands.

OPTIONS - (options are field upgradable)

- **ALAISING** - 4000 ID's. 8 char ID + 19 char assignment = 27 total
- **Encoding** - compatible with MDC-1200, FleetSync, and GE-STAR.
- **Dual Decode** (any two formats)
- **Triple Decode** (any three formats)
- **TONE REMOTE** - 125 mS tone burst of 2175 Hz followed by function tone. Tone programmable from 950 to 2050 Hz in 100 Hz steps.
- 19" rack mounting kit

MECHANICAL

- **REAR CONNECTOR**
Two screw terminal strips. Each separately un-pluggable from unit.
- **SIZE**
8" x 6.25" x 4.75" (20 x 16 x 12 cm), less extended front legs.
- **WEIGHT**
2 lbs. 4 oz. (4.95kg) including external power supply.