decrypta 4
SN: _ _ _ _ _
user manual

TABLE OF CONTENTS

DESCRIPTION   ALARM RECEIVER DECRYPTA 4 OR KNOWN AS D4
 The twin line alarm receiver D4 is a MCDI product. This new breed of alarm receivers is equipped with USB port and serial port, 5V dc relay.

D4 is available in RoHS and non RoHS version. Must be specified at the time of the order.

What's in the box

VERIFY CONTENT AT ARRIVAL   An inspection sheet filled by MCDI quality control is shipped inside the box to control all components shipped.

Inspection sheet   Contains a summary report of re-testing before shipping. EVERY unit shipped by MCDI is re-tested prior to packing using at least 3 signals in Contact ID, Pulse and SIA. It is normal to see events in memory when you connect your D4. It proves unit was re-tested prior to packing. You can erase content of memory buffer prior to connecting to PC. Go to SYSTEM menu options below to learn how to erase memory buffer.

     Box Content

1 x Decrypta 4 Alarm Receiver (stand arm lowered)

Cables:
    2 RJ11 Phone cables
    1 USB Type A to Type B cable 6 feet (1.8M)
    1 Serial communication cable 6 feet DB9F to DB9F Null modem
    1 custom made relay/ground cable (molex to leads)

Power:
    1 AC/DC power supply with localized IEC power cord when available.
    1 Power cable for batteries (red and black lead wire to Molex minifit Jr)

Documentation/tools/drivers
    1 CD with:
    PDF documentation/tools/drivers/ Windows Configurator and logger software
    SECURITHOR software trial version

Physical description

Size   Receiver has all out dimensions (with Acrylic cover) :
                        9" (L) x 6.3" (W) x 3.1"(H)   Stand Raised
                        229 mm (L) x 161 mm (W) x 79 mm (H)

                        9" (L) x 6.3" (W) x 2.25"(H)   Stand Lowered
                        229 mm (L) x 161 mm (W) x 58 mm (H)

                        Receiver has all out dimensions (outer cover removed for insertion in PC/Server) :
                        8.95" (L) x 5.75" (W) x 1.66"(H)
                        222 mm (L) x 146 mm (W) x 42.3 mm (H)
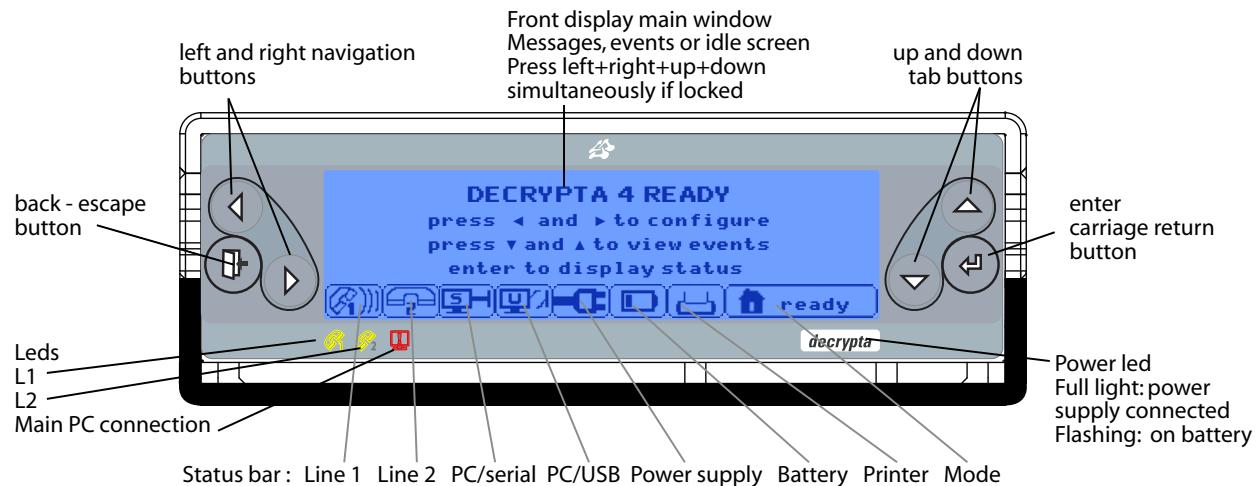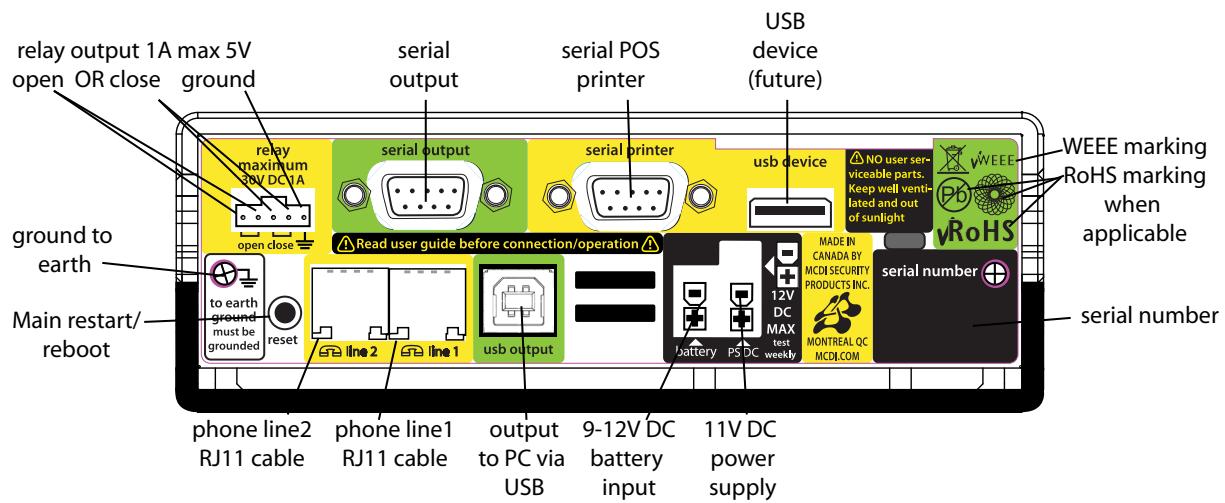
                        Measurements do not include connectors

Housing   Inner Box : Anodized aluminum, blue.
                        Outer Cover : Clear and black acrylic (acrylite FF type, RoHS compliant)
                        Front : Mylar and Polyester tactile membrane.
                        Back : Polyester membrane and aluminum.

Buffer memory   Buffer holds up to 4095 events. Buffer is used when computer is absent. Unit keeps receiving and printing during fail time if power is connected and maintained. When computer comes back on, buffer empties to the computer. If more than 4095 events are received in the buffer during fail time, D4 writes over the oldest event. Written records may be available on printer connected to serial printer port.

Alert/Warning Buzzer   On board buzzer is available for alert warning when the Computer is absent. Parameter activated buzzer can be enabled/disabled only in Configurator

D4 – FRONT VIEW

left and right navigation buttons

Front display main window
Messages, events or idle screen
Press left+right+up+down
simultaneously if locked

up and down tab buttons

back - escape button

DECRYPTA 4 READY
press ◄ and ► to configure
press ▼ and ▲ to view events
enter to display status

ready

decrypta

enter carriage return button

Leds
L1
L2
Main PC connection

Power led
Full light: power supply connected
Flashing: on battery

Status bar : Line 1   Line 2   PC/serial   PC/USB   Power supply   Battery   Printer   Mode

D4 – REAR VIEW

relay output 1A max 5V
open OR close   ground

serial output

serial POS printer

USB device (future)

relay maximum 30V DC 1A

serial output

serial printer

usb device

⚠ NO user serviceable parts. Keep well ventilated and out of sunlight

WEEE marking
RoHS marking when applicable

ground to earth

Main restart/ reboot

open close ⏚

⚠ Read user guide before connection/operation ⚠

to earth ground must be grounded   reset

line 2   line 1   usb output

battery   PS DC

12V DC MAX test weekly

MADE IN CANADA BY MCDI SECURITY PRODUCTS INC.

MONTREAL QC MCDI.COM

serial number

√RoHS

serial number

phone line2 RJ11 cable

phone line1 RJ11 cable

output to PC via USB

9-12V DC battery input

11V DC power supply

REAR PANEL DESCRIPTION

USB PORT
Type B USB connector. USB client to host cable supplied

Type A USB connector. Future use for compatible USB POS printer. Not implemented in models manufactured in 2011.

SERIAL NUMBER TAG
D4 serial number contains 6 digits. Please quote serial number in emails or when calling for support to speed up identification process. Serial number appears in configuration tool when using USB output.

SERIAL (DB9 male connector)
   Data transfer to computer:,
   Null modem cable supplied (DB9F to DB9F)

   Serial port selectable from 1200 to 115200 Bauds 8 bit, 1 stop bit
   Pin 2 = transmit
   Pin 3= receive
   Pin 5 = ground
   WARNING: INSURE SERIAL PRINTER AND SERIAL CONNECTION TO PC ARE NOT INVERTED.

RELAY TERMINAL.
Terminal block used for trigger of external unit by inboard relay (30V DC 1A max). Supports normally open or normally closed. See full description before using

GROUND POST
Use rear screws or ground pin from Relay connector. Refer to Electrical feed for more details.
Unit must be grounded to function normally.

POWER SUPPLY INPUT
  100-240VAC to 11VDC 1.66A supplied with D4**.**

BATTERY INPUT
  12 VDC
  Supplied battery connector   red = + black = -
  Refer to section Electrical feed before using.

PRINTER (DB9 serial connector)
Printer serial port. Raw signals received by D4. Compatible with Epson TM-88V family

   WARNING: INSURE SERIAL PRINTER AND SERIAL CONNECTION TO PC ARE NOT INVERTED.

LINE 1, LINE 2
Incoming phone lines

RESET
Restarts all functions, reboots to last configuration entered

USB PORTS - High retention   D4 is equipped with special USB connectors for output and device. Both types of connectors are Samtec USBR high retention force made to comply with the class 1, Div II minimum withdrawal requirement of 15 Newton. It is normal to feel the USB connector is either hard to insert or remove.

D4 USB ports are not designed for frequent removal or insertion. By nature they should stay connected and rarely disconnected.

They are orange color-coded insulator to differentiate them from standard withdrawal force connectors (USB Series) that are available with white or black plastic. They are compatible with standard USB connector.

Powering D4 Receiver

In this section
> Electrical inputs
> Notes on electrical installation for D4
>> Alternative power source 9-12V DC
>> USB Hub
>> Ground post
>> Using a battery charger
>> Warnings

ELECTRICAL INPUTS

D4 can be powered from:

> 1.Power Supply input (11 VDC adaptor supplied)
>   and / or
> 2.Battery Input (12VDC) using supplied cable

D4 Powered from the POWER SUPPLY INPUT

D4 is supplied with a 100-240V AC to 11V DC power adapter. This power adapter is supplied with an IEC 13 power cord for localization when available.

D4 can be powered from both DC inputs equipped with a Molex minifit jr female connector (Labels Battery and PS DC). Both inputs can be connected at same time as D4 will supervise both and switch automatically from one to the other upon need.

Both inputs are made for well regulated, low transient and ripple 9-12VDC current only. Minimum requirements 9VDC 400 Ma but 11V is the preferred tension for main supply. Severe damages to the unit may occur if power supply delivers more than 14VDC. As a general rule, higher tension will create more heat inside D4 box and may diminish life expectancy of D4.

Power led on front display (white backlight of Logo) will be ON steady when D4 gets power from the Power Supply Input. Front LCD will be back lighted. Battery icon will display empty battery.

General status will display : Power main, Battery %

D4 cannot be powered by USB port.

Status may take up to 5s to display correctly.

NOTE: D4 is shipped without power supply in some countries where a local certification is required.

WARNINGS

-Removal of the power source during reception of an alarm signal may result in losing said signal.

-Removal of one power source may result in shutdown and loss of signal if second power source is not available within 5ms and/or if tension is inferior to 8V DC.

-If 9-12VDC input is used as D4 sole source of power, events in receiver buffer will be not be lost when power is removed and will be transmitted to PC when power is restored.

-D4 is not equipped with a battery charger. Indication of remaining battery life are approximate and based solely on measure of tension between positive and negative poles.

D4 can power from a 12VDC battery as the only current source. Preferably use MCDI supplied cable (Molex minifit jr to leads, red and black wire). **DO NOT INVERT POLARITY**. Minimum requirements 6.5VDC 300 Ma. Severe damages to the unit may occur if the battery delivers more than 14V DC.

Power led of front display beneath the logo will be blinking when the D4 gets the power only from the battery Input. **Backlight of the LCD display will be off while display will still be working**. This is to prolong battery life.

When both power supply and battery inputs are used, the led beneath logo will be ON steady and LCD backlight is on.

When power supply only is used, the power led will be on steady and LCD backlight is on. Battery indicator should indicate empty.

Configurator status tab will indicate which electrical input is used and approximate battery level if connected. Battery level is based on voltage thresholds: 100% >9.5, 75% <8.5V, 50% <7.5V, 25% <6.5V, 0 <6VDC

Status may take up to 5s to display correctly.

WARNINGS:

-MCDI recommends choosing a high quality lead-acid battery or gel type. Most stores selling security equipment hold a variety of power levels to choose from.

-If not charged, the battery will discharge. D4 does not provide battery supervision or charge to battery. D4s supplied with a Molex NO lock type connector for battery. This connector has a red and black wire for connection to battery. Red is positive, black is negative. **Do not invert polarity: severe damages may result**.

-Do not use a battery supplying more than 14V DC. Significant heat dissipation will result and may damage unit. Do not use a battery showing signs of tear, leak or corrosion.

-Never connect a faulty or drained battery to the D4.

-D4 cannot charge a battery.

-D4 cannot be powered by USB port.

Battery time

To calculated battery time: **Battery capacity (milliamp hours) / total current (milliamp) = battery life (hours)**

Example with a fully charged new battery– typical 200mA drain from:

12V 600mAh	3 hours
12V 1Ah	5 hours
12V 70 Ah	350 hours

Always refer to battery manufacturer application notes on charging, using and discharging a battery.

Using 2 x 6Vbatteries (serial connection)
In using a serial connection, voltage of each power source will be added and delivered to D4.

Using 2 x 12V batteries (parallel connection)
Using a parallel connection of batteries, resulting current to D4 is the sum of current provided by each source. Batteries should be matched to prevent heating among power components.

Battery charger
A battery along with a battery charger may be used. Using a supervision circuit is preferable. MCDI tested and recommends Altronix PM212 and a 12V battery. A circuit like the Altronix PM212 will insure a constant tension (9-12V preferred), battery charge and battery supervision

Insure that your circuit delivers less than 14V to D4. Significant heat dissipation will result if using a power source of more than 13.8V. This may damage the unit of reduce life expectancy of D4.

-Verify installation regularly.
-Consult a qualified Electrician prior to connecting D4.If you are using a battery, a battery charger and/or equipment

Alternative power source 9-12V DC   D4 is shipped with a power adapter. When another power supply is preferred for the 9-12V DC input, a lower voltage should be preferred over a higher voltage to minimize heat dissipation in D4. 11V is the

preferred tension to insure roll over features are working correctly. Contact MCDI for complete specifications of MCDI approved power supply to compare.

USB Power   **This power option is not suitable for D4. D4 will not be powered over USB.**

Ground post   Refer to a qualified electrician to insure electrical installation is made according to local law and regulations.

As a safety for users and the D4 alarm receiver, D4 is provided with a ground post at the back on the unit. A wire of AWG #14 should be used along with a lug connector inserted underneath one of the 2 back plate screws. Ground connection must be maintained and verified regularly to insure ground to earth is always present. Unit will not function correctly if not properly grounded.

Best practice in making a ground connection from D4 are to insure a non resistive connection to a known and tested ground in a well built electrical installation or connect the ground lug of D4 to a metallic water pipe going to earth or to a rod deeply planted to earth.

Should several D4 units be used, it is preferable not to chain units by their ground lugs. A better practice is to use a ground star technique.

Connection to ground should be verified regularly

WARNINGS
-D4 does not supervise battery other than provide an approximate measure of tension.
-Verify electrical set-up regularly.
-Always use properly mounted and approved cables to connect D4.
-Do not use an over charger battery or a battery dispensing more than 14VDC.
-Consult a qualified Electrician prior to connecting D4 If you are using a battery, a battery charger and/or equipment not
  provided by MCDI Security Products Inc.
-Damages resulting from power surges of any kind are specifically excluded from D4 warranty.

USING ON-BOARD RELAY

D4 is equipped with a relay to trigger an external device such as strobe light, dialer or siren upon reception of an alarm signal.

Terminal posts are located at the back of the unit. MCDI supplied cables should be used. If not at hand, Molex part number 14-56-2052 should be use to make such cable.

Post 2 is ground/common
Posts: 1 and 2 are Normally Open.
Posts 2 and 3 are Normally Closed.
Post 5 is used as an alternative ground post

Maximum rating : 110V DC or 125 V AC / 1A   UL/CSA rating : 30V DC / 1A   110V DC or 125V AC / .3 A

It is preferable to consult an electrician or MCDI prior to connect any equipment to D4 relay post.

Configuration of D4 receiver by front display

METHODS OF CONFIGURATION DECRYPTA 4 ALLOWS THREE METHODS OF CONFIGURATION: VIA FRONT DISPLAY, VIA PC TOOLS, VIA THIRD PARTY SOLUTION.

Configuration Via Front Display The following section addresses configuration via front display. All parameters are available from front display to the exception of :
changing the name of unit
changing the name of the owner
logs download to PC
firmware update
hearbeat setting
activate buzzer

Once D4 is powered and display 'ready', enter the configuration menu by pressing left and right buttons simultaneously.

If D4 displays:
```
Configuration locked
Enter key sequence to access
Press ▲ and ▼To view events
```

You can still view events while the Configuration is locked. To access the Configuration press all 4 keys simultaneously: Left+Right+Up+Down.

The configuration menu of D4 will prompt for a selection of language. Select a language by bringing the highlight rectangle over your selection using the up and down buttons. Once selected press enter to continue configuration in this language.

As of December 2011 the following languages are available at the front display: English, Deutsch, French, Español, Italiano, Português and русский (russian). Other languages may be available via the PC configurator such as Arabic, Farsi.

LANGUAGE MENU
Select display language. This selection does not change alarm operation and description of alarm codes sent by alarm panels. This selection may be different from the one used in the PC configurator.

```
English        Deutsch        Français
Español        Português      Italiano
Русский
navigate ◄►
```

Select language by moving the highlight rectangle using the ◄► buttons

Main menu
front display configuration will be displayed:

```
Display options ►        Output options ►
Line options ►           Unit status ►
Communication speed ►    System ►
navigate ◄►
```

The front display configuration always displays the status bar at the bottom of the LCD display
Configuration may be interrupted by incoming events if you are in manual mode

Use Navigate keys to select one of the menus by moving the highlight rectangle over the desired topic. Presence of an arrow ►indicates the presence of a sub-menu. Use the carriage return key to enter the sub menu. If you enter the wrong sub menu, use the escape key

TIME OUT   If no button is pressed for 10 minutes, D4 will return to the idle menu. **ONLY THE FOLLOWING WILL BE RECORDED IF THEY ARE ALREADY CHANGED:** language, status of LED, time and date. All other changes will **NOT** be recorded if time out occurs.

Option menus

Menu and navigation conventions
`navigation_rectangle` Indicates highlighted choice with possible alternate. █
◄► to navigate from one topic to the other, moves the highlight rectangle to another choice
▲▼ to permutate choice of the highlighted parameter
↵ Carriage return: to access sub-menus or accept some choices
⊠ indicates choice/enabling of the highlighted parameter
□ indicates disabling of the highlighted parameter
►► Press right button twice (fast) to jump to page 2
◁⊠ Backspace button to escape sub-menu, return to page 1 or go back to main navigation menu

Display options

First page
Factory default in highlight

```
Idle mode: keep_last_event_on_display > Manual Mode > last event/time
12/24 H: 24H  >12H
Time and date format: DDMMYY_HHMMSS > YYMMDD HHMMSS > MMDDYY HHMMSS
Adjust time and date► (sub menu available)
Navigate◄►        ▲▼Edit   P.2
```

Second page (factory default)
```
Line 1 Led ⊠
Line 2 Led ⊠
PC Led     ⊠
Power Led  ⊠
Navigate◄►                 ◁⊠ P.1
```

List and description of parameters for display options:

Idle mode   Choose between Keep last event on display, manual mode, last event/time

`keep_last_event_on_display`   without intervention, D4 will display the last incoming event. A new incoming event will replace the last one.

`manual_mode`   D4 will display the oldest event to be acknowledge. To acknowledge and move to the next event, press enter (carriage return).

`Last_event/time`   D4 will display time and date while waiting for event. When incoming event is received, it will replace the idle screen for 10 seconds or until another event is received.

```
DECRYPTA 4 READY
DD/MM/YYYY HH:MM:SS
+ Events   Config
↵ Display status
```

12/24H   Switches between display of time in a 12 H (AM/PM) or 24 H format.

Time and date format   Switches between the following date formats:

`DDMMYY_HHMMSS` `> YYMMDD HHMMSS > MMDDYY HHMMSS`

Adjust time/date (sub menu)   use ↵ return to enter. Set the date and time. Navigate between units using the left and right arrow. Change the units using the up and down arrow.
Navigate to OK to accept changes.

`17: 50: 51    24/08/2011`

`Ok    No          <X P.1`

WARNING   Date and time are changed when you press on Yes, even if you answer no to the Save configuration prompt'

LINE 1 led, LINE 2 led, PC led, Power led   Led Select to enable/disable the front leds. Front panel leds may have flashing effect. It is possible to disable leds if leds or flashing effect are not pertinent. This will not disable function for each parameter.

To escape the Display menu and return to the main configuration press Escape key until you arrive to the main menu.

To escape the Display menu and save configuration, press Escape key until you are prompted to Save configuration YES NO? Select YES or NO with the left or right arrows. Press ↵ enter to enter selection.

LINE OPTIONS

Page 1
```
Line 1  □
Line 2  □
Both lines, retrieve:  L1  □  L2  □
Apply factory default: L1  □  L2  □
                              p.2 ►►
```

Page 2
```
Line number:   001   Listen-in code
Receiver number: 001 Listen-in time out  180
Wait after off-hook:  □   Formats ► (sub menu available)
Number of rings:  1  Handshake order ► (sub menu available)
                         ◁⊠ p.1
```

`Line 1  □`
Enable this box by pressing enter to modify only Line 1.

`Line 2  □`
Enable this box by pressing enter to modify only Line 2.

`Both lines, retrieve:  L1  □  L2  □`
To modify both lines, select if you want to start with parameters of line 1 or line 2. Parameters will be applied to both lines except for Line number.

To move to page 2, press twice and fast on right arrow button.

`Line number: 001`
Assign a line number to current line you are modifying. Choice from 0 to F. Use left and right arrow keys to move from one digit to the other and up and down keys to change value.

To move to page 2, press twice and fast on right arrow button.

Receiver number: 001

Assign a receiver number from 0 to F. This value is the same for both lines. Use left and right arrow keys to move from one digit to the other and up and down keys to change value.

Wait after off-hook: ☐

Select this option to add a 5s delay after off-hook before sending handshake sequence. Only use this option if you now it is needed.

Number of rings: 1

Change number of rings to answer a call. Default is 1 and selection can be from 0 to 5. Warning: the value 0 could not work with some ring patterns or some telephone company ringing system. Revert to 1 if experiencing problems.

Bring the highlight rectangle on the number using left and right arrow keys. Change value using the up and down keys.

Listen-in code

Assign a unique identifier for Listen-in to Pulse signals. Values from 0 to F.
Bring the highlight rectangle on the number using left and right arrow keys. Change value using the up and down keys. Does not affect other preset value such as Contact ID

Listen-in time out 180

Assign a value in seconds to the length of listen-in period. Default is 180 seconds. Value from 0 to 255 seconds.
This value does not affect length of call if operator uses a handset to keep line off-hook.
Use left and right arrow keys to move from one digit to the other and up and down keys to change value.

Formats ▶

Pressing enter brings the following submenu:

```
Formats selection:
PULSE ⊠      BFSK  ☐      Telim      ☐
DTMF  ⊠      CFSK  ☐      Robofon    ☐
SIA   ⊠      VFSK  ☐      TTNEW      ☐
Navigate◄▶                         Exit◄⊠
```

Enable handshake type with this menu. Default is Pulse, DTMF (Contact ID) and Modem (SIA).

WARNING   To insure there are no conflicts, do not enable a type if you are not receiving panel using this type of protocol. Some formats may conflict with others and may not be mutually available on the same phone lin.
Please contact MCDI about using TTnew to receive application note.
Robofon needs to be enabled at factory specifically to work with D4 and is not standard in D4. Check with MCDI for availability.

Handshake order ▶

Pressing enter brings the following submenu:

```
Handshake sequence            Auto handshake ☐
1: 1400 Hz      4: 2300Hz     7: not in use
2: SIA          5: not in use 8: not in use
3: Contact ID   6: not in use
                              ◄⊠ p.1
```

Auto handshake   select this option to present memorized choice to panel. If panel is not recognized, the programmed handshake sequence will be used.

NOTE: even if a format type is disabled, it is still possible to enable a corresponding frequency in the handshake sequence. Some panels sometimes respond better to lower or higher frequencies than expected and the handshake sequence may be used to tune handshake.

NOTE: it is consider a best practice not to select a type if not used by panels. Do not add more format than necessary in the handshake sequence as this may force a longer than necessary handshake transaction.

NOTE: TTnew format should be in position 1 to avoid conflicts. It is not available at other positions.

Frequencies used
1400Hz frequency   typ. 1s 0.55Vrms (For Pulse formats including Sescoa SS, Ademco Express, Ademco High Speed, BFSK, Some Contact ID panels, Scantronics, Sescoa SS, Surgard 4x3, VFSK)

2300 Hz frequency   typ. 1s 0.55Vrms (Pulse formats including Sescoa SS, Ademco Express, Ademco High Speed, BFSK, Some Contact ID panels, Scantronics, Sescoa SS, Some SIA panels, Surgard 4x3, VFSK)

Contact ID   1400Hz during 100ms - pause 100ms - 2300 Hz during 100ms. Second round if needed after 1s pause: 1360Hz 100ms - Pause 100ms - 2260Hz 100ms. Applicable to Contact ID and Point ID panels plus other panels requiring 1400Hz or 2300Hz handshake frequency.

Stratel   (Custom format for Stratel Malaysia) 1785Hz typ. 5s

SIA   2225Hz typ 1s 0.55Vrms   SIA, CFSK, Some panels in BFSK, DTMF, Pulse, FSK or requiring 2300Hz handshake

Telim   2100Hz typ. 2s

TTnew   This format should be in first place only if used. Wait 3s for panel Junk tone (DTMF 1 or 1850Hz).

M3   2225Hz typ. 1.5s

COMMUNICATION SPEED   Adjust speed of serial port to PC or serial printer port

```
Serial speed
Reporting to PC speed: 115200      (choose from 1200 to 115200 bauds)
Serial printer speed: 1200         (choose from 1200 to 115200 bauds)
Navigate◄►                Exit◄⊠      ◄⊠ p.1
```

Note: USB port speed is fixed

OUTPUT OPTIONS   Configure output format and ports

```
Output options ►

Main: Serial          CallerID, All events  ☐
Secondary:USB         Enhanced mode         ☐
Caller ID: Both       3x2 Inst'd 4x1        ☐
Format: MCDI          Check Printer         ☐
Navigate◄►      ▲▼Edit                P.2►►
```

```
Main: Serial > USB > None
```
Designate main output to PC with this option. NOTE: MCDI recommends to use a real serial port instead of a converter to USB. It has proven more reliable over the years. Defaults are highlighted

```
Secondary: USB > Serial > None
```
Designate secondary output to PC with this option. Acknowledge and heartbeat are not considered on secondary for the purpose of sending events to PC.

D4 makes a logical choice on secondary selection i.e. it will not permit a choice if already used by Main except for None e.g. Main set to Serial will leave choice of USB or None to Secondary output.

NOTE: Selecting None for main will not permit a choice other than None on Secondary.

WARNING: Selecting None will disable alarm event sending to a port.

Acknowledge order/priority
Events is first acknowledged on primary before being sent to Secondary.
If a second acknowledge is sent to secondary port, events will not be repeated to this port even if primary is not responding.
Main should be considered primary and the destination to take charge of alarm events.

NOTE: MCDI recommends to use a real serial port instead of a converter to USB. It has proven more reliable over the years. Defaults are highlighted


```
Caller ID: Both > PC > Printer
```


```
Format: MCDI > Sur-gard > ADEMCO 685
```
Select formating of output string of character to report to PC. MCDI format detailed below. Check SG and Ademco 685 for detailed infomation


```
CallerID, All events   ☐
```
Select to send Caller ID to all events. Deselect to send caller ID only for error messages/bad transmissions.


```
Enhanced mode          ☐
```
Activate Enchance mode (3 digits receivers and line numbers) for SG and MCDI mode.


```
3x2 Inst'd 4x1          ☐
```
Enable to avoid conflict with 4x1 Compressed Expanded, In pulse, selecting will consider 3 digits for account instead of 4 if 5 digits are received


```
Check Printer           ☐
```
Select to verify Printer presence. This option does not differentiate between USB and Serial. Printer will be displayed as present if one is connected no matter which port.


```
Compress/extended       ☐
```
Disabled by default. 3x1 with extended compress will convert to 4x2 standard by adding 0 in front of character string.
Example: 444 5 will become 0123

Yes =	Compressed extended 3x1 or 4x1	(No = default)
Extended		

Example: 3 x 1 Extended compressed in 4 x 2 standard
123 4
444 5   After compression: 0123 45

Example: 4 x 1 Extended compressed in 4 x 2 standard
1234 5
5555 6   After compression: 1234 56


```
Send date/time SG   ☐
```
By default date and time are not sent in SG format. To add date time HH:MM:SS/DD/MM at the end of the reporting string.


```
Send year SG   ☐
```
By default Year is not sent in SG mode. Select to add YY to output string. Requires Send date and time /SG to be enabled. Replaces seconds with format: HH:MM- DD/MM/Y


```
Check Lines   ☐
```
Select to verify if both phone lines are present at start-up and each following 3 minutes. D4 measures current between tip and ring. This measure grabs phone lines for less than a second at start-up and each 3 minutes after last call on line. D4 reports

failure on front display icon, on status in Configurator and with a specific error message. In addition, D4 will send to PC event: 0000 03 (line 1 absent) 0000 04 (line 1 present) 0000 05 (line 2 absent) 0000 06 (line 2 present).

`Acknowledge delay` `1`

Add up to 9 seconds delay before repeating acknowledge to PC. Use only if needed.

`Clear Zero   ☐`

Select to remove '0' before any digits in pulse e.g. Account 0123 will be reported as 123. Use only if needed.

`Sescoa SS vs 4x2 CS   ☐`

Legacy feature. Enable to convert Sescoa SS to 4x2 pulse. Do not enable unless you have panels transmitting in Sescoa SS and verified the conversion process.

`4x1,4x2,4x3 Morph ▶`

Legacy feature. Set only if required. Converts a digits to hex digits.

WARNING: HEARBEAT settings is enabled by default. Option to disable is not available from Front display. Set this option in PC Configurator. Heartbeat signals to computer every 30 seconds only in Native and SG modes

UNIT STATUS Display key operational status

```
Unit status ▶
Typical:
L1:Connected         Power: Main
L2:Connected         Battery: 0%
Serial:Disconnected  Printer: Connected
USB: Connected       Power: Main
```

Possible display page 1
```
L1/L2: Connected / disconnected / Receiving
Serial: Connected / Disconnected
USB:  Connected / Disconnected
Power: Main / Battery
Battery: 0% /25% /50% /75% /100%
Printer: Connected / Disconnected
```

Possible display page 2
```
Unit name
Owner's name
X.X.X & X.X  version level receiving firmware & version level display firmware
XXXXXX serial number
```

SYSTEM Options to restart, revert to Factory settings or clear memory buffer

```
Restart
Factory Default
Clear Event memory
Navigate ◄▶
```

Navigate by moving the highlight rectangle over the desired function using the left and right arrows. Enter/Carriage return to accept selection. WARNING: pressing enter will activate the option right away without further warning.

Restart   Reboot the D4, does not change parameters, keeps event memory.

Factory Default   Restart D4 with Factory default to all parameters

Clear Event Memory   Empty memory of all received events.

ICONS IN STATUS BAR   Icons in status tab are a perceptual representation of unit status and are actualize are various intervals. Please refer to description of features and parameters to comprehensive explanation.

Possible icons displayed and general meaning:

LINE 1

Line 1 on hook, waiting to answer

Line 1 off hook, answering

Line 1, dead line detected

LINE 2

Line 2 on hook, waiting to answ

Line 2 off hook, answering

Line 2, dead line detected

OUTPUT PORTS

USB port connected to PC

USB port disconnect from PC

Serial port connected to PC

Serial port disconnected to PC

Printer ready

No printer connected

POWER

Main power connected

Main power disconnect (will show only if sufficient battery power)

Battery full 100% >9.5V DC

Battery 75% >8.5V DC

Battery 50% >7.5V DC

Battery 25% <6.5V DC

Battery empty 0% <6V DC (will show only if main power is present)

DEFAULT PARAMETERS

The following parameters are the factory default. They are written in a non erasable boot loader (except if firmware is reprogrammed under MCDI's guidance). Resetting the receiver to Factory Default from the SYSTEM menu will revert receiver to the following:

Language   English

Display options
>   Idle mode: last event/time
>   12/24H: 24H
>   Time and date format: DDMMYY HHMMSS
>   Adjust time and date: reset does not affect
>   Line 1 Led: yes
>   Line 2 led: yes
>   PC led: yes
>   Power Led: yes

Line options:
>   Line 1: yes
>   Line 2: yes
>   Both lines, retrieve: not applicable
>   Apply factory default: not applicable
>   Line number: 001/002
>   Receiver number: 001
>   Wait after off-hook: no
>   Number of rings: 1
>   Listen-in code: blank
>   Listen time out: 180 seconds
>   Formats: Pulse, DTMF, SIA selected, all others de-selected.
>   Handshake sequence: 1400Hz/SIA/Contact ID/2300HZ
>   Auto handshake: yes

Communication speed:
>   Reporting to PC speed: 115200
>   Serial printer speed: 38400

Output options:
>   Main: Serial
>   Secondary: None
>   Caller ID: None
>   Format: MCDI
>   Caller ID, All events: No
>   Enhanced mode: No
>   3x2 instead of 4x1: No
>   Check Printer: No
>   Compress/extended: No
>   Send date/time SG: Yes
>   Send year SG: No
>   Check Line: Yes
>   Hearbeat: Yes
>   Acknowledge delay: 1 second
>   Clear Zero: No
>   Sescoa SS vs 4x2 CS: No
>   4x1, 4x1,4x3 Morph: blank

VIEWING EVENTS   Front display

Navigation   From the front display's idle menu, access events log by pressing up ▲or down ▼ buttons.
Front the front display, a new event will switch display to current event viewing mode.

In the event screen is locked, unlock by simultaneously pressing buttons left ◄+right ►+up▲+down▼

navigate in the event piles by up▲ or down▼for event per event viewing.
right►+up▲ or right►+down▼ will jump 25 events (or to most recent/older if less than 25 events are in pile)
left◄+up▲ or right►+down▼ will jump 200 events (or to most recent/older if less than 200 events are in pile)

Event viewing   3 modes are available and must be predefined in the Display options>Idle mode menu

Last event mode   new event will be presented automatically during 10 seconds. D4 will return to idle menu after 10s.
Keep last event mode   a new event will be displayed. D4 will not return to idle menu unless enter or escape keys are pressed. Any new event received will replace the one on current display
Manual mode   a new event will be displayed. NO new event will be display unless enter of escape keys are pressed. Returning to idle menu will require acknowledge (Enter/CR) of every event not acknowledge.

Event log   Will display the most recent event. Event will not be replaced by new event received after entering the event log. However envelop icon and number at the bottom right will display the number of events received since accessing this menu. Navigate up or down to view events. Navigate up until you reached the new event point in the pile. Fast jump will bring you toward entry point until you reach the new events.

Typical event displays:
First line displays: HH:MM DD/MM Line number   Event number in pile (from 0 to 4095)
Second line: displays raw alarm code
Third line displays: Caller ID number up to 18 digits
Fourth line: basic navigation options
Fifth line: status icons including number of new events while in the Event log.

Contact ID
```
13:16  29/11  Line: 1        Event#3874
Code:  1235 18 E132 91 992
Caller ID:    5144811067
                          ◁⊠ Exit  ▼Prev  ▲Next
```

SIA
```
13:38  29/11  Line: 2        Event#3910
Code:  [#1236 | NBA002]
Caller ID:    5144870441
                          ◁⊠ Exit  ▼Prev  ▲Next
```

PULSE
```
14:52  29/11  Line: 2        Event#0003
Code:  1234 52
Caller ID:    5144879506
                          ◁⊠ Exit  ▼Prev  ▲Next
```

EXd_D4_configurator

If not using the front display Configurator, D4 can be configured using the PC tool. All functions and features on the front display are available from the PC Configurator.

Use of this PC tool is required for some functions such as Name of the device and Owner's name. It is also mandatory for upgrading the Firmware of the receiving and peripherals logic of D4.

While front display languages are fixed and limited to English, French, German, Italian, Portuguese, Russian and Spanish, more languages can be integrated in the PC configuration tool.

Latest configurator version is available from   http://mcdi.com/tools/d4.zip
If your D4 is more than one year old, please check first with MCDI support to insure this version is compatible with your D4. Please provide your serial number from the back of unit.

Requirements to install EXd_D4_configurator   Windows XP, Vista or 7 with administrator privileges.
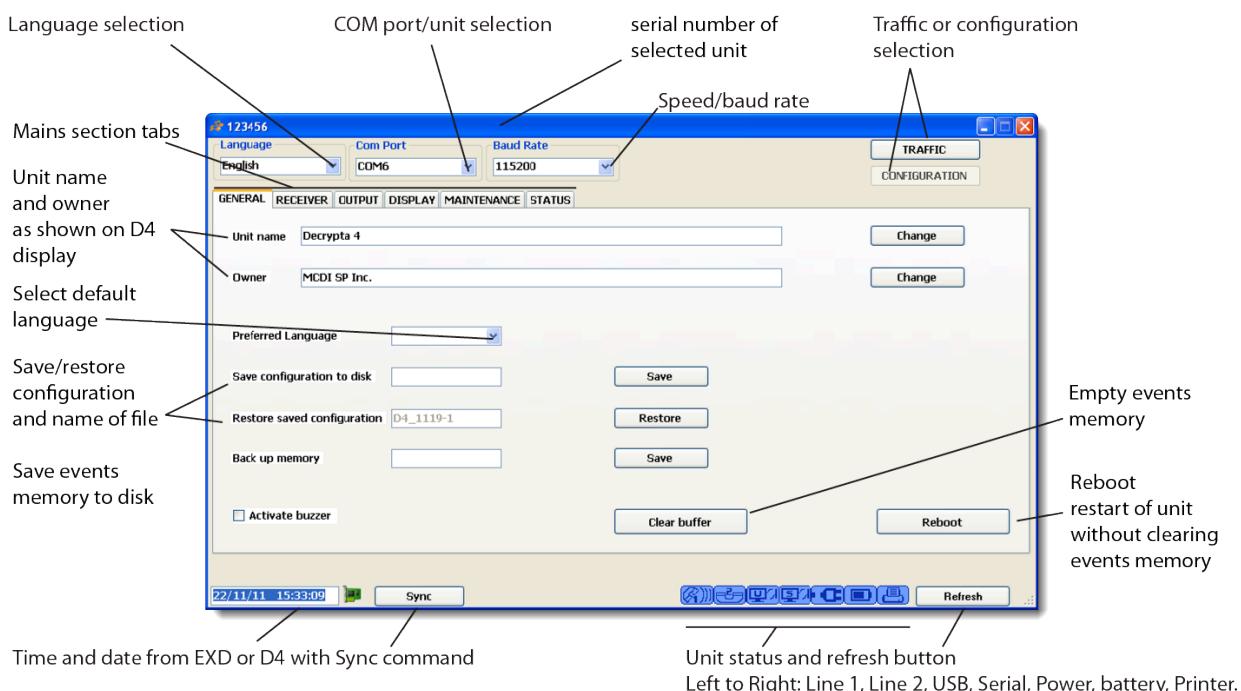
Installing EXd_D4_configurator Installation requires administrator privileges. It will installs Microsoft .Net framework 2.0 if no .Net framework is found.
Run the EXd-D4(vX.X.X).exe. This will install necessary USB drivers, .Net framework is not already installer and Configuration application.
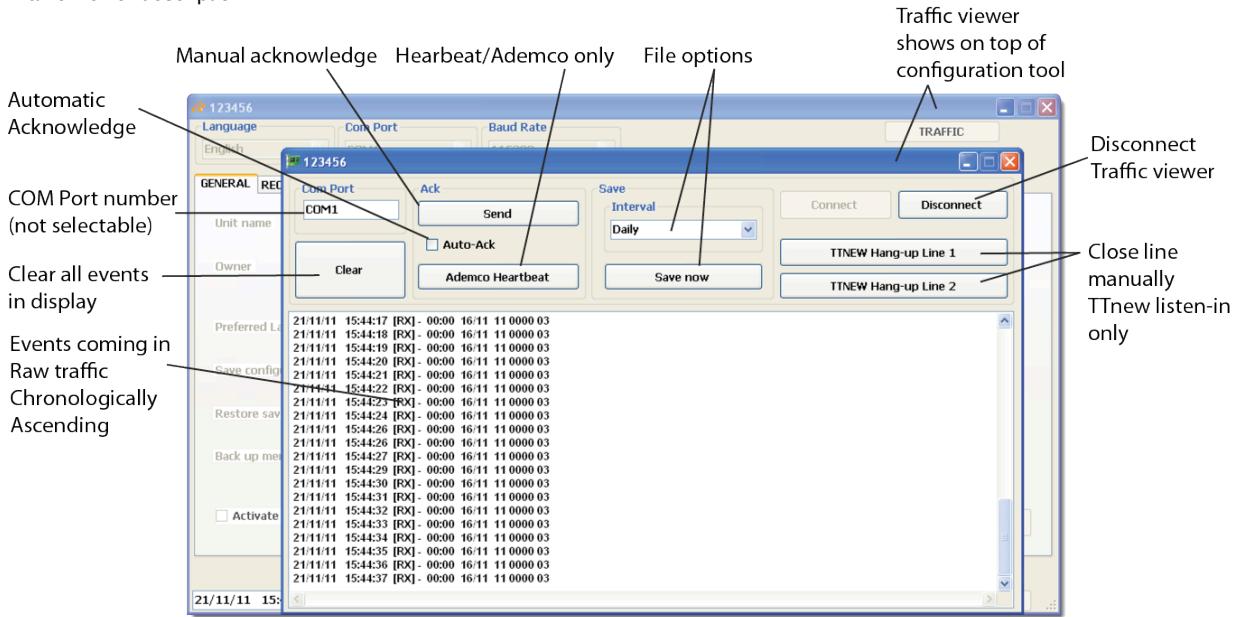
Launching Configurator   While it may be possible to launch Configurator without a Ed or D4 connected, there is not benefit to it. Configurator application is made to be used with a connected MCDI Ed or D4.

Configurator description

Main/first configuration form

Language selection   COM port/unit selection   serial number of   Traffic or configuration
                                                         selected unit   selection

                                                   Speed/baud rate

Mains section tabs

Unit name
and owner
as shown on D4
display

Select default
language

Save/restore
configuration   Empty events
and name of file   memory

Save events   Reboot
memory to disk   restart of unit
   without clearing
                                                                                 events memory

Time and date from EXD or D4 with Sync command   Unit status and refresh button
                                                        Left to Right: Line 1, Line 2, USB, Serial, Power, battery, Printer.

Traffic viewer description

Automatic
Acknowledge

Manual acknowledge   Hearbeat/Ademco only   File options

Traffic viewer
shows on top of
configuration tool

COM Port number
(not selectable)

Disconnect
Traffic viewer

Clear all events
in display

Close line
manually
TTnew listen-in
only

Events coming in
Raw traffic
Chronologically
Ascending

CONFIGURATOR AND TABS

Two main features are available in the Configurator: Configuration tool and traffic viewer. At start up, General tabs loads. To access Traffic viewer, click on Traffic button at top right. You cannot use Traffic viewer and configurator at the same time as they use the same port. Using Traffic will suspend Configurator. You must exit from Traffic viewer to continue configuration.

Language   Select language of the Configurator and traffic viewer. This does not affect the language selection of D4 front display which is made by either front display or by selection at Configurator>General>Preferred Language.

Com Port   Select Com Port from drop down menu to select unit to configure. If necessary go to Device Manager to locate the correct match of port/unit. If successful, Configurator will display a prompt indicating parameters were received successfully. NOTE: if unit is connected over both serial and USB ports, both will show in different COM ports.

Speed   Select speed of transmission between Ed/D4 and Configurator. Default is 115200 bauds

Identification/serial number   serial number of the unit selected is display in the top bard of the Configurator when COM port is selected.

Available tabs are:
GENERAL   configuration of general parameters non related to phone lines or output.
RECEIVER   configuration of lines parameters and handshake sequence, most per phone line.
OUTPUT   configuration of output format and port selection, common to both phone lines.
DISPLAY   configuration of parameters for front display of D4.
MAINTENANCE   time and date manual input, firmware upload, default reset, printer speed.
STATUS   details of key parameters of Ed/D4.

GENERAL TAB

Unit name   Enter up to 30 characters (ASCII lower table) and press Change button to register.

Owner   Enter up to 3- characters (ASCII lower table) and press Change button to register.

Preferred Language   set default language for front display of D4. This setting may be different from Language selector of the Configurator located at top of the Configurator tool main form.

Save configuration to disk   Enter desired name of configuration (ASCII lower table) and press Save button to the right of line to save. Configuration will be save inside the MCDI>ExpreciumD-D4 folder.

Restore saved configuration   specify name of the file you want to use and press Restore to upload to Configurator. File must be in the MCDI>ExpreciumD-D4 folder.

Back up memory   Specify name of the file to save log file with content of the events memory to disk. File will be located in the MCDI>ExpreciumD-D4 folder. This file cannot be re-uploaded to Ed or D4.

Activate buzzer   This parameter is selected by default. It is only available in the Configurator. It is not available in the Buzzer sound when events are received, during configuration transmission between Ed/D4 and PC. De-select to disabled onboard buzzer. NOTE: disabling buzzer will also disable buzzer notification of events receiving.

Clear Buffer   Pressing on Clear buffer will erase all events in the memory buffer. NOTE: unless you want to empty buffer on purpose, there is not benefit to clearing this memory as it is a circular pile or 4095 events. When full, newest event always writes over the oldest event in memory.

Reboot   Pressing on reboot will restart unit without clearing the events memory. NOTE: this may take up to 30 seconds and receiving will not be available during this period. Changes made in the Configurator do not require Reboot.
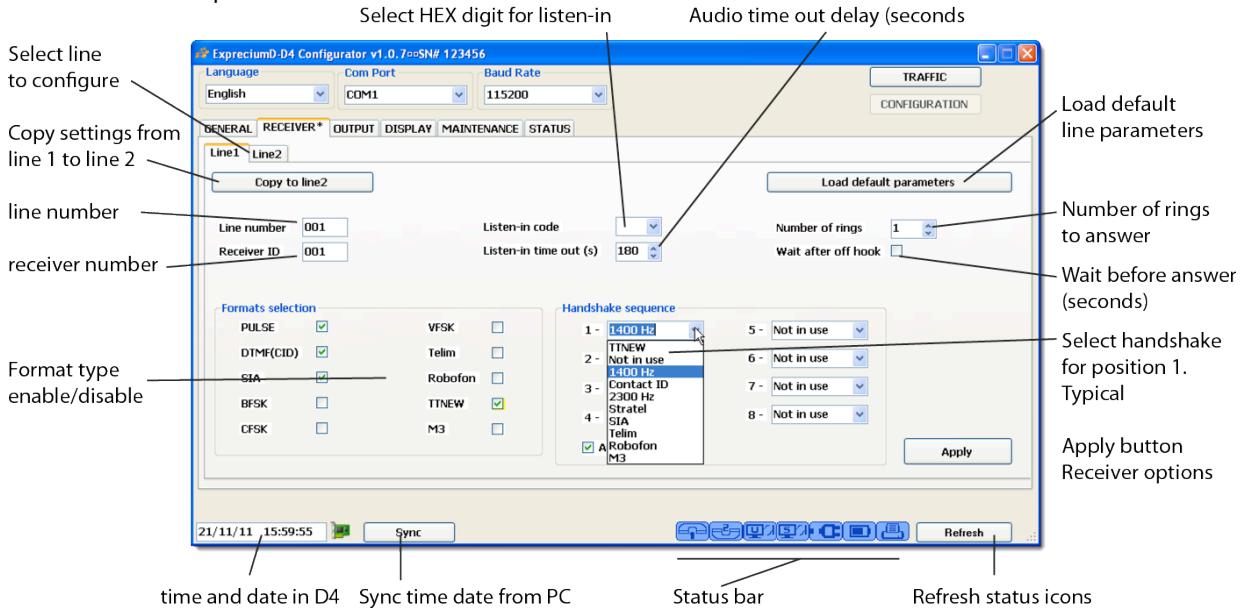
Status bar and refresh   Configurator display an emulation of status bar from D4 front display. Refresh is needed actualize status. Communication status may update if another connection is made to pc using a port different from the one used by configurator.

Time and date   Display time and date retrieved from Ed/D4. Sync will sent time of PC to Ed/D4. There is no automatic daylight savings setting. Must be set manually. As a general practice, MCDI recommends checking time and date sync between PC and receiver at beginning of each shift.

RECEIVER TAB   Most receiving options are available from the Receiver tab. Most parameters are set per phone line.

Receiver tab description

First Select **Line 1** or **Line 2** tabs. You can apply selected parameters to the other line once finished or configure separately.

Press on Load default parameters to reset line to factory default.

Line number   Assign a line number to current line you are modifying. Choice from 0 to F. NOTE: it should be verified if line number and number of digits is compatible with the output format selected. Selection will insert line number for each alarm event sent to PC. Line numbers from line 1 or 2 do not need to be sequential as this is a convention for output string only.

Receiver ID   Assign a receiver number from 0 to F. This value is the same for both lines. NOTE: it should be verified if receiver number format and number of digits is compatible with the output format selected. Selection will insert receiver number for each alarm event sent to PC.

Listen-in code   Assign a unique identifier for Listen-in/2 way voice to Pulse signals. Values from 0 to F. Does not affect other preset value for Contact ID, SIA or Tunstall TTnew.

Listen-in time out   Assign a value in seconds to the length of listen-in period. Default is 180 seconds. Value from 0 to 255 seconds.

This value does not affect length of call if operator uses a handset to keep line off-hook.
Use left and right arrow keys to move from one digit to the other and up and down keys to change value.

Number of rings   Change number of rings to answer a call. Default is 1 and selection can be from 0 to 5. Warning: the value 0 could not work with some ring patterns or some telephone company ringing system. Revert to 1 if experiencing problems

Wait after off hook   Select this option to add a 5s delay after off-hook before sending handshake sequence. Only use this option if you now it is needed.

Formats selection   Enable handshake type with this menu. Default is Pulse, DTMF (Contact ID) and Modem (SIA).

WARNING: To insure there are no conflicts, do not enable a type if you are not receiving panel using this type of protocol. Some formats may conflict with others and may not be mutually available on the same phone line.
Please contact MCDI about using TTnew to receive application note.
Robofon needs to be enabled at factory specifically to work with D4 and is not standard in D4.

Handshake sequence   Assign a format type to each position from 1 to 8 in the handshake sequence. Receiver will present this sequence until panel handshakes. If panel recognize a format, rest of the handshake sequence will not be sent. Use this feature to speed up handshaking especially is most of the panels sending to receiver are of the same types.

NOTE: A format needs to be selected in Format selection to be available in Handshake sequence selection. Format TTnew must be in first position and will not be available at other positions. DO NOT enable format selection you are not using as conflict may arise.

Auto handshake   select this option to present memorized choice to panel. If panel is not recognized, the programmed handshake sequence will be used.

NOTE: even if a format type is disabled, it is still possible to enable a corresponding frequency in the handshake sequence. Some panels sometimes respond better to lower or higher frequencies than expected and the handshake sequence may be used to tune handshake.

NOTE: it is consider a best practice not to select a type if not used by panels. Do not add more format than necessary in the handshake sequence as this may force a longer than necessary handshake transaction.

NOTE: TTnew format should be in position 1 to avoid conflicts. It is not available at other positions.

Apply   Press on apply settings to upload to receiver.

Frequencies list
1400Hz frequency   typ. 1s 0.55Vrms (For Pulse formats including Sescoa SS, Ademco Express, Ademco High Speed, BFSK, Some Contact ID panels, Scantronics, Sescoa SS, Surgard 4x3, VFSK).

2300 Hz frequency   typ. 1s 0.55Vrms (Pulse formats including Sescoa SS, Ademco Express, Ademco High Speed, BFSK, Some Contact ID panels, Scantronics, Sescoa SS, Some SIA panels, Surgard 4x3, VFSK).

Contact ID   1400Hz during 100ms - pause 100ms - 2300 Hz during 100ms. Second round if needed after 1s pause: 1360Hz 100ms - Pause 100ms - 2260Hz 100ms. Applicable to Contact ID and Point ID panels plus other panels requiring 1400Hz or 2300Hz handshake frequency.

Stratel   (Custom format for Stratel Malaysia) 1785Hz typ. 5s

SIA   2225Hz typ 1s 0.55Vrms   SIA, CFSK, Some panels in BFSK, DTMF, Pulse, FSK or requiring 2300Hz handshake

Telim   2100Hz typ. 2s

TTnew   This format should be in first place only if used. Wait 3s for panel Junk tone (DTMF 1 or 1850Hz).

M3   2225Hz typ. 1.5s

OUTPUT TAB   Output tab groups parameters related to reporting alarm events to connected PC. Most parameters are common to both outputs.

Output tab description

MCDI recommends using 'real' serial port without USB to serial converter. While this option may work, it may not be as reliable as a true serial port.

Main   Select output identified as Main from USB or Serial. Secondary will changed automatically. Receiver will only recognize handshake coming from this output.

Secondary   Select output identified as Secondary. Changing this will change Main selection.

Caller ID   Caller ID (Bellcore type 1, ETSI from some Telco) selection to output only, printer only or both output and printer. Requires service by Telephone company. NOTE: Caller ID is not widely standardized. Caller ID is highly variable from one country to the other and even from one phone provider to the other. D4 works well with Bellcore type 1 and ETSI but may not work with every Telephone provider. Other types of Caller ID may not work.

Output format   Select predefine communication protocols from MCDI, Sur-Gard or Ademco 685. Enhanced mode is also available for MCDI and Sur-Gard if option is selected. Refer to further description on MCDI mode to know exact string structure. Refer to Sur-Gard and Ademco documentation for descriptions of said protocols.

NOTE: Most Automation software on the market require the protocol type to be predefined. Insure both receiver and Automation software are matched.

Ack delay   Change only if necessary. Wait time in seconds for ACK reception before resend (Surgard/Native mode only).

Caller ID, all events   Select to send Caller ID to all events. De-select to send Caller ID only for errors.

Enhanced mode   MCDI enhanced permits 3 digits for receiver ID and 3 digits for line number. Sur-Gard enhanced is equivalent to MLR2000 mode. Enhance mode does not exist for Ademco 685.

3x2 instead of 4x1   enable to avoid conflict with 4x1 Compressed Expanded, In pulse, selecting will consider 3 digits for account instead of 4 if 5 digits are received.

Compress/Extended   Disabled by default. Enabling to add a 0 in front of
3x1 with extended compress will convert to 4x2 standard by adding 0 in front of character string.
Example: 444 5 will become 0123
    Yes =   Compressed extended 3x1 or 4x1   (No = default)
    Extended

    Example: 3 x 1 Extended compressed in 4 x 2 standard
                            123 4
                            444 5   After compression: 0123 45

                Example: 7 x 1 Extended compressed in 4 x 2 standard
                            1234 5
                            5555 6   After compression: 1234 56

Send date time/SG   By default date and time are not sent in SG format. To add date/time HH:MM:SS/DD/MM at the end of the reporting string.

Send year SG   By default Year is not sent in Sur-Gard mode. Select to add YY to output string. Requires Send date and time /SG to be enabled. Replaces seconds with format: HH:MM- DD/MM/YY

Check lines   Select to verify if both phone lines are present at start-up and each following 3 minutes. D4 measures current between tip and ring. This measure grabs phone lines for less than a second at start-up and each 3 minutes after last call on line. D4 reports failure on front display icon, on status in Configurator and with a specific error message. In addition, D4 will send to PC event: 0000 03 (line 1 absent) 0000 04 (line 1 present) 0000 05 (line 2 absent) 0000 06 (line 2 present).

Heartbeat   Enable for YES, disable (default) for no. D4 sends Heartbeat signals to computer every 30 second only in Native mode and Surgard mode.

Check printer   Enable to verify if printer is present either on Serial or USB ports. Will report present if one of the other is present. NOTE: MCDI does not recommend connecting two printers to D4. Printer absence or presence is not reported if option is deselected.

Clear Zero   Enable to remove in 3x1 and 4x1 Disabled = zero present (default)
Tells D4 receiver <u>not to insert</u> a zero in front of the account number and in front of the alarm code, for incoming 3 x 1 and 4 x 1.

                Example: 3 x 1 Extended compressed in 3 x 2 standard
                            123 4
                            444 5   After compression: 123 45

                Example: 3 x 1 Standard 3 x 1
                            123 1

                Example: 4 x 1 Standard 4 x 1
                            1234 1
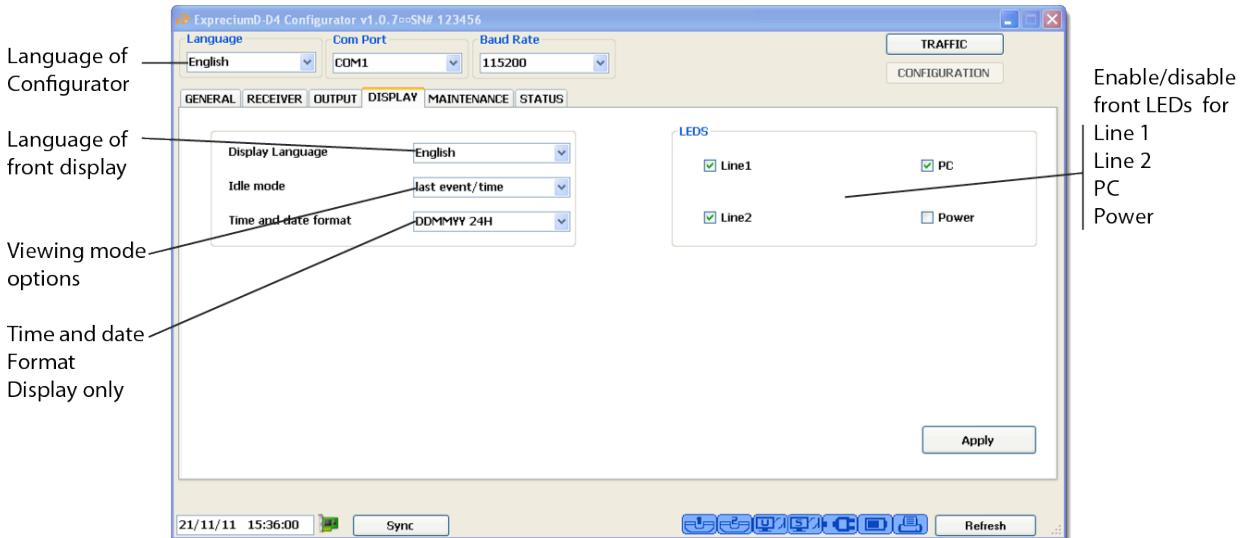
   Example:3 x 1 and 4 x 1 <u>without</u> the CLEAR ZERO option:
                          0123 01 for 3 x 1
                          1234 01 for 4 x 1

Sescoa SS vs 4x2 CS   Legacy feature. Enable to convert Sescoa SS to 4x2 pulse. Do not enable unless you have panels transmitting in Sescoa SS and verified the conversion process.

DISPLAY TAB

All options pertinent to settings of D4 display are located in the display tab.

Display tab description:

Display language   Select from English, French, German, Italian, Portuguese, Russian and Spanish. Other languages may be available in the Configurator. You can use one language in Configurator while another one is used in Front Display of D4. Display language does not change alarm events.

Idle mode   refers to Event viewing mode and sets the operation mode for viewing current events out of the event logs. Select from Last event/time, Keep last event mode or Manual mode. A viewing mode must be predefined.

         Last event mode: new event will be presented automatically during 10 seconds. D4 will return to idle menu after 10s.

         Keep last event mode: a new event will be displayed. D4 will not return to idle menu unless enter or escape keys are pressed. Any new event received will replace the one on current display

         Manual mode: a new event will be displayed. NO new event will be display unless enter of escape keys are pressed. Returning to idle menu will require acknowledge (Enter/CR) of every event not acknowledge.

REFER TO EVENT VIEWING SECTION ABOVE FOR COMPREHENSIVE DESCRIPTION OF VIEWING EVENTS ON FRONT DISPLAY.

Time and date format   Set display of time and date to one of the following:

DDMMYY_HHMMSS 12H
YYMMDD_HHMMSS 12H
MMDDYY_HHMMSS 12H
DDMMYY_HHMMSS 24H
YYMMDD_HHMMSS 24H
MMDDYY_HHMMSS 24H

NOTE: This selection only refers to date and time display from D4 and not to events formatting or reporting to PC.

LEDS Some lights are continuously flashing to warn user. It is possible to deactivate functioning of a LED if not pertinent or annoying. For example if you are only using one phone line, you may deactivate LED of the second line as it will blink continuously.

Select to enable/disable Line 1, Line 2, PC (PC absence/presence), POWER

NOTE: deactivating a LED will not deactivate the function.

NOTE: deactivating a LED will not deactivate the status icon which will display fault permanently

MAINTENANCE TAB   Parameters in the maintenance tab are to set time and date, com speed, reset, and firmware update.

Maintenance tab description

Adjust time and date   If the time and date should not be synchronized with PC time, you can enter time and date manually. Press on Apply to send new Time and date to D4.

Adjust communication speed   Synchronization of speed is typically needed with most automation software. Select speed in bauds from 1200 to 115200. Select accordingly in automation software.

Configuration Apply factory default   To reset D4 to factory default, select either L1,L2 for receiving parameters or Output for output formatting and press Apply. See default parameters list above.

Update firmware   Use only under MCDI Guidance. This is to update receiving section providing communication is established between PC and D4. If communication is not established, D4 cannot be reprogrammed this way.

NOTE: D4 will not be available when update is being made. This may take up to 2 minutes.

NOTE: This procedure does not affect display programming which requires a different programming and connecting a ATMEL AVRISP programmer. Contact MCDI if you need to reprogram display.

NOTE: This procedure does not affect Boot loader. Reprogramming Boot loader requires making a short circuit on specific parts and reprogramming over USB or special internal debug port. This reprogramming requires MCDI guidance.

STATUS TAB   shows key parameters in literate form. They are the same as status icons at bottom of configurator or on front display. There are no write fields in this page:

Typical:
Line 1:   Connected   Power: Main
Line 2:   L2 Connected   Battery: 100%
PC1:   USB Disconnected   Printer: Connected
PC2:   Serial connected   Power: Main
Unit name: Decrypta 4 (typical)
Owner: selected name
Firmware: Exprecium D: vx.x.x

Possible status
L1/L2: Connected / disconnected / Busy (receiving)
PC1: USB connected / USB disconnected
PC2: Serial connected / Serial disconnected
Power: Power connected / Power disconnected
Battery: 0% /25% /50% /75% /100%
Printer: Connected / Disconnected

Unit name: as selected in General tab
Owner's name: as selected in General tab

NOTE: Firmware level for display programming is only available from the Status menu of Front display.

ICONS IN STATUS BAR Icons in status tab are only a punctual representation of unit status and are only actualized each 10 seconds. You can press Refresh to receive actualize status tab and icons

Line 1 on hook, waiting to answer

Line 1 off hook, answering

Line 1, dead line detected

Line 2 on hook, waiting to answ

Line 2 off hook, answering

Line 2, dead line detected

USB port connected to PC

USB port disconnect from PC

Serial port connected to PC

Serial port disconnected to PC

Printer ready

No printer connected

Main power connected

Main power disconnect (will show only if sufficient battery power)

Battery full 100% >9.5V DC

Battery 75% >8.5V DC

Battery 50% >7.5V DC

Battery 25% <6.5V DC

Battery empty 0% <6V DC (will show only if main power is present)

USB PORTS High retention　D4 is equipped with special USB connectors for output and device. Both types of connectors are Samtec USBR high retention force made to comply with the class 1, Div II minimum withdrawal requirement of 15 Newtons. It is normal to feel the USB connector is either hard to insert or remove.

D4 USB ports are not designed for frequent removal or insertion. By nature they should stay connected and rarely disconnected.

They are orange color-coded insulator to differentiate them from standard withdrawal force connectors (USB Series) that are available with white or black plastic. They are compatible with standard USB connector.

USB Driver information
Location　Look for driver at first level of Exd-D4 folder provided on CD or downloaded from: http://mcdi.com/tools/d4.zip

Name of the drivers:
Windows 2000: ExprecumDwin2000.inf
Windows XP and up: ExpreciumD.inf

Linux　included in Kernel 2.6.31 and up. See section on Linux driver in TOOLBOX section.

Firmware upgrade　This procedure should only be realized under MCDI recommendation and guidance.

Firmware upgrade requires using the PC configuration tool (maintenance tab and to connect unit to a PC, preferably using the serial port without converter. Contact MCDI support staff to realize a firmware upgrade.

Upgrade of the display programming requires a ATMEL AVRISP programmer. Most MCDI key dealers have such programmer. It is also easily available for purchase from resellers such as Arrow, ATM, Avnet, Digi-key, EBV, Mouser, Specvision.

Transmission to printer

Printer compatibility　D4 is compatible with most printer of the Epson TM-88 family using a serial port. Although not tested by MCDI, printer models TM-U200 and T20 are compatible on specifications. Units manufactured in 2012 will also benefit from USB connectivity to such models.

Connection through serial port is achieved by a serial connector located at back ot D4, type DB9. Pin out is:

Units manufactured in 2011 including green D4: DB9 female
1 no connect
2 RX
3 TX
4 DTR
5 Ground
6 DSR
7 RTS
8 CTS
9 No connect

Units manufactured in 2012: DB9 male respecting ATmodem standard.

MCDI is working on compatibility with some star Micronic printers during 2012.

Printer checking option　May be disabled/enabled with Configurator/front display option 'Check printer'. Messages about printer presence and paired error messages may be disabled if Check printer option is disabled.

Status of D4 connection to PC is sent to printer upon connection/disconnection. Computer absent or Computer restore will print as text

Line status (dead line detection) is sent to printer upon change as an event 0000 34 or 0000 56.

If selected, events will print upon arrival.

Configuration of receivers print-out (future)   MCDI is planning to add this feature in D4 released in 2012. Most units could be refitted. Reprogramming of the front display by Atmel AVRISP may be required. This reprogramming is available from most MCDI power centers or from MCDI. Upgrade is also available to MCDI customers who have a AVRISP programmer.

See section below **Transmission to computer and printer in MCDI standard mode**

MCDI Logger tool

Logger is a legacy software tool made circa 2004 to log raw output of receiver. Logged data may be read by word processors and Excel for reporting or /and analysis.

REQUIREMENTS
See Axe Configurator tool Java requirements and installation procedure.

Port:

Choose and connect to the port your receiver device is attached to.

Interval:

Set interval at which a new log file will be created. Possible choices are "Hourly", "Daily", "Weekly" and "Monthly". Consequently, each log file will contain signals came within an hour, a day, a week, or a month, respectively.

Day of month, day of week, hour, minute:

Set the exact time when a new log will be created. The choices available depend on the interval chosen above. For example, if "Hourly" interval is selected, and the minute is set to "10", then a new log will be created at 13:10, 14:10, 15:10, 16:10 etc.

NOTE: *Every time you change the interval type or its settings, you should reconnect in order for the changes to be applied.*

Log-Directory:

Select the location of the logged signals. The organization of this directory is as follows:

>   (log-dir) \ (com-port and device name)   e.g.   MyLogs\COM3__Exprecium\

Each log file is named as follows:

>   Year-Month-Day__Hour-Min.log   e.g.   2004-06-12__13-00.log

Thus, it shows the date and time it was created.

NOTE: *Every time the logger starts, it attempts to open the previous log, based on the interval settings. For example, if it was 14:25 currently, the interval was set to "Hourly", and the Minute was set to "00", the logger will try to open the log created at 14:00. If, indeed, this file exists, the logger will use it to log incoming signals until 15:00, as usual. If, on the other hand, the file does not exist, the logger will create a new log labeled with the current time of 14:25 and use it to log incoming signals until 15:00.*

Auto-Ack

Toggle automatic acknowledging of the incoming signals.

Acknowledge

Acknowledge the reception of the incoming signal.

Disconnect

Disconnect from the receiver device.

Change font size

To change font size of the signals, right-click on the signals window and select "Increase" or "Decrease Font Size".

Connecting D4 to PCs.
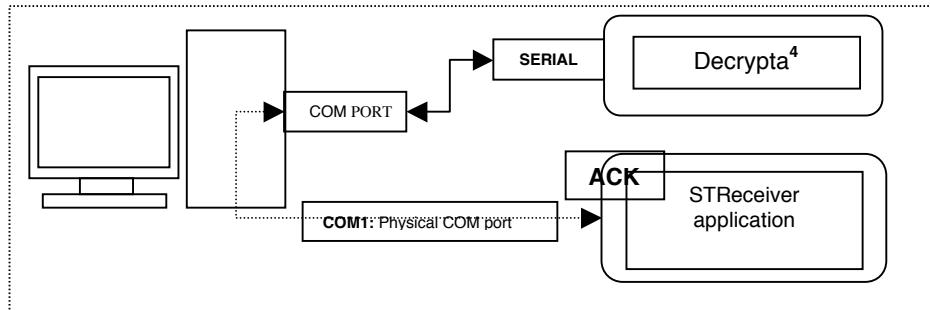
Typical scenarios are:

No connection to PC: D4 can be used in a stand-alone way, without PC. All configuration parameters can be accessed from the internal configuration menu.

Using one connection (USB or Serial): D4 connected by USB port only
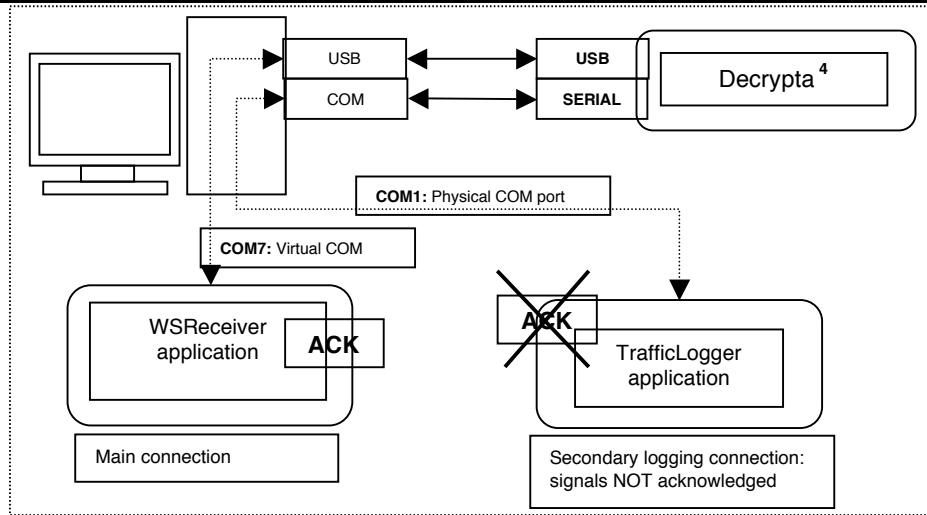
-
-
- Using only one connection: D4 connected by Serial port only
-
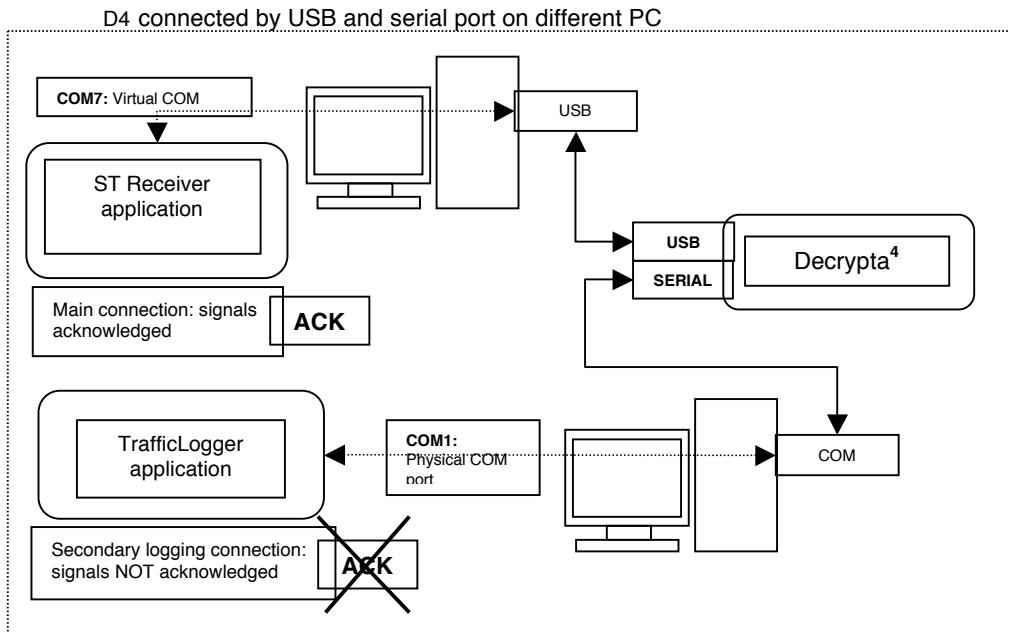
Using both connections (USB and Serial): IMPORTANT: For flexibility of operations the signal received by the receiver can be acknowledged from either USB or Serial connection. Main output should be selected in the Output tab/menu of Configurator. Evens will be acknowledged only from the Main port. Secondary one should be considered only for logging.

When connected in this fashion, Decrypta 4 will be seen by the PC as two COM ports. One, the serial connection, is the physical COM port (ranged COM1 to COM4 usually depending on the number of available serial ports). Another connection, through USB, is a "virtual" COM port (can be in the range COM5 to COM256). Both COM ports can be used to input signals to the PC, therefore one COM port can be used to connect to PC receiver software, and the other port for logging or monitoring of signals.
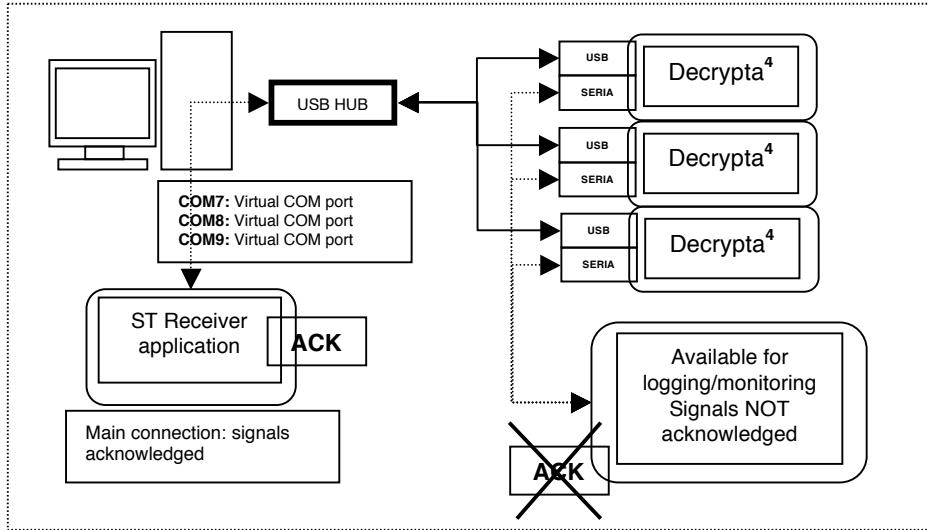
       D4 connected by USB and serial port on same PC

D4 connected by USB and serial port on different PC

Using USB Hub

- Several D4 connected to PC by USB hub.
-
- **CAUTION**. When using HUB always feed power to D4 by way of external power supply.
-

TOOLBOX (CD content)
Configuration
Communication tools
        Wincom
        STM Mobile web viewer
        STreceiver
        MCDI Logger
DRIVERS

Configuration tools   D4 can be configured directly from its display and front panel commands. You may also enjoy the same commands from a PC connected to D4. Configuration tools are provided on the CD that came with D4 or by download from www.mcdi.com

DOS, Windows 95, 98, ME, NT, 2000   No tools available for configuration under Dos, Windows 95, 98, NE, NT or 2000. For configuration, OS such as Windows XP, Vista or 7 should be used with .Net framework and administrator privileges. If using other OS than Windows XP, Vista or 7, refer to section Configuration from front display. Alternatively, you can request configuration commands from MCDI to build your own application.

USB port will not work under DOS and Windows 95 due to the nature of USB and OS limitations. Serial port must be used.

Linux   This OS is not supported for configuration. Configuration should be made from front display. Alternatively, you can request configuration commands from MCDI to build your own application. Traffic can be viewed under linux using an application made for this or terminal.
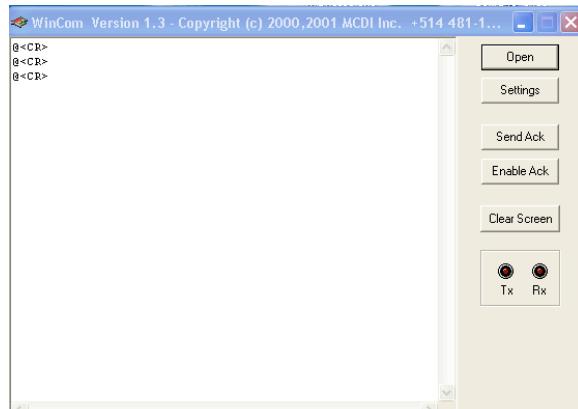
Macintosh   This OS is not supported for configuration. Configuration should be made from front display. Alternatively, you can request configuration commands from MCDI to build your own application

Traffic can be viewed under Linux using an application made for this or terminal. A terminal application such as Macwise or Quickterm could be used to view traffic from D4.

Developers tool   Coding interface of D4 commands is provided free of charge to developers who present projects and credentials.

COMMUNICATION TOOLS

Software tool WINCOM (Windows 95SE, 98, ME, 2000, XP)

WINCOM is a legacy application made by MCDI circa 2000. It still works under Windows XP, Vista or 7. It is a light type of terminal application allowing traffic viewing on a com port with acknowledge sending capacity. Use WINCOM utility to test communication between computer and D4 if you can not use Configurator's traffic viewer.
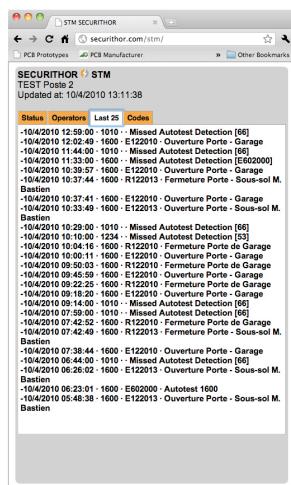
-   Double click on WINCOM icon to start the application.
-   Click on SETTINGS to choose COM port (do not change other parameters) that your D4 is connected to then click OK.
-   Click on OPEN to start monitoring selected port. If D4 is properly installed and configured you will see some signals.
-   Click on ENABLE ACK to acknowledge
-   all incoming signals.

DOS   Due to the nature of USB port, no drivers are provided for DOS

Using STM Mobile Web Viewer to view D4 events on the web   To view D4 events on the web, it is possible to use STM a SECURITHOR component without having to purchase a full license of SECURITHOR. Inquire about purchasing STM to MCDI's SECURITHOR sales staff at securithor@mcdi.com

STM is a SECURITHOR component made to upload key status of SECURITHOR over the internet. It is possible to use is in combination with STreceiver to view traffic on connected PC and on the web. While it needs SECURITHOR to install all database resources at first, it is not required to operate SECURITHOR to use STM. MCDI sells STM separately from SECURITHOR. It is also possible to add STM to an existing SECURITHOR to view alarm events online.

STM was made to display an interface compatible with iPhone 3, 3G, 3GS, 4, 4GS, most Android phones and some Symbian or Linux based phone. The interface also adapts to web browsers at 960 pixels width. The web interface requires compliance with CSS3 and WebKit. It was tested with recent Camino, Chrome, Firefox, Mercury and Safari browsers using browser, iphone, ipad, and various Android devices (dec. 2011).

Space on web server is required as well as ftp access from computer hosting STreceiver and STnet.exe to the web server. MCDI can help in providing web space if none is available to you.

STM requiring STreceiver component, log files can be created on connected PC as well. A traffic display is also available from STreceiver.

It is possible to use STM while using non MCDI monitoring software if one of two ports of D4 is dedicated to STM. Secondary port should be used for this purpose.

To get the latest version of SECURITHOR, STreceiver and STM, visit http://securithor.com This feature is not included in D4. It can be purchased from MCDI as a stand along product or added to SECURITHOR ST1. Limited 90 days warranty when purchased from MCDI.

USING STRECEIVER WITHOUT USING SECURITHOR (CREATING LOG FILES ONLY)

It is possible to use STreceiver without SECURITHOR in order to use Log files only. However, SECURITHOR must be installed at first. This option is not supporte out of a SECURITHOR purchase or SECURITHOR support contract.

To get the latest SECURITHOR and STreceiver visit http://securithor.com

By opening only STreceiver, log files will be created and continuously updated without having to use SECURITHOR. STreceiver is independent from SECURITHOR and therefore doesn't need unlocking beyond SECURITHOR's trial period.

LOG FOLDER
Upon installation, STreceiver creates folder 'Logs' in the MCDI＞STreceiver folder
Sub folders are created per month and year. Files for day and receivers.

Format (typical)
HH:MM:SS.milliseconds [tab] Alarm [DC4]
Alarm event includes Caller ID when part of the event.
CR is changed for DC4 in Sur-Gard Mode

This feature is not supported out of support contract or current SECURITHOR warranty period. It is distributed as shareware without warranty of fitness.

Feature described are current as of Nov. 2010, STr version 1.5.0.

ADDING DECRYPTA 4 TO SECURITHOR

STRECEIVER COMPONENT

To get the latest SECURITHOR version visit http://securithor.com
If you already installed SECURITHOR and want to get the latest version of SECURITHOR, contact MCDI support staff support@mcdi.com

If you never installed SECURITHO and want to get the latest version, visit http://securithor.com to register and receive a download link for the latest version.

As of version 1.5.5 of SECURITHOR, all receivers reporting to PC in MCDI, Surgard MLR2, Ademco 685, SK9000/9500 formats by mean of serial or USB ports are supported. It is well established with MCDI receivers but needs to be validated with other receivers. Use a virtual serial port is required with USB.

SECURITHOR's communication module is called STReceiver. It is located in the MCDI>STreceiver folder. An icon for STreceiver is also installed on the desktop. Run STReceiver to configure the communication between receivers and SECURITHOR. See description figure at end of section

ALARM RECEIVERS SUPPORTED IN VERSION STRECEIVER 1.5.5:
MCDI's TLR, TLR+, SA-TLR+, EXSA, Decrypta 1, Decrypta 2, Decrypta 3,
MCDI's Exprecium 1, 2
MCDI 's Exprecium 3 and 3r
MCDI's Exprecium D/D4
MCDI'S RACK16
Decrypta 5, Decrypta 6 (over IP, USB or serial ports)
Ademco 685 Format
Surguard MLR2, MLR2000 Format
Surguard System 3 (partial)
Radionics 6500
Silent Knight 9000 (under list SK9500)
Silent Knight 9500 (Contact ID only)
SMS - MCDI defined SMS format
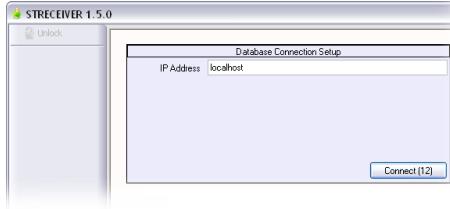
Other receivers are considered for version 2.0. Legacy receivers present in WinSAMM may be added depending on market conditions.

PASSWORD
Opening STReceiver requires password. Default password is 'securithor'. It can be changed by clicking the change button in STr left column after unlocking settings.

By design, you cannot quit STr when locked. To quit first unlock and enter password then click X button. A form will prompt you to quit. Answer yes to quit STreceiver or No to keep running. See description figure at end of section

CONNECTING TO DATABASE
At start, STreceiver asks for an IP address in order to connect to SECURITHOR'S PostgreSQL database. To change connection address, exit STreceiver and re-start to connect to another IP address.

By default 'localhost' is selected in STreceiver in order to connect to machine on which it is running. If running on a different machine from SECURITHOR's Core, enter IP address of machine running SECURITHOR PostgreSQL database. Format of IP address is IP V4 xxx.xxx.xxx.xxx . Port information is not necessary.

With ST1 or STnet, you can install STreceiver on a separate machine from the one running SECURITHOR database.

It is possible to install several STreceiver (one per machine) and connect to SECURITHOR ST1 or STnet.
Refer to installing SECURITHOR Network Edition in order to connect to SECURITHOR PostgreSQL database.

ADDING A RECEIVER

Available receivers show in the left column as COM 1 to COMn. COM number does not indicate COM port of computer but Communication channel number N in STreceiver.

To assign a name or alias, click on desired COM to open option form. Change name in port configuration＞Alias

Select receiver type and select receiver specific parameters. Most receivers communicate with automation software at 1200 bauds. Refer to your receiver user guide for more advanced settings. **BY DEFAULT D4 SPEED IS 11520. INSURE TO MATCH SPEED BETWEEN D4 AND STRECEIVER.**

Even if you don't recognize your receiver select one with a reporting format equivalent to your receiver's. In doubt contact MCDI support staff support@mcdi.com with the specific details of your receiver.

OPENING COMn/Receiver configuration

Receiver type
Select receive type according to name or compatible format. For DECRYPTA 4 select either MCDI TLR/TLR＋/Exprecium/Decrypta or Exprecium D/D4

.
Selecting color (top right button)
Will assign this color to incoming traffic from this receiver.

Prefix
Select number from 1 to F to be added in front alarm event. Typically used to group accounts, to move alarms from a specific receiver to go to a range of account.

Add receiver number as a Prefix
Not related to previous Prefix settings. Number supplied by receiver.

Add line number as a prefix
Number supplied by receiver to identify line

Use alarm receiver time
Uses time stamp from receiver instead of STreceiver's own time. When de-selected, STreceiver time (and time zone) replaces alarm receiver time. It is recommended to verify time settings regularly or at beginning of each shift.

Use Compressed Contact ID
Changes Contact ID definition to Compressed form.
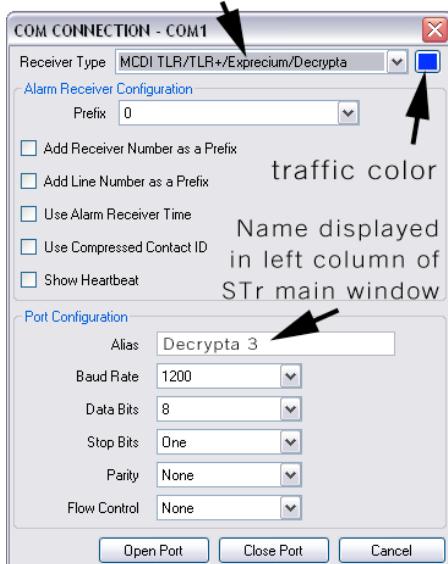
Show heartbeat
When selected, heartbeat character will be viewed in traffic.

Most serial or USB receivers will send character '@'.
Receiver number, line number are usually sent by receiver as well.
COM number or Alias name is added by STr

PORT CONFIGURATION
Alias
Enter name of your choice to identify receiver easily.

Baud rate
Select and match speed from receiver. Typically 1200 bauds.
Baud rate not required for IP receivers or USB receivers.

Data bits
Usually set at 8. Length of each byte.

Stop bits

Select receiver by type/description. If receiver name does not appear, select one with equivalent reporting format.

Adding a receiver
COM Connection set-up

Number of stop bits. Usually left to 7.

Parity
Usually left to one when using 7 stop bits = 1 byte

Flow control
Usually left to None. Option available to set to Request to send next byte.

Open port/Close Port/Cancel
Open will create port in the left column and traffic window. Use as well to apply changes.

Close will remove receiver from left column and traffic window.

Cancel will cancel changes and return form to previous settings without closing the Connection form.

STRECEIVER MESSAGES
Sometimes STr will display messages in traffic window. The following messages are displayed in traffic window but are not logged in LOG files:
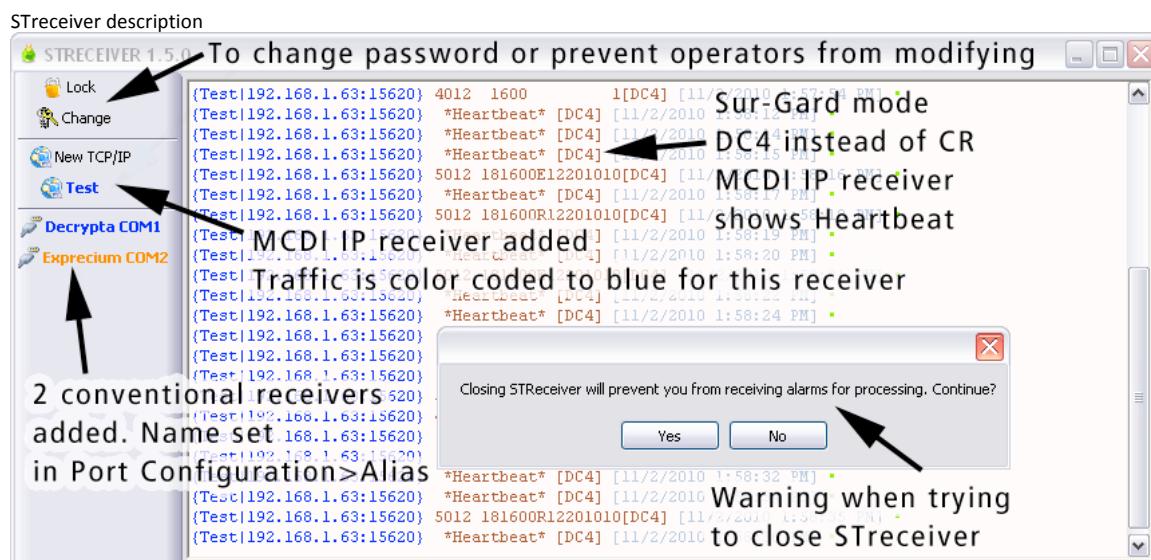
-Port opened
-Port has not responded for more than 1 minute
-Listening to port
ACOMX (denotes absent COM port where X is the number of port)
-RCOMX (denotes restored COM port where X is the number of port)
-Wrong Password

STreceiver description

MCDI Logger tool   Logger is a legacy software tool made circa 2004 to log raw output of receiver. It is available for D4 but not supported.
Logged data may be read by word processors and Excel for reporting or /and analysis.

REQUIREMENTS

Works on Windows XP, Vista or 7. Contact MCDI to receive package installation.

Port:

Choose and connect to the port your receiver device is attached to.

Interval:

Set interval at which a new log file will be created. Possible choices are "Hourly", "Daily", "Weekly" and "Monthly". Consequently, each log file will contain signals came within an hour, a day, a week, or a month, respectively.

Day of month, day of week, hour, minute:

Set the exact time when a new log will be created. The choices available depend on the interval chosen above. For example, if "Hourly" interval is selected, and the minute is set to "10", then a new log will be created at 13:10, 14:10, 15:10, 16:10 etc.

NOTE: *Every time you change the interval type or its settings, you should reconnect in order for the changes to be applied.*

Log-Directory:

Select the location of the logged signals. The organization of this directory is as follows:

        (log-dir) \ (com-port and device name)   e.g.   *MyLogs\COM3__Exprecium*

Each log file is named as follows:

        Year-Month-Day__Hour-Min.log   e.g.   *2004-06-12__13-00.log*

Thus, it shows the date and time it was created.

NOTE: *Every time the logger starts, it attempts to open the previous log, based on the interval settings. For example, if it was 14:25 currently, the interval was set to "Hourly", and the Minute was set to "00", the logger will try to open the log created at 14:00. If, indeed, this file exists, the logger will use it to log incoming signals until 15:00, as usual. If, on the other hand, the file does not exist, the logger will create a new log labeled with the current time of 14:25 and use it to log incoming signals until 15:00.*

Auto-Ack

Toggle automatic acknowledging of the incoming signals.

Acknowledge

Acknowledge the reception of the incoming signal.

Disconnect

Disconnect from the receiver device.

Change font size

To change font size of the signals, right-click on the signals window and select "Increase" or "Decrease Font Size".

DRIVERS   USB drivers are supplied for:
-32bits Windows 2000: ExprecumDwin2000.inf
-32bit or 64 bits: XP, Vista and 7: ExpreciumD.inf
Drivers are common for Exprecium D and Decrypta 4.

Look for driver at first level of Exd-D4 folder provided on CD or downloaded from:
http://mcdi.com/tools/d4.zip

LINUX DRIVERS USB drivers for supporting D4 are native to kernel 2.6.31. included in Linux mainstream kernel versions. Driver **cdc-acm** is for ARM Microcontroller SAM7X from Atmel.

Once connected over USB, D4 will be available to port /dev/ttyACMx with x being the port number attributed by driver.

Driver **cdc-acm** is a serial driver. Use port /dev/ttyACMx with x being serial virtual port to use.

MCDI cannot guarantee support for Linux. Is it made on limited availability when available. Recompiling and further work may be available on an hourly basis. Contact MCDI to verify availability.

Received formats

Formats	MCDI	DTMF	FSK
	Acron	Ademco Contact ID	Ademco L/S Standard
	Ademco L/S expanded	Ademco Fast / High Speed	Ademco Express
	Ademco Old		FBI Super Fast
	Franklin Fast	Napco	Radionics Standard
	Radionics Expanded	Scantronic	Sescoa standard
	Sescoa SS	SIA I - II - III (partial)	Silent Knight Slow/Fast
	CFSK III	Varitech VFSK	Stratel
	SurGard	TTnew	Telim

Pulse	10,20,40 pps 3x1 - 4x1 - 4x2	Dual Round
	10,20,40 pps 4x2	Checksum
	10,20,40 pps 3x1 - 4x1 Extended	Dual Round
	Frequencies	1800 Hz / 1900 Hz
	Handshake and kissoff:	1400hz / 2300hz

DTMF   10 char/sec.

FSK   110 bauds or 300 bauds (SIA, CFSK, VFSK)   Bell 103

Listen-in, Two way voice, audio verification (general explanation)

Description applies to listen-in, two way voice, audio verification as they all share the same channel.

Some alarm panels offer the option for the Central station operator to listen for sound in the premises where the alarm signal originates.

Alarm panels supporting "Listen-in" keep the telephone line open after having sent a signal, to allow sound monitoring. The telephone line will be closed by the Central station subject to operator action or receiver setup.

Listen-in criteria   D4 is triggered into "Listen-in" mode for incoming events according to panel setup for specific formats.

SIA and Contact ID formats have specific codes for Listen-in. See Panel setup.

DTMF formats use the AEx signal where x can be 0 to F at the Installer's choice. See parameter 'Listen-in code' in Receiver tab or Front display Receiver menu>Listen-in to assign digits to listen-in trigger.

3x1 and 4x2 formats have no standard codes for Listen-in. D4 allows self selection of Listen-in codes at Setup time. See parameter 'Listen-in code' in Receiver tab or Front display Receiver menu>Listen-in to assign digits to listen-in trigger

Receiver action upon reception of "Listen-in" trigger   Upon reception of event in the Listen-in category, D4 receiver maintains the telephone line open for a period of up to NN seconds or less then NN seconds upon reception of any telephone tone from the keypad. Select time out in the Receiver tab of configurator from 0 to 255 seconds. 255 seconds is infinite unless operator hangs up or presses a DTMF (Tunstall TTnew press # or 6 according to panel used)

Operator control for "Listen-in"   Operator must be warned by Monitoring software of account "listen-in" capability. Operator has a maximum of seconds from time of alarm reception to telephone pickup (according to pre-defined time out). Failure to pickup telephone in this delays will cause line hang-up by D4 receiver.

Once the line is seized by Central station local telephone, the hang-up action of D4 will have no effect.

To close communication with alarm signal site within defined time out, D4 is in action, operator must press any key on the telephone keypad before hanging up (Tunstall TTnew press # or 6 according to panel used). D4 will hang up telephone line before time out only upon reception of a tone from telephone keypad.

To close communication with alarm signal site after time out of event reception, simply hang-up the telephone. This is because D4 is not in function anymore, its delay having expired.

Transmission to computer and printer in MCDI standard mode

Pulse, DTMF, FSK

FORMAT 3x1, 4x1

  HH:mm_ _MM/DD[/YY] _ _ RL_CCCC_ØA<CR>   Default
  HH:mm_ _MM/DD[/YY] _ _ RL_CCCC_A<CR>   Option 4x1 set by Setup tool
  HH:mm_ _MM/DD[/YY] _ _ RL_CCC_A<CR>   Option 3x1 set by Setup tool
  HH:mm_ _MM/DD[/YY] _ _ RL_ØCCC_AZ<CR>   Option 3x1 extended compressed 4x2
  HH:mm_ _MM/DD[/YY] _ _ RL_CCCC_AZ<CR>   Option 4x1 extended compressed 4x2
                                                                          Option zero removed 3x1,4x1, extended

FORMAT 4x2

  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AZ<CR>

FORMAT 4x3 (SESCOA SS)

  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AZZ[Z]<CR>

FORMAT 4x3 (SUR GARD)

  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AZZ<CR>

FORMAT ADEMCO HIGH SPEED

  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AAAA_AAAA_A<CR>

FORMAT ACRON

  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AAAAAAAA<CR>
  HH:mm_ _MM/DD[/YY] _ _RL_ _CCC_AAAAAAAA<CR>

FORMAT FBI SUPER FAST

  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_EZZ<CR>

FORMAT CONTACT ID

  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_18_TAAA_GG_ZZZ<CR>

FORMAT MODEM SIA

  HH:mm_ _MM/DD{YY}] _ _RL _ [#CCCCCCIEAAZZZ/AAZZZ/AAZZZ]<CR>   Native mode
  <LF>RL_ [#CCCCCCIEAAZZZ/AAZZZ/AAZZZ]<CR>   Ademco685 Emulation

FORMAT MODEM CFSK / VFSK   (same as 4x2)

  HH:mm_ _MM/DD{/YY} _ _ RL_CCCC_AZ<CR>

CALLER ID

  Phone signal added to event code. Examples

  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_AZ{t...t}<CR>   Added to 4x2
  HH:mm_ _MM/DD[/YY] _ _RL_CCCC_18_TAAA_GG_ZZZ {t...t}<CR>   Added to Contact ID
  HH:mm_ _MM/DD{YY}] _ _RL _ [#CCCCCCIEAAZZZ/AAZZZ/AAZZZ]{t...t}<CR>   Added to SIA

Heartbeat

    @<CR>   Signal sent to the computer every 30 seconds if option is enabled

Code definitions

HH	:	Hour	
:	:	Character ":"	
mm	:	Minute	
DD	:	Day	
_	:	1 space	
_ _	:	2 spaces	
MM	:	Month	
[YY]	:	Year [Present/Absent]	Receiver Option)
/	:	Character "/"	
R	:	Receiver number	(Receiver Option)
L	:	Line number	(Receiver Option)
C	:	Account number	
A	:	Event code or modifier	
E	:	Zone type	FBI super Fast
Z	:	Zone	
G	:	Group (Partition)	
T	:	Type(E or R)	(Contact ID)
Ø	:	Zero	
<CR>	:	EOS	(Carriage Return)
<ACK>	:	Data retransmits to computer every 2 second	until ACK is received by DECRYPTA II (ACK=06H or
$06).			
@	:	Heartbeat signal	Receiver Option)
t...t	:	Telephone number from Caller ID	
[	:	Beginning data delimiter (SIA)	
]	:	Ending data delimiter (SIA)	
I	:	Field separator (SIA)	
#	:	Account ID block code (SIA)	
E	:	Function block code (SIA)	
/	:	Data code packet separator (SIA)	
<LF>	:	Line Feed	

D4 Error and Warning messages sent to Printer port and PC:

	HH:MM	MM/DD[YY]	RL	Account	XYY	
Printer message	Time	Date	Receiver	0000	01	Printer error
	Time	Date	Receiver	0000	02	Printer reset
Telephone line monitoring	Time	Date	Receiver	0000	03	Error Line 1
	Time	Date	Receiver	0000	04	Reset Line 1
Telephone line monitoring	Time	Date	Receiver	0000	05	Error Line2
	Time	Date	Receiver	0000	06	Reset Line2
Transmission message	Time	Date	Receiver	0000	00	Bad transmission
	Time	Date	Receiver	[#0000INRT000]		Format SIA
No Transmission	Time	Date	Receiver	0000	F1	Not a valid signal Line 1
	Time	Date	Receiver	0000	F2	Not a valid signal Line 2

Transmission to computer and printer in ADEMCO 685 / Surgard emulation mode

For information on transmission See ADEMCO 685 standards
For information on transmission See Surgard MRL2 documentation
Surgard emulation applies to Dial up Alarm signals and Telephone ID

Messages from D4 to D4 printer port
When computer ceases to answer: "Computer absent" is sent to printer. Icon of main port will display broken link. PC led will
shut down.
When computer answers: "Computer restore" is sent to printer. Icon of main port will display link. PC yellow led will light back
on

CARE OF D4

DE-ASSEMBLE   to insert in PC or Rack server, it is necessary to remove the outer acrylic box and black acrylic leg. Metal box is made to fit into a 5.25 inches drive bay.

TO SERVICE D4   De-assembling may be require for some operations. Refer to MCDI staff for de-assembly and serviceable parts. Insure you work on a properly grounded surface and that your body maintains electrical connection to earth ground to preserve memory and static sensitive parts.

Use a Philips screwdriver #3 and remove screws with precaution.
First remove screws from the black leg. Slide black leg out of outer acrylic box
Remove single screw underneath outer acrylic box.

Remove side screws insuring unit does not slide out while doing so. Keep sides screws safe. They are M3 format made for re-assembly inside a PC railing.

Gently remove metal box from outer acrylic box. This assembly is not typically made to be removed. Some scratches may occur on inside of acrylic outer box.

Metal cover is snapped in base. Use precaution to snap out or back.

Parts   D4 is composed of the following parts:
Front keypad with sealed air buttons and LEDs
Front LCD display
Receiver and display PCB
Peripheral balcony
Various spacers and screws
Ribbons cables connecting parts
Anodized aluminum box
Outer acrylic box
Black acrylic leg/stand
External cables

Refer to MCDI for serviceable parts. Do not open unless directed by MCDI.

Programming connector (internal)   Only part require a special programmer is the display content. This rarely needs reprogramming and most updates are available in PC Configurator. A ATMEL AVRISP programmer is required to reprogram display part. Most MCDI dealer have one and can reprogram your D4 if needed. De-assembling is required to connect to header. REFER TO MCDI.

Stacking   If you plan to stack several D4, insure a spacing of at least 5mm to allow natural convection. D4 does not content mechanical part and is not prone to heating. D4 design was made to minimize use of fans or prone to break parts but it is best practice to minize exposure to heat and high temperature in order to prolong life expectancy of unit and downtime due to service.

To clean   Always use a slightly damp cloth; never use abrasives or solvents. Avoid pressure, shock, vibration, moisture and excessive humidity: damage may result. Do not expose to direct sunlight. Product Novus no1 has been know to work well on acrylic to remove light scratches and polish. Use with caution and test on bottom.

Operating condition   4°C to 40°C. Although unit may continue to work if internal temperature raises over 40°C, it is not advisable and could diminish life expectancy of unit. Proper ventilation should be provided to lower temperature underneath 40°C.
Internal temperature during MCDI testing never raised above 34°C while room temperature was below 34°C. Measure was taken in vicinity of power supply and Central processor sections using MCDI standard power adapter at 11V.
Storage condition: -15°c to 65°C

Always use with power source as indicated in powering the unit section. Consult a qualified Electrician before using power sources other than supplied power adaptor.

WARNING: UNIT MUST BE GROUNDED TO WORK CORRECTLY. SEVERE DAMAGES MAY RESULT IF UNIT IS NOT GROUNDED TO EARTH. VERIFY REGULARLY.

FIELD REPLACEABLE PARTS   (under MCDI SP Inc. direction)

Clock battery (1).
Selectable jumpers.
Cables.
Front LCD.
Front Keypad.

FIELD UPGRADABLE   (upon MCDI SP Inc. direction)
Firmware programming for receiving section
Drivers
Configuration and Communication tools

DEALER UPGRADABLE   (upon MCDI SP In.c direction)
Firmware programming of display section wiht ATMEL AVRISP programmer.

Enabling D4 in SAMM (or DOS version 8.1.95 and lower)   Configuration tools to not exists in DOS. Unit must be configured fully from front display or from another computer using Windows XP, Vista or 7.

Due to the nature of USB communication and the limitations of DOS, USB communication cannot be established under dos or with a strictly DOS based application. Serial communication from serial port may be established. Refer to SAMM installation manual page 6 to establish a start up command string.
USB communication to a Signal logger (CD D4 >tools/communication/name of logger)can still be achieved if PC is Windows 98 and up or by sending USB signal to another PC.

Enabling D4 in SAMM X version 10.3 or up
Use WSReceiver, select Decrypta type receiver.

Enabling D4 in WinSAMM version 1.2 or up
Using WS Receiver, select Decrypta 1,2 type receiver

Enabling D4 in CentralWorks (DOS)   Due to the nature of USB communication and the limitations of DOS, USB communication can not be established under dos or with a strictly DOS based application. Serial communication from serial port may be established. Refer to Alarmsoft/Jabco www.alarmsoft.com 1-757-472-4687 for set-up of serial port communication.

USB communication to the Signal logger (Configurator>traffic) can still be achieved if PC is Windows XP, Vista or 7 using .Net framework 2.0 or more or by sending USB signal to another PC.

Enabling D4 in SECURITHOR   Serial or USB communications are possible with SECURITHOR. Select only one means to connect to SECURITHOR. Open application STreceiver supplied with SECURITHOR. Available COM port will be displayed in the left column. Select the one corresponding to your D4 and from the receiver type selector (drop down menu, select Decrypta type). Typically, D4 at 115200 bauds. Verify if communication is established.

D4 cannot establish connection to SECURITHOR if communication is already established for the port in use with another application.

Warranty

DECRYPTA 4 manufactured under RoHS compliance carry a limited 2 years warranty starting from date of purchase. During this period, Decrypta 4 shall be free of defects in materials and workmanship when under normal use as intended by MCDI Security Products Inc.. In fulfillment of any breach of this warranty, MCDI Security Products Inc. shall, at its choice, repair or replace the defective equipment upon return of the equipment to MCDI Security Products Inc. service points, post paid.

This warranty applies only to defects in parts and workmanship and not to damage due to causes beyond the control of MCDI Security Products Inc., such as damage incurred in shipping or handling, lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse, alteration or improper or not anticipated application of the equipment.

This warranty contains the entire warranty and is only valid as a contract between to the original buyer and MCDI Security Products Inc.. MCDI Security Products Inc. makes no warranty of fitness and no other warranty oral or written, express or implied. MCDI Security Products Inc. neither assumes, nor authorizes any other person to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

MCDI Security Products Inc. shall not be liable for any direct, indirect or consequential damages, loss of anticipated profits or time or any other losses incurred by the buyer or user in connection with the purchase, the installation or the operation or failure of this product.

EXCLUSIONS from warranty
All damages arising from power surges, excessive voltage or lightning are specifically excluded from this warranty.

Warning
All equipments or software products used for monitoring, surveillance or any security purposes should be tested on a regular and complete basis. Despite regular and frequent testing it is possible for products to fail to perform as expected.

Warranty extension for hardware   It is possible for some of MCDI Security Products Inc. equipment to purchase a warranty extension along with purchase of equipment.

Decrypta 4   525$CAD per year (value of extension as of January 2012)

Power surges coverage   Add 240$ cad per year to warranty extension or during original warranty. N.B.: Power surge coverage is included for first year if D4 is used on both lines with MCDI'S PSP with proper earth ground.

Advanced replacement   100$ cad flat fee to end user + shipping (require deposit by credit card of replacement value)

Terms or warranty extension
-Extension warranty is valid for original owner only.
-Customer must get a RMA number to benefit from warranty repair
-Warranty extension must be taken at original purchase.
-Cosmetic damages and boxes are not covered.
-Power surge are not covered unless specified.
-Accessories and cables are not covered.
-Equipment must be returned post and duty paid to MCDI Montreal
-Equipment may be replaced by refurbished or new equipment at MSP discretion
-Equipment may be replaced by other generation if original equipment is not available
-Shipping is not included
-Repair assessment done in 2 business days
-Offer may change without prior notice. This warranty applies only to defects in parts and workmanship and not to damage due to causes beyond the control of MCDI Security Products Inc., such as damage incurred in shipping or handling, lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse, alteration or improper or not anticipated application of the equipment.

This warranty contains the entire warranty and is only valid as a contract between to the original buyer and MCDI Security Products Inc. MCDI Security Products Inc. makes no warranty of fitness and no other warranty oral or written, express or implied. MCDI Security Products Inc. neither assumes, nor authorizes any other person to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

MCDI Security Products Inc. shall not be liable for any direct, indirect or consequential damages, loss of anticipated profits or time or any other losses incurred by the buyer or user in connection with the purchase, the installation or the operation or failure

of this product made under The Electronic products of MCDI SP Inc. are under a three year limited warranty and two years limited warranty when manufactured under RoHS compliance. Material is repaired or exchanged, free of charge, when returned to MCDI service points, post and duty paid. Abused or misused equipment is not covered by this warranty. Damages or loss of business resulting from the use of MCDI products are not covered by this warranty.

Damages resulting from power surge damages are expressly excluded of warranty.

Loss of business, cost incurred during the use of MCDI equipment are expressly excluded of warranty.

During the period of warranty, advanced replacement service of D4 is available for during repairs and upgrade. This service is available for a fee. Please contact our support department at support@mcdi.com to make arrangements. This service maybe terminated without prior notice and his subject to warehouse stock.

Legal compliance and Warning

United States   Regulation   FCC Warning

Radio/TV interference

This device is not equipped with dialing equipment.

Telephones equipped with electronic dialing keys generate and use radio frequency energy, and if not installed and used properly and in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception.

NOTE: This device has been tested and found to comply with Part 15 if the FCC rules. Operation is subject to the following two conditions:

1.   This device may not cause harmful interference and
2.   This device must accept any interference received, including interference that may cause undesirable operation.

If your device causes interference, one of the following measure may correct the problem:

.   Reorient or relocate the receiving TV or radio antenna, when this may be done safely.
.   To the extent possible, move the device and the radio or television farther away from each other, or connect the computer with the device and the radio or television to outlets on separate circuits.
.   Consult the dealer or an experienced radio/television technician for additional suggestions.

NOTE: FCC registration does not constitute an expressed or implied guarantee of performance.

Right of the Telephone Company

If this device causes harm to the telephone network, the telephone company may stop your service temporarily or ask you to remove your equipment until the problem is resolved. If possible, they will notify you in advance. If advance notice is not practical, you will be notified as soon as possible and be given the opportunity to correct the situation. You will also be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper function of this device. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

Federal communication commission (FCC) Notice

FCC Registration Number: This device complies with Part 68, Rules and Regulations, of the FCC for direct connection to the Public Switched Telephone Network (the FCC registration number and REN number appear on a sticker). If requested, this information must be provided to the telephone company.

Your connection to the telephone line must comply with these FCC rules:

.   Use only an FCC standard RJ11W/RJ14W or RJ11C/RJ14C network interface jack and FCC compliant line cord and plug to connect to the telephone line. (To connect the device press the small plastic tab on the plug at the end of the telephone's line cord. Insert into a jack until it clicks. To disconnect, press the tab and pull out.)

.   If a network interface jack is not already installed in your location, you can order one from your telephone company. Order RJ11W/RJ14W for wall mounted telephones or RJ11C/RJ14C for desk/table use. In some states, customers are permitted to install their own jacks.

.   This device may not be connected to a party line or coin telephone line. Connection to Party Line Service is subject to state tariffs (contact the state public utility commission, public service commission or corporation commission for information).

.   It is no longer necessary to notify the telephone company of your device's Registration and REN number however, you must provide this information to the telephone company if they request it.

.   If trouble is experienced with this equipment, for repair or warranty information please contact:
                                    Local dealer or

MCDI Security Products Inc.
7055 Jean-Bourdon Avenue., Montreal, QC, Canada H4K 1G7
Telephone: +(514) 481-1067 Fax: +(514) 481-1487

.　　If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect it until the problem is resolved.

.　　This device does not have any serviceable parts. Repair or exchange must be made by the manufacturer or its representatives.

Signaling method: This device does not dial out.

Ringer Equivalence Number: The FCC Registration label (on the device) includes a Ringer Equivalence Number (REN) which is used to determine the number of devices you may connect to your telephone line. A high total REN may prevent telephones from ringing in response to an incoming call and may make placing calls difficult. In most areas, a total REN of 5 should permit normal telephone operation. To determine the total REN allowed on your telephone line, consult your local telephone company.

Hearing aids This device does not convert the signal for human hearing.

Programming Emergency numbers: This device does not dial out.

Important safety instructions

When using the device, basic safety precautions should always be followed to reduce risk of fire, electrical shock and injury to persons including the following:

1.　Read and understand all instructions.
2.　Follow the warnings and instructions marked on the product.
3.　This device is installed in a computer. This work should be done by a qualified computer technician.
4.　Avoid using during electrical storm. There may be a remote risk of electrical shock from lightning.
5.　CAUTION: Do no use sharp instruments during installation procedure to eliminate the possibility
　　of accidental damage to the device, the computer or the cord.
6.　Save these instructions.

Europe   EC Declaration of Conformity

We:

　　MCDI Security Products Inc.
　　7055 Jean-Bourdon Avec
　　Montreal, QC
　　Canada   H4K 1G7

Declare under our sole legal responsibility that the following products conform to the protection requirements of council directive 89/336/EEC on the approximation of the laws of member states relating to electromagnetic compatibility, as amended by directive 93/68/EEC:

MCDI - D4 alarm receiver

The products to which this declaration relates are in conformity with the following relevant harmonized standards, the reference numbers of which have been published in the Official Journal of the European Communities:

EN50082-1:1992 --- EN55022 CLASS A --- EN 60555 PARTS 2 & 3 ---EN41003:1993 --- BAPT Note 48 revision 5
EN60950/IEC Ed 2 Amendment No1 1992, Amendment No2 1993, Amendment No3 1996

Signed this 7th day of December 2011

MCDI Security Products Inc.

Europe   EN41003 Warning Application Note 48, Issue 5EN41003 Warning Application Note 48, Issue 5EN41003 Warning Application Note 48, Issue 5

1) The power required by the host and the total of all adapter cards installed within the host environment, together with any auxiliary apparatus, shall not exceed the power specification of the host apparatus.

The power requirements for the D4 receiver are:

From External Battery (standby) 12V 1A

2)   It is essential that, when other option cards are introduced which use or generate a hazardous voltage, the minimum creepages and clearances specified in the table below are maintained. A hazardous voltage is one which exceeds 42.4V peak a.c. or 60V d.c. If you have any doubt, seek advice from a competent engineer before installing other adapters into the host equipment.

3)   The equipment must be installed such that with the exception of the connections to the host, clearance and creepage distances shown in the table below are maintained between the card and any other assemblies which use or generate a voltage shown in the table below. The larger distance shown in brackets applies where the local environment within the host is subject to conductive pollution or dry non-conductive pollution which could become conductive due to condensation. Failure to maintain these minimum distances would invalidate the approval.

4)   The analogue telecommunications interface is intended to be connected to telecommunication network voltage (TNV) circuits which may carry dangerous voltages. The telephone cord(s) must be disconnected from the telecommunications system until the card has been installed within a host which provides the necessary protection of the operator. If it is subsequently desired to open the host equipment for any reason, the telephone cord(s) must be disconnected prior to effecting access to any internal parts which may carry telecommunication network voltages.

GLOSSARY

Account number   Part of an alarm signal that designates the supervised location

Acknowledge   Single or group of characters sent by a device or software to a device upstream. This distinctive signal informs the device an alarm event/signal was received. Carriage return is mostly used.

ACRON   Reporting format. Not widely used

Ademco 685   Reporting format of said Alarm receivers.

ANI   Automatic number ID. A service feature in which the directory number or equipment number of a calling station is automatically obtained

ASCII   American Standard Code for Information Interchange. Pronounced "askee"; binary code of 128 characters represented by a string of seven binary numbers and a parity bit.

AWG   Standardized system for sizing wires according to the wire's diameter. The smaller the AWG number the larger the diameter of wire. When specified, it is essential to respect the gauge of the wire to allow heat dissipation.

Automation software   Central station Software

Baud rates   A measure of speed. Alarm receivers mostly communicate with PCs at 1200 bits per second.

Bit   Smallest element of computer information. Either 1 or 0 in binary system. 1 Kb is 1024 bits. A Mb is 1048567bits. An Ethernet card usually transmits at 10Mb/100Mb

Bios   Basic Input/Output System. Program residing in the ROM chip of a computer. Provides the basic instructions for controlling computer hardware. Both the operating system and application software use BIOS routines to ensure compatibility.

Buzzer   Sound device located inside a D4 or on an Exprecium alarm receiver card. Emits a sound when an alarm is received or when a reboot process is under way

Byte   A group of 8 bits. A KB is 1024 bytes, A MB is 1048567 bytes

BFSK   FSK type of communication

Catapult   MCDI IP mode. Also designate a MCDI product Linux application which transforms a PC into an alarm receiver/router with IP capabilities.

Caller ID   Information sent by the Phone Company that reveals the phone number calling and sometimes the name linked to this phone number.

CCITT   European equivalent to Bell 103. Modem Format. MCDI can be fitted to accept CCITT.

CESA	FSK format developed by Bosch. Used in Europe and mostly in France. Requires specific programming of selected MCDI equipment
CFSK	FSK format developed by the C & K Company.
Checksum	Used to calculated integrity of an event. Calculating a value for each character of the event and making a sum of values will generate a number, the checksum. The receiving device must match this number in order to accept the event. This concept is also used by D4 when in MCDI Catapult mode.
Close	In alarm industry, the act of arming a system
CID	Caller ID. This acronym is also used for Contact ID, an Ademco format. D4 supports caller ID or type 1 originally developed by Bellcore. Other type of caller ID (DTMF type) is used in few countries. Decrypta 2 is not compatible with this type.
Communicator	Part of an alarm system. Dialer
COM port	Other name for the serial port. It is Serial because it transmits the eight bits of a byte of data along one wire, and receives data on a different wire.
Contact ID	DTMF Alarm Format developed by Ademco. Wide ly used.
CR	Carriage return
D4	D4 alarm receiver.
DB9	9 pins Connector used for serial communication. Located at the back of D4.
DB25	25 pins connector used for parallel communication to printer. Located at the back of D4.
Dead line detection	D4 probes phone lines at 4 seconds interval. If dial tone is not detected, D4 reports a dead line.
DNIS	Dialed number identification service. DTMF.
Dual round	Some panels send alarm event twice. Receiver only if received twice sends kiss off. Pulse only.
Dot matrix	Printer type. Mostly Parallel interface and impact printers. Commonly used to print directly from D4. Support a line-by-line printing.
Drivers	Software instructions used by kernel of operating software to direct or transform the signal of an attached peripheral such as alarm receiver card Exprecium or D4 USB port.
DTMF	Dual tone multi frequency. Summation of the amplitudes of two sine (cosine) waves of different frequencies. Example: Keying '1' will send a tone made by adding 1209 Hz and 697 Hz to the other end of the line. Formats like Contact ID are of DTMF type.

Earth Ground	Any device connection or a grounding rod used to connect devices such as D4 to earth. Such a connection is used as a sink for electrical transients and possibly damaging potentials, such as those produced by a nearby lightning strike.
E^2	Exprecium^2 mode. Advanced programming for Exprecium^2 generation of receivers. Common to MCDI Exprecium PCI cards and Decrypta ^{2}. Suitable with MCDI Catapult and Extrium receivers.
Event	MCDI uses this terminology to designate a string of characters or a packet that amounts to a signal sent from an alarm panel.
Firmware	Programs or instructions stored in a PROM. MCDI uses the term firmware to refer to the software residing on a PROM or EPROM.
FSK	Frequency shift keying. In digital communication, an audio frequency is used for 1 and a different frequency is used to signal 0
FTC	Fail to close. Event created when a system remains disarmed at preset time.
FTO	Fail to open. Event created when a system remains armed at preset time.
GCI 1800/1900	GSM backup interface by MCDI. Interfaces GSM phone signal to PSTN (RJ11 plugs) and transfers ring to let alarm receivers such as Decrypta 3 and D4 receive alarm sent over a GSM network. 900/1800 are the frequencies used is most of the planet. 1900 is mostly used in North America and parts of South America.
Ground	Earth ground.
Ground Loop	An alternative path in which current can travel. Ground loops can produce noise.
Ground Lug	A lug used for connecting Decrypta 4 alarm receivers to earth ground. Decrypta 4 receivers should be connected to earth ground to protect them from transient potentials such as nearby lightning strikes.
GSM	**G**lobal **S**ystem for **M**obile communcations. Wireless phone system used in most parts of the world.
GUI	Graphical User Interface**.** Pronounced "goo-ey". Graphical rendering of the programming code used by the PC.
Half Duplex	Each end of a communication circuit can transmit and receive data, but not simultaneously. Most alarm transmission are of this type.
Handshake	Frequency emitted by the alarm panel in order to match the format of the alarm panel. D4 emits several handshake tones in order to mate with the panel.
Handshake sequence	In D4, the ability to specify an order of appearance in order to speed the matching process between the panel and the alarm receiver.
Heartbeat	Single character or group of characters sent from one device to the other at regular intervals.

HUB	USB hub. Device used to link several USB client units to a USB port.
ISA	Industry Standard Architecture. Slower 8 or 16-bit BUS (data pathway). TLR and TLR+ receiver card are of this type. Fading out of the market.
Kiss off	Tonality or signal sent by alarm panel or receiver to inform corresponding device of the end of session. Some formats do not require handshake but most do.
LAN	Local-Area Network. Connection of workstations, PCs or other LANs to enable data access and device sharing.
Late to close	LTC. Event created by arming a system after specified time.
Late to open	LTO. Event created by disarming a system after specified time.
Listen-in	Ability to hold the phone line and listen and sometimes talk on the phone line. This feature is format related.
mA	Milli-ampere Unit of current that is 1/1000 of an Ampere. Measure of current needed to power D4
Modem	The name combines "modulate" and "demodulate". Refers to its ability to transmit and receive data superimposed on a carrier frequency. In alarm industry usage, a modem is a type of communication. FSK formats are modem types.
Modem3a[2]	Alarm format owned by Radionics company. Built-in D4 and Exprecium[2]. An agreement between the user and Radionics is required to activate.
mV	Millivolt. Unit of electrical potential. 1/1000 of a volt.
NVRAM	Non volatile memory. Holds memory without power. Memory with clock functions in use in D4. Can be field reprogrammed.
Open	In alarm industry, the act of disarming a system
Operator	Alarm Central operator
OS	Operating System such as Windows XP, Linux.
Output	In context referred as 1) signal sent by alarm receiver to alarm panel over phone lines during a communication 2) signal sent by alarm receiver to PC over USB port or Serial port.
Parity bit	A redundant bit. Added to a record to allow alarm receiver to detect an odd number of bit errors in said record.
Parallel port	On D4, the printer port – DB25. Transmits the bits of a byte on eight different wires at the same time (eight bits at the same time).

PCI	Peripheral Component Interconnect. A 32-bit local bus which is faster than ISA bus. Exprecium and Exprecium^2 are of this type. Common in computer made since 2000.
Peripheral	Auxiliary equipment such as D4 attached to a PC.
Pile	Memory stack. Piling of events. Events are stacked in order memory. From the oldest to the latest. Usually, latest erases the oldest when memory is full
Power Supplies	Energy source for an electrical device. Can be AC powered through a standard wall socket, DC powered through batteries or solar panel.
PPS	Pulse per second. Signal sent by alarm panel. 10 pps, 20 pps, 40 pps indicates the frequency (or number) of pulses per second.
PSTN	Public system telephone network
Pulse	Type of communication
Receiver	Alarm receiver such a D4external receivers or Exprecium cards for PC
Relay	A power switching device that completes or interrupts a circuit by physically moving electrical contacts into contact with each other. Used in D4 to trigger an external device such as strobe light, dialer, siren.
Relay normally close	When relay closes the circuit, an electrical impulsion is sent. In D4, will send an impulsion to a device connected to trigger said device.
Relay normally open	When relay opens the circuit, an electrical impulsion is sent. In D4, will send an impulsion to a device connected to trigger said device.
RJ11	Type of connector. Terminology used to described phone line connectors.
Robofon	FSK format used in Europe, mostly in Scandinavia. Reception of this format requires sprecific frequency tuning on MCDI equipment.
RS-232	DB9 connector. Interface between a computer input output port and a peripheral such as D4.
SAMM	Software developed by MCDI Security Products Inc. for alarm monitoring and Central station management.
SERIEE	French DTMF format developed by AEM. Requires specific programming of MCDI equipment
Sescoa SS	Legacy alarm format. Rarely used

SIA	Security Industry of America. Acronym is used to name a format designed under SIA guidance. Several levels of SIA are used. MCDI supports level 1 and 2 and part of level 3.
S/N	Serial number. Located at back of D4. Starts by 60
SMS	Short message service. Alpha numeric messages sent over GSM networks.
Surge Protector	Device for protection of electronic equipment from damaging voltage levels sometimes occurring in electrical transients.
STRING	Sometimes referred as an event. A chain of characters that amounts to an alarm signal.
TCP/IP	Transmission Control Protocol/Internet Protocol. Communications protocol commonly used over Ethernet networks or the Internet.
Transmitter	Digital communicator – alarm panel – located at supervised location
SECURITHOR	Software made by MCDI for processing of alarm signals. Used by Central Alarm stations r other type of Monitoring Centers. Replaces SAMM and WinSAMM. Available for single workstation or for network.
STM	SECURITHOR Mobile Web Viewer. Component of SECURIHTOR used by Central station supervisors and owners to view traffic and status of the Central Station.
STreceiver	Component of SECURITHOR to interface with alarm receivers, IP receivers and SMS modems Subscriber identity Module.
SIM	Subscriber identity Module. SIM Card in a GSM phone. Contains phone identity, phone number and sometimes address book
Start bit	First bit in a byte
Stop bit	First bit in a byte
SurGard formats	Transmission formats from receiver to PC. Format designed by Surgard Company now a DSC division. Close to Radionics 6500 format.
Telim	FSK Format used in Europe, mostly in Germany. Reception of this format requires specific frequency tuning on MCDI equipment.
USB	Universal serial port
USB type A	Type of connectors used in USB host devices
USB type B	Type of connectors used in USB client devices. Connector used in D4
USB client	Typically a peripheral device such as D4 who will send data to a USB host. Will not accept signal from another USB client, Will transmit only to a USB host.

USB host	Typically a PC with USB capabilities. The host receives the signal from the client.
USB hub	Device used to connect several USB client devices to a USB host.
VCP	Virtual com port.
VFSK	FSK type of communication. Developed by Varitech (Optex)
VID	Vendor ID. Number designating the vendor of the device.
Virtual com port	Software tool used to emulate a com port and route data from USB to a memory address equivalent to a serial port. Supplied with D4
Voltage	Unit of measure for electrical potential Noted in volts. Energy potential of a source that can produce a flow of electricity.
Wincom	Software by MCDI. Communication tools for Windows compatible devices.
WinSAMM	Central station software developed by MCDI SP Inc. Replaced by SECURITHOR in 2009.
WSreceiver	Software developed by MCDI SP Inc. Key component of SAMM X (V 10.3) and WinSAMM. Necessary to add inputs in both Central Station software when using WinSAM