DECRYPTA²
ALARM RECEIVER
V. 1.2.4
Reference guide Preliminary version 1.2

V040720

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Contents

DESCRIPTION

Alarm Receiver DECRYPTA²

The twin line alarm receiver DECRYPTA² for PC compatible computers is a MCDI product. This new breed of alarm receivers is equiped with advanced features such as USB port and dual output to PC.

What's in the box

1 DECRYPTA² Alarm Receiver

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 Adapter DB9M> DB25F
- 1 Printer loopback plug

Power:
- 1 AC/DC power supply with localized IEC power cord.
- 1 Power cable for batteries (red and black)

Documentation/tools/drivers
- 1 Printed manual
- 1 CD with:
- PDF documentation/tools/drivers/

Windows logger software
WinSAMM Central station trial version
- Drivers and configuration tool WINEXPRECIUM2.EXE

1 Hex key

Physical description of DECRYPTA²

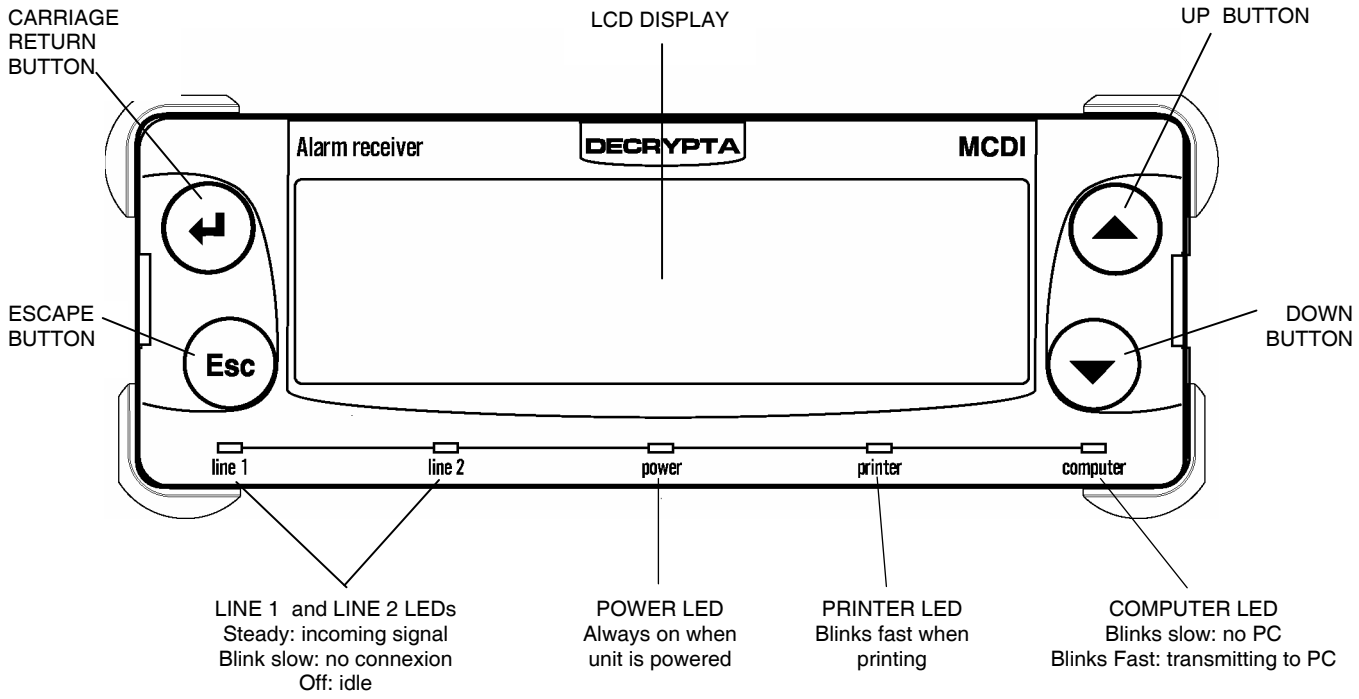
Size	Receiver has all out dimensions (without urethane feet): 15" (L) x 5.5" (W) x 2"(H) 38 cm (L) x 14 cm (W) x 5 cm (H)
Housing:	Rugged aluminum chassis. Baked black enamel finish.
Buffer memory	Buffer holds up to 1800 events in Native mode (4+2 signal). Buffer is used when computer is absent. Unit keeps printing during fail time if power is connected and maintained. When computer comes back on, buffer empties to the computer. If more than 1800 events (4+2 Native mode) are received in the buffer during fail time, DECRYPTA² writes over the oldest event. Written records may be available on printer connected to parallel printer port.
Printer port	Connector port for IBM compatible parallel printer type DB25 is located at the back of the unit.
Phone jack connector	Double Phone connector type located at the back of the unit. Connect Green and Red only on each
Serial port	DB9 male plug. Null modem. Located at the back of DECRYPTA² .
USB port	USB type B (client) plug located at the back of unit
Relay terminal	Terminal block used for trigger of external unit by inboard relay (30V DC 1A max). Supports normally open or normally closed.
Ground post	Terminal to ground unit if required. All parts of chassis are posted to this unit. Logical ground is connected to casing.
Reset button	Located at the back of the unit.To hard or soft reset receiver portion of **DECRYPTA²** . To hard reset press button gently once and press once more during the beep. Hard reset will return the unit to factory settings.

Power connector	Unit can be powered by :	USB input only – powered from 5V USB port.
	Combination of 1 and 2 at the same time.	9-12V DC input only
	Refer to powering the unit for more info and full technical specifications.	

Alert/WarningBuzzer — On board buzzer is available for alert warning when the Computer is absent.
Is enabled if setup parameter "Check printer" is set to Yes.
Is activated (starts buzzing) by event to be printed on DECRYPTA² printer port.
To stop buzzing press ON-LINE printer key twice (2). Refer to printer connected to DECRYPTA² parallel printer port. Will resume buzzing if printer is left off-line.

Physical characteristics of DECRYPTA²

DECRYPTA²– FRONT VIEW

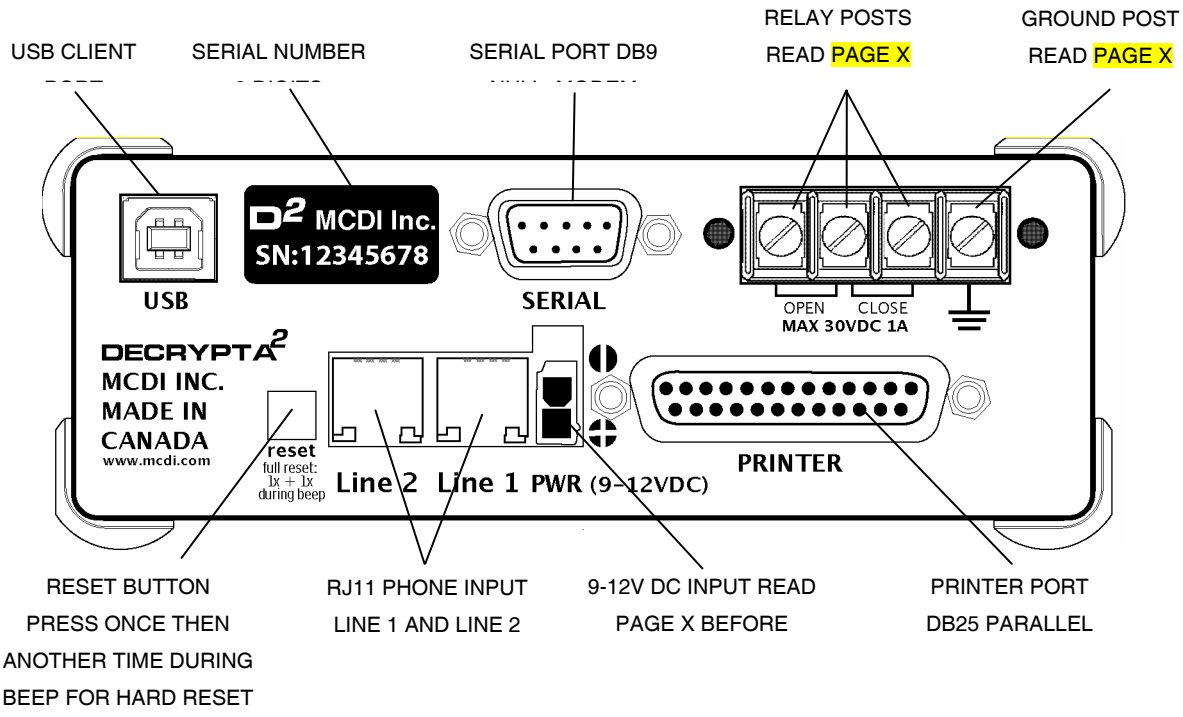


FRONT PANEL DESCRIPTION

WINDOWS Green LED Lights when DECRYPTA² is on. **LINE 1 +2** Red LED Lights when a transmission occurs Blinks when phone line is absent **COMPUTER** Yellow LED Lights when a transmission occurs Blinks when computer is absent	**LOCK UNLOCK CONFIGURATION** **ACCESS CONFIGURATION** **RESET CONFIGURATION**

PRINTER Yellow LED Lights when printing occurs	

DECRYPTA² **– REAR VIEW**



REAR PANEL DESCRIPTION

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

SERIAL NUMBER TAG
All DECRYPTA² serial number contain 8 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

Serial port: 1200 Baud, 8 bit, 1 stop bit
Pin 2 = transmit
Pin 3= receive
Pin 7 = ground Cable type=null modem

RELAY TERMINAL
2 POSITIONS.
Normally open and normally close. Refer to section USING THE ONBOARD RELAY before using. Severe damages may results if used improperly.

GROUND LUG
Used to mecanically ground the unit. Refer to Electrical feed for more details.

RESET BUTTON
Press once to soft reset DECRYPTA² . Press once and once more during beep to hard reset DECRYPTA².

9-12V DC INPUT:
Power input 9-12 V DC 500mA min. Supplied battery connector and supplied power supply. Refer to section Electrical feed before using

PRINTER (DB25 female connector)
Printer parallel port. Raw signals received by DECRYPTA².

LINE 1, LINE 2
Incoming phone lines
Tip
Ring

Powering DECRYPTA² receiver

In this section

ELECTRICAL INPUTS

DECRYPTA² can be powered from:

1. USB port
2. DC input
3. Combination of 1 and 2

1. DECRYPTA² powered from USB port only

Minimum requirements**: USB Port supplying 5VDC 500mA.**

WARNINGS

-USB port from PC should be able to supply Decrypa² with 500mA. If the PC is not able to supply 500mA, Decrypta 2 will not be powered trhough USB port.

-Using a USB extension may impede DECRYPTA² from functioning properly. Test before using in regular operation or critical situations. Never use a modified USB cable. Verify regularly

-USING USB HUB: It is MCDI experience that most USB hub do not supply enough current to power connected DECRYPTA². Before using a USB hub to power one or several DECRYPTA² check that the hub is able to deliver 500mA 5VDA to each DECRYPTA² unit. It is advisable to use the conventional 9-12V DC input of each DECRYPTA² to power each unit when using a USB hub.

-USB cable removal during reception of an alarm signal may result in losing said signal.

-If USB cable is DECRYPTA² sole source of power, events in display memory will be lost when USB cable is removed. Events in receiver buffer will be not be lost and will be transmitted to PC but not to display.

2. DECRYPTA² powered from 9-12VDC input only

9-12V DC only

DECRYPTA² can powered from the 9-12VDC only. Minimum requirements 9-12VDC 500 Ma. Severe damages to the unit may occur if power supply delivers more than 14VDC.

DECRYPTA² is supplied with a 100-240V AC 9 V DC power adapter. This power adapter is supplied with an IEC power cord for localization.

WARNINGS

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

-If 9-12VDC input is used as DECRYPTA² sole source of power, events in memory will be lost when power is removed. Events in receiver buffer will be not be lost and will be transmitted to PC but not to display.

3. DECRYPTA² powered from USB and 9-12V DC input at the same time (MCDI recommended method)

USB and 9-12V DC input can be used at the same time when following instructions. If one power source fails, the other will take over without interruption providing it delivers enough current to power the unit. MCDI recommends you power the unit by using USB power and 9-12VDC input at the same time using a battery supervision circuit (see diagram and notes below).

Methodology of installation:
Check each source on it's own to insure it delivers enough current to power the unit on its own. Once both are checked, you should connect both sources. Verify sources regularly.

WARNINGS

-When both power source to DECRYPTA² are connected to the same origin, losing that origin will result in losing power to DECRYPTA².

-Removal of both power sources will result in losing events in memory.

-Consult a qualified Electrician if you are using other equipment than MCDI supplied equipment.

-Verify setup regularly

Battery in 9-12VDC input

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.

-Decrypta ² will not charge a battery. A battery used in conjunction with USB output will discharge if not connected to a battery charger.

-If not charged, the battery will discharge. DECRYPTA² does not provide battery supervision or charge to battery. DECRYPTA² is supplied with a Molex lock type connector. This connector has a red and black wire for connection to battery.

-If use in conjunction with USB input a battery will discharge at a lower rate but WILL STILL DISCHARGE unless a battery charger is used.

-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 DECRYPTA².

Battery time

To calculated battery time:

HOURS OF CONTINUOUS BATTERY OPERATION = POWER IN A-H

Example with a fully charged new battery – 500mA drain from DECRYPTA²:

12V 600 mAh	1h12min
12V 700 mAh	1h25min
12V 70 Ah	140h

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 DECRYPTA² .

Using 2 x 12V batteries (parallel connection)

IUsing a parallel connection of batteries, resulting current to DECRYPTA^2 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 DECRYPTA^2. 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 DECRYPTA^2 .

-Verify installation regularly.
-Consult a qualified Electrician prior to connecting DECRYPTA^2 If you are using a battery, a battery charger and/or equipment

Notes on:

Removal of USB power paths in DECRYPTA²
Must be done by trained personnal only.
When desirable to remove altogether power from the USB port, DECRYPTA² unit must opened and a jumper at pin J1 of the black PCB must be removed and J7 must be moved from position 1-2 to 2-3. Although a competent technician can do this modification, MCDI strongly advice this modification should be made only by MCDI trained personal and local dealers.
Call MCDI Inc. before attempting this modification.

Alternative power source 9-12V DC
DECRYPTA² is shipped with a power adaptor. 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 DECRYPTA².

USB Hub
While testing several units, MCDI did not find a USB hub able to power TWO DECRYPTA² units. It is recommended that you power the units by their 9-12V DC input if you plan to use a USB hub and use the USB hub only for the benefit of data concentration.

Ground lug
As as safety for users and the DECRYPTA² alarm receiver, DECRYPTA² is provided with a ground lug at the back on the unit. A wire of AWG # should be used along with a lug connectors. Ground connection must be maintained and verified regularly to insure ground to earth is always present.

Best practice in making a ground connection from DECRYPTA² 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 DECRYPTA² to a metallic water pipe going to earth or to a rod deeply planted in earth.

Should several DECRYPTA² units be used it is preferable not to chain units by their ground lugs. A better practice is to use a ground star technique according to Diagram

Using a battery charger
MCDI tested and recommends a supervision circuit like Altronix PM212 (altronix.com). This circuit will take 16VAC wall transformer (Alarm panel transformer) charge a 12V battery, insure supervision and will deliver power from battery when AC feed is missing.

When using a battery charger, insure that the tension at DECRYPTA² electrical entry is less than 14VDC. Applying voltage of more than 14V DC may cause significant heat dissipation within unit. Damages may result and this may reduce life expectancy of DECRYPTA²

WARNINGS
-DECRYPTA² does not supervise battery.
-Verify electrical set-up regularly.
-Always use properly mounted and approved cables to connect DECRYPTA²
-Do not use an over charger battery or a battery dispensing more than 14VDC.
-Consult a qualified Electrician prior to connecting DECRYPTA² If you are using a battery, a battery charger and/or equipment not provided by MCDI Inc.
-Damages resulting from power surges of any kind of specifically excluded from DECRYPTA² warranty.

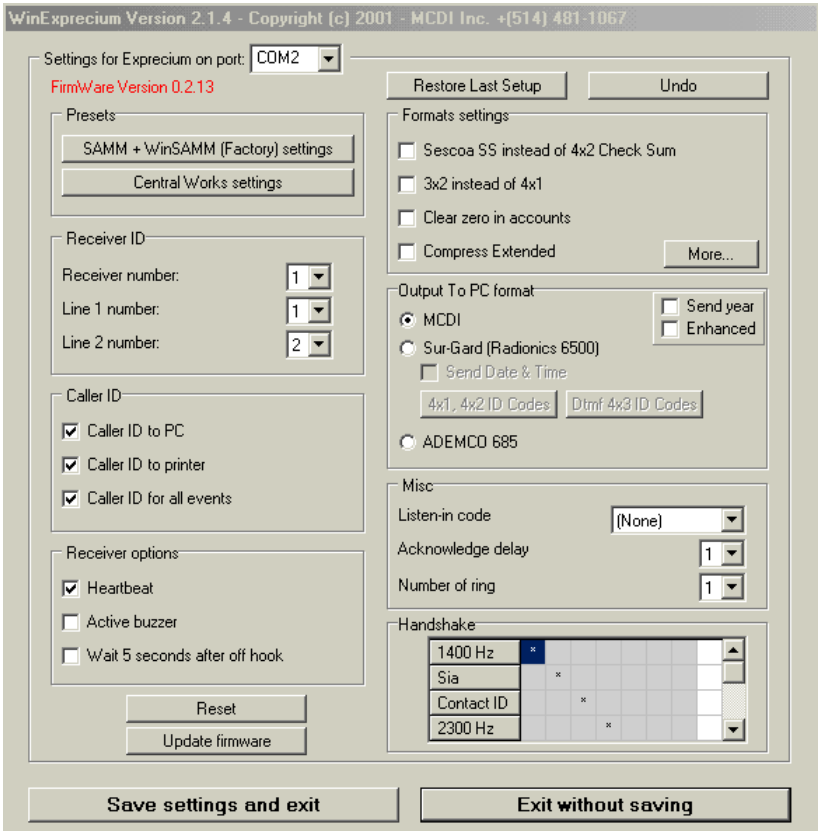
Configuring DECRYPTA² receiver by software

MCDI winExprecium2.exe

There is no switches or jumpers to configure your card. All settings are done using the setup program called **winExprecium2.exe** (provided on the media coming with your card). This program works under Windows and can be executed from any disk drive. To use it under Windows, your Windows drivers must be installed first and properly configured.

To enter the configuration menu double click on the icon **winExprecium2.exe**

The following display will appear :



MCDI Axe and Logger tools

Axe configurator is a universal tool for configuring MCDI receivers. Currently it supports the following receivers:

Exprecium (I and II version)

USB DECRYPTA²

The support for other MCDI receivers will be done in a near future.

Logger is a software tool to log to disk DECRYPTA² raw output . Logged data may be read by word processors and Excel for reporting or /and analysis.

1. JAVA RUN TIME ENGINE Installation

If you don't have Sun's JRE installed you can install it from the CD. It is located in \ Configurator_logger\Java_installer\ directory. To install, run the installer program **j2re-1_4_2_04-windows-i586-p.exe**. Under Windows XP you will need administrative privileges in order to install JRE.

2. Installation of MCDI Axe configurator 0.1.0

Requirements:

MS Windows XP
Sun's Java Runtime Environment (JRE) 2. Located on CD.

Axe Configurator Installation
The installation procedure is very simple. To start the installation, run the installer program, Axe_install_0.1.0.exe:

1. It will prompt you for the language you want the installer to run in.
2. The license is displayed. Read it carefully and then click on "I Agree" to agree with the licensing terms.
3. Select the directory in which the Axe Configurator will be installed or accept the default settings, then click on "Install".
4. You will see the progress of the installation. If you want to see where and which files are being copied, click on "Show Details".
5. Press "Close" when finished

A few shortcuts are created for your convenience:

1. On your desktop
2. In the Start Menu, under **Start→Programs→MCDI→Axe Configurator**

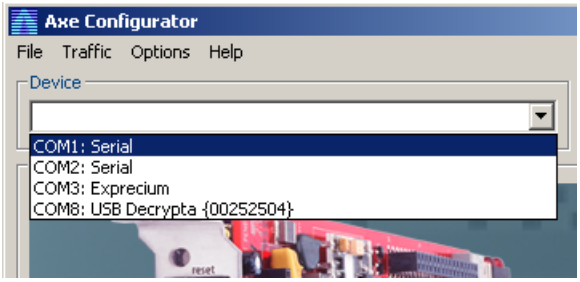
Un-installation

You can un-install Axe Configurator in two ways:

1. *From the Control Panel:* select **Start→Settings→Control Panel**. Then select "Add or remove programs", choose "Axe Configurator" from the list and follow the un-installation procedures.
   OR
2. *Directly*: select **Start→Programs→MCDI→Axe Configurator→Uninstall** and follow the un-installation procedures.

Usage

At the startup, you will see the following welcome screen to configure a device, select it from the device list:



NOTE: The configurator tries to detect what kind of receiver is connected to the PC. Yet sometimes it's necessary to actually start the process of retrieving the configuration in order to completely determine what kind of receiver it is. Thus, in the device menu you may see:

"Exprecium" for Exprecium I and II cards
"Serial" for any device attached to physical COM port, for example, Decrypta or the serial port connection of DECRYPTA².
"USB DECRYPTA²" for the USB connection of the DECRYPTA².

When you select receiver, its configuration settings will be retrieved, and you will see different configuration screens according to the type of the receiver (see section "Configuration screens").

Setting language of the Axe Configurator
You can select English, French, Spanish, German, or Russian. To set the language, select it from the menu **Options →Language**.

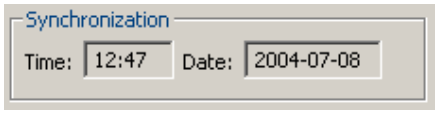
Starting other MCDI software from Axe Configurator
You can start WinSAMM, WS Receiver, Traffic Logger, or WinCOM from the **Traffic→Connect To** menu. To set paths to those programs, select **Traffic→Settings**.

Receiver configuration
When a particular device is selected and its configuration screen is shown (see section "Configuration screens"), the following actions are available:

Submit configuration

Press on the “Submit” button or, equivalently, select **File→Submit** to send the configuration to the receiver, and close the configuration screen.

NOTE: When the configuration is submitted the receiver is set to the system time displayed in the “Synchronization” section:



Discard configuration

Press on the “Discard” button or, equivalently, select **File→Discard** to discard any changes made and close the configuration screen.

Save configuration

To save the current configuration to a file, select **File→Save**.

Open a saved configuration

To load the configuration from a file, select **File→Open**.

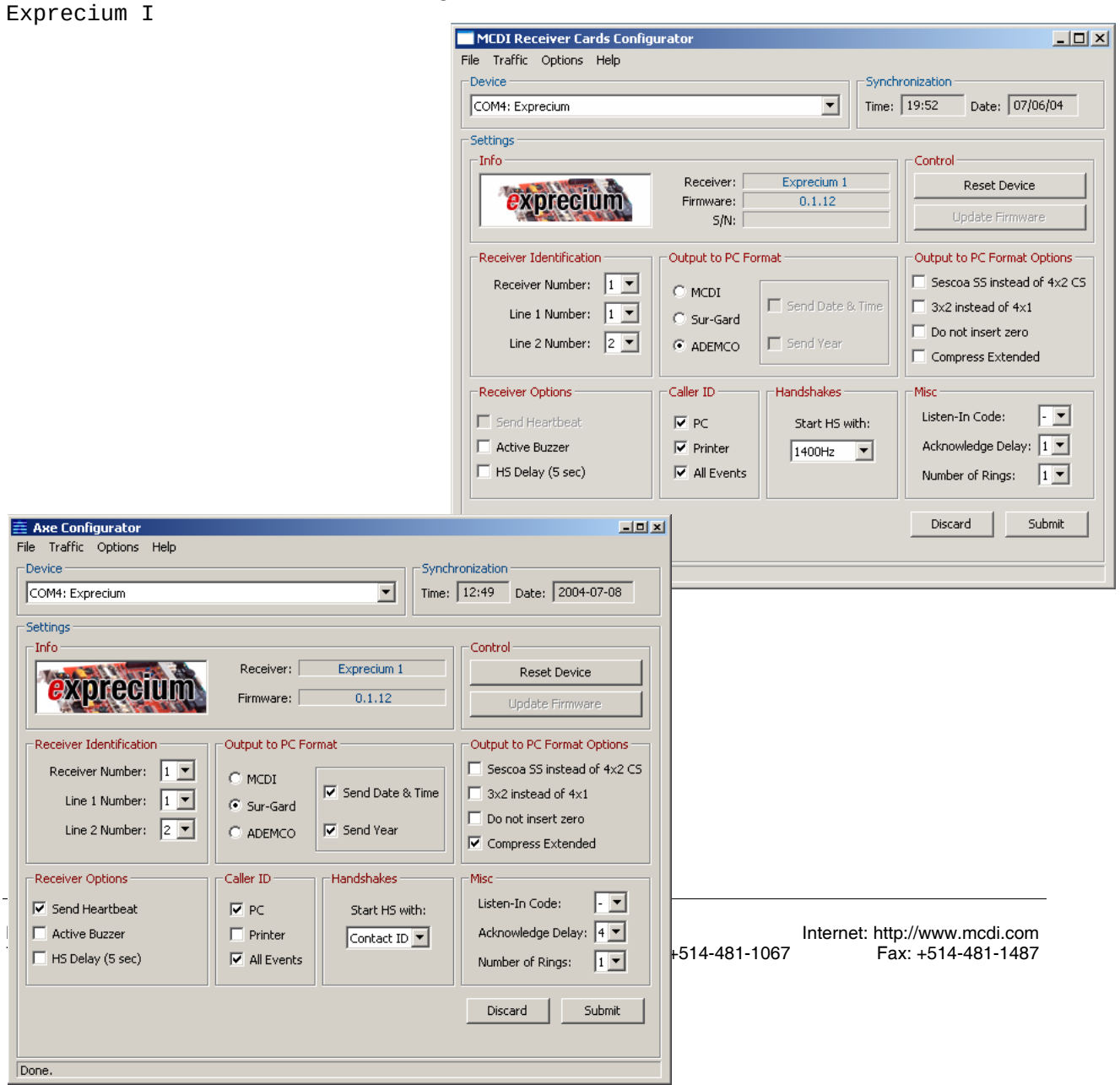
NOTE: File extensions are different for different receiver types. You will not be able, for example, to load an Exprecium I configuration file (*.exp) while configuring an Exprecium II (*.expdec2).

Load Presets

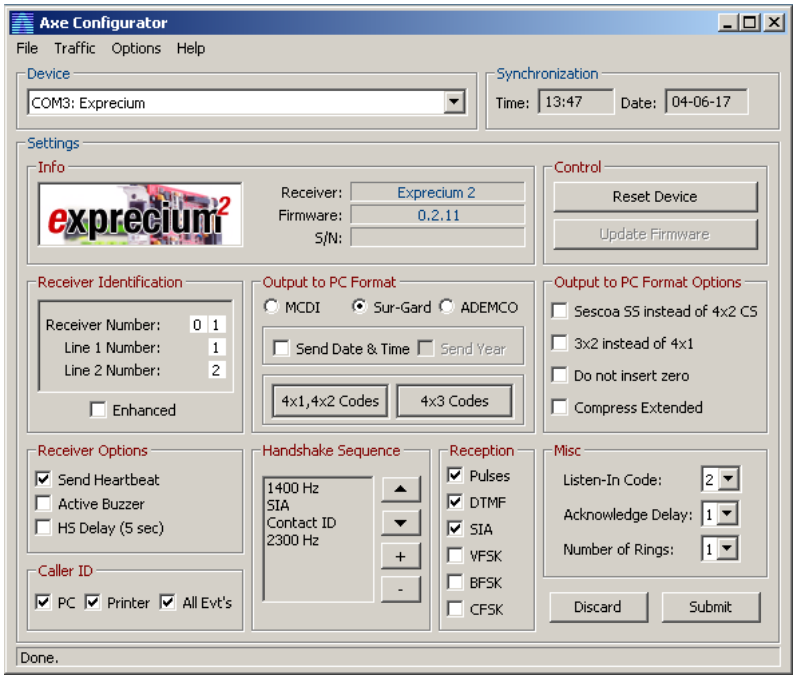
For some receivers, there are preset configurations stored in the “presets” subdirectory of the Axe Configurator **directory. You will see the available presets under File→Presets**.

Configuration screens

Exprecium I

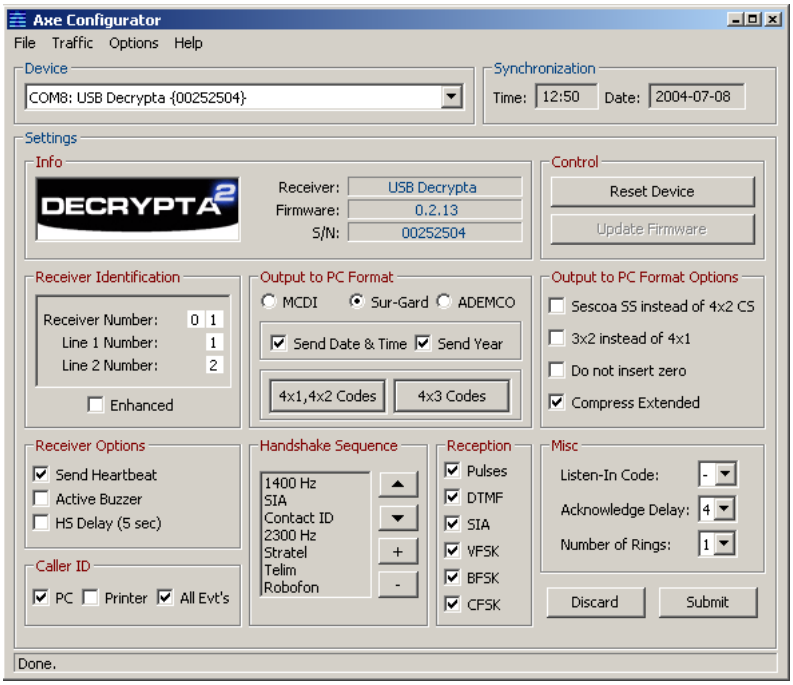


Expreciun II

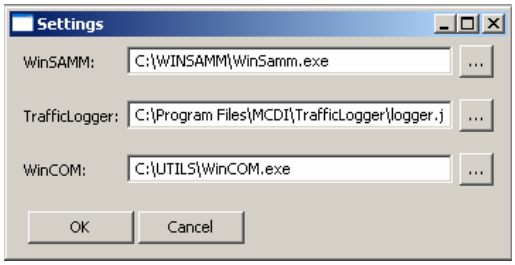


Serial/USB Decrypta 2

Axe configurator recognizes Decrypta 2 connected on USB port of PC. Some options specific to Decrypta 2 will be showned in this window when Axe recognizes a Decrypta 2 unit. Axe will also render more information from USB connection, namely receiver name, firmware version installed in receiver and serial number of unit. USB port and COM port redirection (virtual serial port redirection) are indicated in the Device drop down menu.



Starting other MCDI software from Axe Configurator



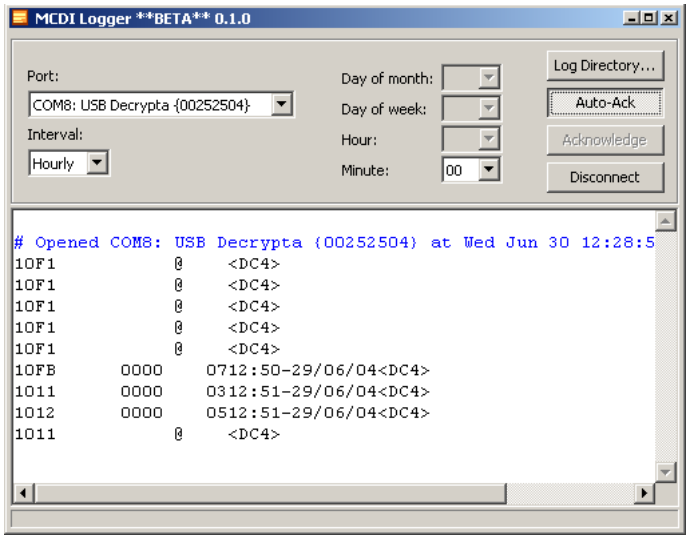
You can start WinSAMM, WS Receiver, Traffic Logger, or WinCOM from the **Traffic□Connect To** menu. To set paths to those programs, select **Traffic□Settings**. The following window will appear where you can change your settings.

LOGGER TOOL

Logger is a software tool to log to disk DECRYPTA^2 raw output . 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”.

Parameter definitions

Emulation mode easy setting information: Select desired mode using a radio button.

MCDI Mode	Standard or enhanced
Ademco Mode	Ademco emulation
Surgard Mode	MLR2 or MLR2000(enhanced) emulation

OPTIONS:

MCDI standard MCDI enhanced	1 digit for receiver# and 1 digit for line # 3 digits for receiver# and 3 digits for line #.
Receiver	Number sent to computer and printer 0 to F (default = 1)
Line 1	Number sent to computer and printer 0 to F (default = 1)
Line 2	Number sent to computer and printer 0 to F (default = 2)
Heartbeat	Yes = enable No = disable (default) DECRYPTA² sends Heartbeat signals to computer every 30 seconds only in Native mode and Surgard mode.
Sescoa SS	Yes = enable No = disable (default) Conflict with Pulse 4X2 Checksum format
3x2 Instead 4x1	Yes = enable No = disable (default) Conflict with 4X1 in Compressed Expanded DO NOT select with Compressed Expanded = Yes
Clear Zero	Yes = Zero removed in 3x1 and 4x1 No = zero present (default) Tells DECRYPTA² 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
Compressed/ Extended	Yes = Compressed extended 3x1 or 4x1 (No = default) 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
Listen-In (3x1,4x2)	Empty or 1 .. F Define code to trigger Listen-In mode in 3x1 or 4x2 formats

Printer/Buzzer Yes = Check printer on DECRYPTA² port No= Do not check for printer (default)

By default DECRYPTA² does not verify printer status on parallel port but sends data to be printed as if a printer was connected to this port.

(Yes) option tells the DECRYPTA² receiver to verify and report on the status of the printer connected to the DECRYPTA² parallel port. The status verification applies to the DECRYPTA² (lowest COM) in the computer if more than one MCDI receiver is installed. A connector is needed to daisy chain multiple DECRYPTA² receivers to send all output to one printer only.

When Check printer option is enabled (Yes) and the computer is absent, each event being sent to printer triggers a warning buzzer. This warning sound may be stopped by clicking twice the ON-LINE printer key. Buzzing resumes if printer is left Off-line.

Do not set the "Yes" parameter if no printer is installed. Multiple error messages could be generated by taking this action.

Handshake delay Delay to start Handshake after Off Hook. No = normal, Yes=5 seconds

Number of rings (1 to 5) Number of rings to answer Default = 1

Caller ID PC No = Do not send telephone ID data to PC
Yes = Send telephone ID data to PC

Caller ID Printer No = Do not send telephone ID data to DECRYPTA² printer
Yes = Send telephone ID data to DECRYPTA² printer

Caller ID ALL No = Do not send telephone ID data except when bad transmission occurs
Yes = Send telephone ID to PC and DECRYPTA² printer unless PRN and PC select otherwise

Save Date / Time Yes = enable(Default) No = disable

Send year Yes = Date including the year No = Date with no year (default)

Yes, tells DECRYPTA² to add the Year in date format: HH:mm _ _ MM/DD[/YY] ...

No, by default, tellsDECRYPTA² to use date and time format: MM/DD.

Display Last Event Time Display setting allowing to always display last Event received instead of default display Date and

Yes = Enable keeping Last Event permanently displayed; No = Revert to Default display.

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

Handshake order selection

Options

1400hz / VFSK	2300hz	ROBOFON
SIA / CFSK	STRATEL	
DUAL 1400hz / 2300hz	TELIM	

Selection inserts

1]400Hz	5) On Hook
2)**[** SIA **]**	6) On Hook
3) Cont ID	7) On Hook
4) 2300Hz	8) On Hook

In each Selections field insert option needed.

Transmission rate serial communication

1200 bps, no parity, 8 bits, I stop bit

Transmission rate USB communication

1200 bps, no parity, 8 bits, I stop bit

Connecting DECRYPTA² to PCs.

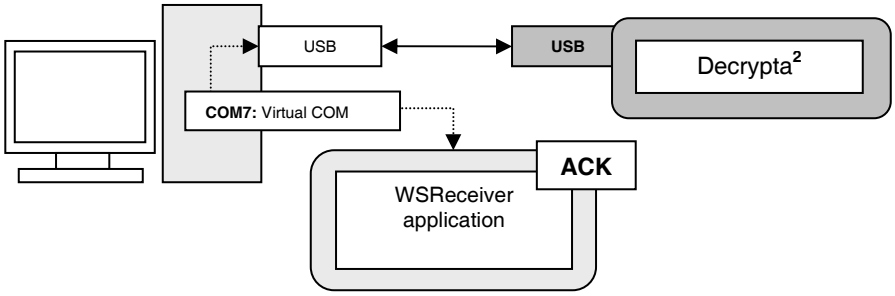
Typical scenarios are:

No connection to PC:

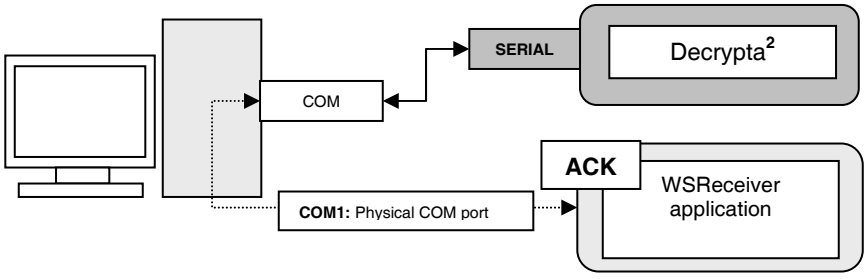
DECRYPTA² can be used in a stand-alone way, without PC. All configuration parameters can be accessed from the internal configuration menu.

Using one connection (USB or Serial)

- DECRYPTA² connected by USB port only



- Using only one connection: DECRYPTA² connected by Serial port only

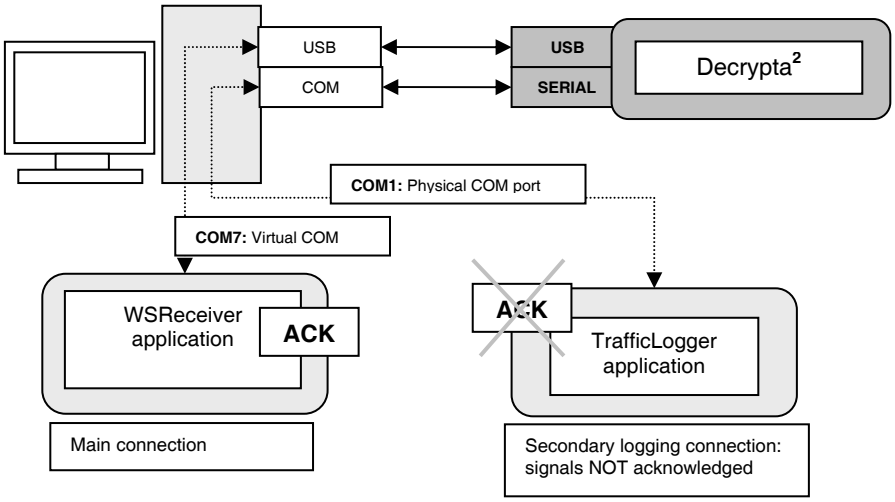


Using both connections (USB and Serial)

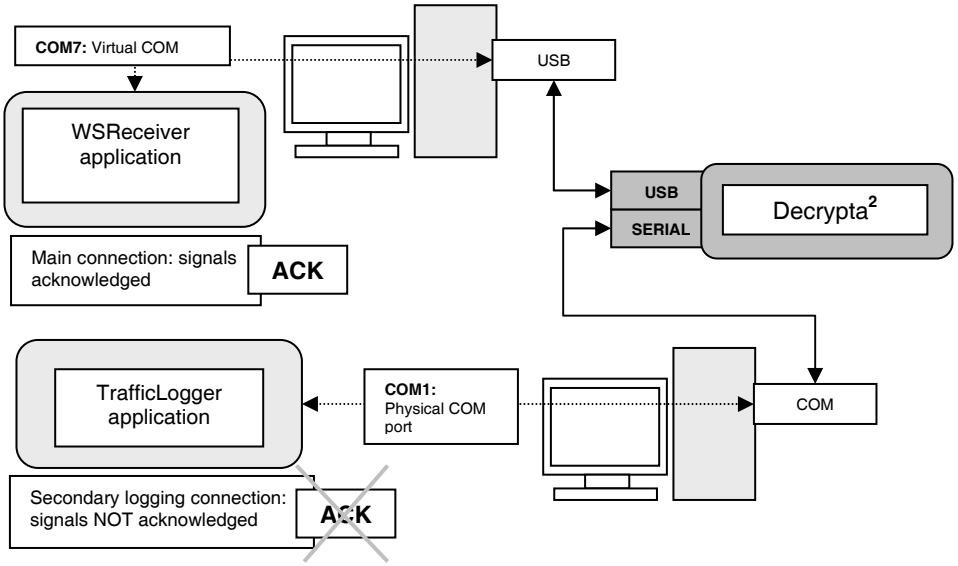
IMPORTANT: For flexibility of operations the signal received by the card can be acknowledged from either USB or Serial connection. Therefore it is very important, when using both USB and serial connection, to acknowledge signals ONLY from the main connection to the receiving software, and not from the secondary one used for logging.

When connected in this fashion, Decrypta 2 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.

DECRYPTA² connected by USB and serial port on same PC

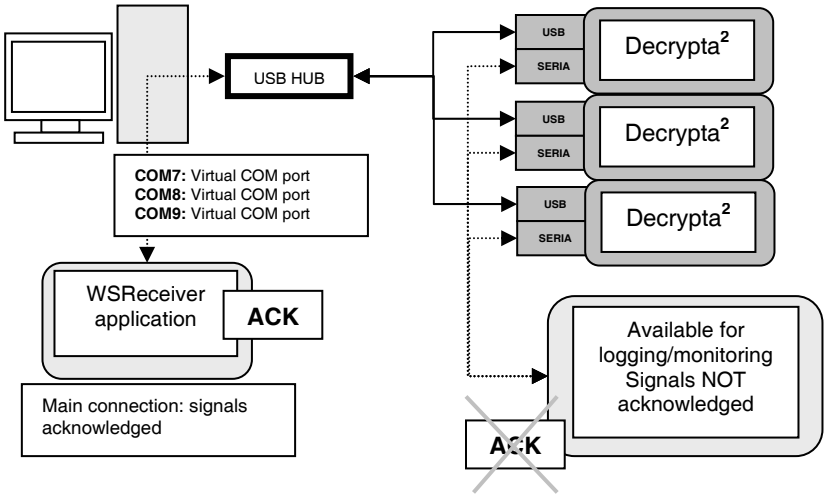


DECRYPTA² connected by USB and serial port on different PC



Using USB Hub

- Several DECRYPTA² connected to PC by USB hub.


USB HUB
COM7: Virtual COM port
COM8: Virtual COM port
COM9: Virtual COM port
WSReceiver application
ACK
Main connection: signals acknowledged
USB
SERIA
Decrypta²
USB
SERIA
Decrypta²
USB
SERIA
Decrypta²
Available for logging/monitoring Signals NOT acknowledged
ACK

Configuration by front panel commands and displays

Start up menu
Display on power-up. V.1.2.4 is the firmware version in this case

Configuration menu
To enter configuration, press
(↵) and (Esc) simultaneously

At any point during configuration

Pressing will save configuration

Choice of language
(▲)(▼) to select from English, Spanish (español), French (français) Portuguese (português) or German (deutsch)

to choose language and continue to next menu in selected language

Output Format to PC
(▲) or (▼) to select MCDI, ADEMCO, or SurGard Format
(↵) to accept the setting and go to the next menu.

Enhanced mode
(MCDI format → RRRLLL; SurGard 2000 format → RRLLL)
(▲) or (▼) to select either Yes or No
(↵) to accept the setting and go to the next one.
- Not available for ADEMCO format.

Assigning receiver and each Line a number
(▲) to enter sub-menu go to next setting
Press simultaneously (↵) and (▲) or (▼) to move the cursor.
Press (▲) or (▼) to select from 0 to 9, and A - F
(↵) to accept the settings and continue.

Enabling heartbeat
(▲)(▼) to select from Yes or no

to choose and continue to next menu

Enabling Sescoa SS format
(▲)(▼) to select from Yes or no

to choose and continue to next menu

Enabling 3x2 instead of 4x1
(▲)(▼) to select from Yes or no

to choose and continue to next menu

```
          DECRYPTA
       Alarm Receiver
       Version 1.2.4.
         MCDI Inc.

     Congifuration Mode
 ::::::::::::::::::::::::::::

     Saving Configuration
 □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

          (SETTINGS)
Choice              Option
_____________________________
Language           English

          (SETTINGS)
Choice                 Option
.............................
Output Format            MCDI


          (SETTINGS)
Choice                 Option
.............................
Enhanced mode             Yes


          (SETTINGS)
Choice                 Option
.............................
Receiver ID            Edit>>

 Receiver #:   1
   Line 1 #:   1
   Line 2 #:   2

          (SETTINGS)
Choice              Option
_____________________________
Heartbeat              Yes

          (SETTINGS)
Choice              Option
_____________________________
Sescoa SS              Yes

          (SETTINGS)
Choice              Option
_____________________________
3x2 inst'd 4x1         Yes
```

Enabling clear zero

 to select from Yes or no

to choose and continue to next menu

Enabling Extended/compressed

 to select from Yes or no

to choose and continue to next menu

Choosing listen-in code

 to select from 1 to 9, Ato F. "0" = empty

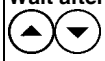
to choose and continue to next menu

Check printer/buzzer mode

 to select from Yes or No

to choose and continue to next menu

Wait after off hook option

 to select from no or Yes (4.5 seconds delay)

to choose and continue to next menu

Set the number of rings before answering

 or  to select from 1 to 5 rings

 to accept the setting and go to the next one.

Enabling CALLER ID to PC

 to select from Yes or No

to choose and continue to next menu

Enabling CALLER ID to printer

 to select from Yes or No

to choose and continue to next menu

Enabling CALLER ID to be sent with all events

 to select from Yes or No

to accept the setting and go to the next one.

Sending date and time option (Surgard mode option)

 to select from Yes or no

to choose and continue to next menu

(SETTINGS) Choice	Option
Clear Zero	Yes

(SETTINGS) Choice	Option
Extended	Yes

(SETTINGS) Choice	Option
Listen-In code	E

(SETTINGS) Choice	Option
Check printer	Yes

(SETTINGS) Choice	Option
Wait after O/H	Yes

(SETTINGS) Choice	Option
Number of Rings	1

(SETTINGS) Choice	Option
Caller ID to PC	Yes

(SETTINGS) Choice	Option
Caller ID printer	Yes

(SETTINGS) Choice	Option
Caller ID All	Yes

(SETTINGS) Choice	Option
Date/time	Yes

Sending year option (Surgard mode option)

to select from Yes or No (ifSet date and time is YES)

to choose and continue to next menu

Delay time for acknowledge to PC

to select delay in seconds from 1 to 5

to choose and continue to next menu

Setting Time: hour

to select from 00 to 23

to accept the setting and go to the next menu

Setting Time: minutes

to select from 00 to 59

to accept the setting and go to the next menu

Setting Date: day

to select from 01 to 31

to accept the setting and go to the next menu

Setting Date: month

to select from 01 to 12

to accept the setting and go to the next menu

Setting Date: year

to select from 00 to 99

to accept the setting and go to the next menu

Setting the format for displaying the date in IDLE MODE.

or to select the format.

to accept the setting and go to the next menu.

Display Last Event option

or to select either Yes or No.

Yes = Keeps last event received on display.

No = Reverts to **IDLE MODE default** setting.

to accept the setting and go to the next one.

Formats selection (Specific to Surgard format

to enter the sub-menu.

to go to the next setting.

(SETTINGS) Choice	Option
Send year	Yes

(SETTINGS) Choice	Option
ACK delay	2

(SETTINGS) Choice	Option
Time: hour	00

(SETTINGS) Choice	Option
Time: minutes	22

(SETTINGS) Choice	Option
Date: Day..	02

(SETTINGS) Choice	Option
Date: Month	12

(SETTINGS) Choice	Option
Date: Year	00

(SETTINGS) Choice	Option
Date Format	YY/MM/DD

(SETTINGS) Choice	Option
Display Event	No

(SETTINGS) Choice	Option
Formats	Edit>>

[Formats selection sub-menu]

Press simultaneously ↵ and ▲ or ▼ to move the cursor. Then Press ▲ or ▼ to select from either Yes or No. Press ↵ to accept the settings and continue.

Assigning 4x1 and 4x2 Codes

▼ to enter the sub-menu.

↵ to go to the next setting.

- Available only in SurGard format.

Assigning 4x3 Codes

▼ to enter the sub-menu.

↵ to go to the next setting.

- Available only in SurGard format.

[4x1, 4x2, 4x3 Codes sub-menus] Selecting codes

Press simultaneously ↵ and ▲ or ▼ to move the cursor. Press ▲ or ▼ to select from '0' to '9', and 'A' – 'F', or (none)

↵ to accept the settings and continue.

Assigning Handshake sequence

▼ to enter the sub-menu.

↵ to go to the next setting.

[Handshake sequence sub-menu] Specifying the order.

Press simultaneously ↵ and ▲ or ▼ to move the cursor. Press ▲ or ▼ to select the handshake from the list:

- 1400 Hz / VFSK
- 2300hz
- Dual 1400Hz/2300Hz (Contact ID)
- SIA / CFSK
- Telim(works on Telim models only)
- Stratel
- Robofon(works on Robofon models only)

↵ to accept the settings and return to the beginning of the configuration list.

Resetting DECRYPTA²

▲ and ▼ pressed simultaneously at any time will reset DECRYPTA² to factory default, and will clear the buffer from all events received, unless locked (see Locking Settings below).
Note that you should leave the configuration mode without saving any changes.

Saving changes and exiting from configuration mode

Press Esc to leave the configuration mode. Unless locked (see Locking Settings below), you will be prompted if the new configuration should be saved. Press ▲ for “Yes”, and ▼ for “No”.

```
Pulses ► Yes      VFSK        No
DTMF     Yes      BFSK        No
SIA      Yes      CFSK        No


            (SETTINGS)
Choice                 Option
_____________________________
4x1,4x2 Codes          Edit>>


            (SETTINGS)
Choice                 Option
_____________________________
4x3 DTMF Codes         Edit>>


0>[0]   4> 0    8> A    C> 0
1> 1    5> 0    9> B    D>
2> 2    6> 0    A> C    E> 0
3> 3    7>      B> D    F> 0

            (SETTINGS)
Choice                 Option
_____________________________
HS Sequence            Edit>>

1) 1400Hz       5) Unused
2)[  SIA  ]     6) Unused
3) Cont ID      7) Unused
4) 2300Hz       8) Unused
```

```
      DECRYPTA II is reset
           MCDI Inc.


 Save configuration?     Yes


      Saving Configuration
      □□□□□□□□□□□□□□□□□□□□□
```

If the new configuration is to be saved, “Saving configuration” message will appear.	

IDLE MODE. BROWSING RECEIVED EVENTS

Idle Mode default display

When not in configuration nor receiving signals, DECRYPTA² displays date on first line and time on second line. Press ▲ or ▼ to browse events in the buffer.

```
......  00/12/07  ......
......  00:12:04  ......
```

Idle Mode Display options

- To permanently display Last Event received, set "Display Event" (see above) to Yes.
- To change the format in which the date is displayed, see the "Date Format" setting above.

Locking / Unlocking Settings

To lock the settings, press simultaneously ↵ and ▼, then Esc and ▲. You will see a lock symbol in the upper left corner of the screen. Repeat the same procedure to unlock the settings.

- Locking the settings makes them read-only to protect from accidental changes. Settings can still be examined, but not modified.
- Reset is unavailable in this mode.
- When leaving the configuration mode by pressing Esc at any time, no confirmation will be asked, and no changes saved.

TYPICAL DISPLAYS–INCOMING SIGNALS

4X2, CALLER ID NATIVE FORMAT
LINE 1: TIME AND DATE
LINE 2: RECEIVER AND LINE NUMBER; SIGNAL FROM PANEL
LINE 3: CALLER ID INFORMATION
LINE 4 RAW DATA

```
15:30:27__12/07/00
Rec: 1   Line: 2
CID: {4811067}
12 6161 F6
```

CONTACT ID, CALLER ID, NATIVE FORMAT
LINE 1: TIME AND DATE
LINE 2: RECEIVER AND LINE NUMBER; SIGNAL FROM PANEL
LINE 3: CALLER ID INFORMATION
LINE 4 RAW DATA

```
15:30:38__12/07/00
Rec: 1   Line: 2
CID: {4811067}
12 6262 E121 01 000
```

SIA, CALLER ID, NATIVE FORMAT
LINE 1: TIME AND DATE
LINE 2: RECEIVER AND LINE NUMBER; SIGNAL FROM PANEL
LINE 3: CALLER ID INFORMATION
LINE 4 RAW DATA

```
15:30:47__12/07/00
Rec: 1   Line: 2
CID: {4811067}
12 [#6363INHA000]
```

TOOLBOX

CONFIGURATION TOOLS

DECRYPTA² can be configured directly from its display and front panel commands. You may also enjoy the same commands from a PC connected to DECRYPTA². Configuration tools are provided on the CD that came with DECRYPTA² or by download from www.mcdi.com

DOS and Windows 95
No tools available under Dos up to Windows 98
USB port will not work under DOS and Windows 95 due to the nature of USB and OS limitations. Serial port must be used.

Windows 98, ME, 2000, XP.
DECRYPTA² may be configured by WINEXPRECIUM2.EXE or MCDI AXE configurator. Axe configurator is a java class tools. Java engine must be present.

Linux
DECRYPTA² may be configured with application located on CD or available by download from www.mcdi.com. Traffic can be viewed with Lincomiq. Drivers are included on CD.

Macintosh

This OS is not supported although MCDI successfully tested one specially programmed DECRYPTA² with a G4 using a MacWIse under OS X (10.3.3). Adjustments to unit programming is needed in order to make it work with Mac OS drivers. If you are planning to use DECRYPTA² with Mac, please specify to sales when ordering or contact MCDI support for reprogramming of unit.

Coding of commands
Line command from a terminal application may be used. Contact MCDI support for coding interface.

Developer's tools.
Coding interface of DECRYPTA² commands is provided free of charge to developers who present projects and credentials.

COMMUNICATION TOOLS

Software tool COMIRQ

COMIRQ is a DOS software program shipped with all MCDI receivers. It is used to check signals sent to PC by DECRYPTA² . This tool will not work with USB port due to DOS restrictions.

To check installation and find free IRQ, run COMIRQ followed by COM,IRQ parameters.

Example: COMIRQ 2,3 (Checks if IRQ 3 is free for a DECRYPTA² installed on COM2)

When COMIRQ is displayed, send a signal to DECRYPTA² where same setup parameters have been given .

Press Space bar to display one signal at a time. Press A to empty receiver buffer and enable ACK.

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

Use WINCOM utility to test communication between computer and DECRYPTA².

- Double click on WINCOM icon to start the application.
- Click on SETTINGS to choose COM port (do not change other parameters) that your DECRYPTA² is connected to then click OK.
- Click on OPEN to start monitoring selected port. If DECRYPTA² 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 is provided for DOS

LINUX DRIVERS

USB drivers for supporting DECRYPTA² are included in Linux mainstream kernel versions.

Creating nodes for DECRYPTA² :

If your Linux distribution is using devfs you can skip this step.
Create nodes by doing: mknode /dev/ttyUSB0 c 188 0
mknode /dev/ttyUSB1 c 188 1
mknode /dev/ttyUSB2 c 188 2

To check if you already have the driver enabled, plug the DECRYPTA² into the USB port
and do the following: cat /dev/ttyUSB0
if the following appears: cat: /dev/ttyUSB0: No such file or directory
you DON'T have a loaded module.

Loading a module:
do the following: modprobe ftdi_sio
if no error messages were displayed, check if the driver was properly enabled as outlined before. If there was some errors, it means that you will have to rebuild the drivers.

Rebuilding drivers:
cd /usr/src/linux if the directory does not exist, install kernel sources from your distribution CD. Contact your Linux vendor for further support.

make menuconfig. If any error occurs try to reinstall the kernel sources.

Select "USB Support"
Select "Support for USB" <*>
Select "USB Serial Converter Support"
Select "USB Serial Converter Support" <M>

Select "USB FTDI Single Port Serial Driver" <M>
Select <Exit>
Select <Exit>
Select <Exit>
Save your configuration

regenerate dependencies:
make dep

build kernel modules:
make modules

install modules:
make modules_install

if no errors occurred, try to load the module as outlined before.

Displaying USB traffic using lincomirq. Lincomirq is a Linux software program shipped with E² and DECRYPTA² . It is used to check signals sent to PC by DECRYPTA² .

Download lincomirq package from MCDI Inc. website or on included CD
DECRYPTA² >LINUX>Lincomirq

Unpack the file and recompile it (Refere to README file in lincomirq for further assistance). Run comirq -u 0 to display traffic from the first USB DECRYPTA². Running comirq -u 1 will display traffic from the 2nd DECRYPTA² etc.

MACINTOSH DRIVERS

Located on CD DECRYPTA² >DRIVERS>MACINTOSH>

WINDOWS 95SE DRIVERS
Located on CD DECRYPTA² >DRIVERS>WIN95

WINDOWS 98, ME DRIVERS
Located on CD DECRYPTA² >DRIVERS>WIN98

WINDOWS ME DRIVERS
Located on CD DECRYPTA² >DRIVERS>WINME

WINDOWS 2000 DRIVERS
Located on CD DECRYPTA²>DRIVERS>WIN2000

WINDOWS XP DRIVERS
Located on CD DECRYPTA² >DRIVERS>WINXP

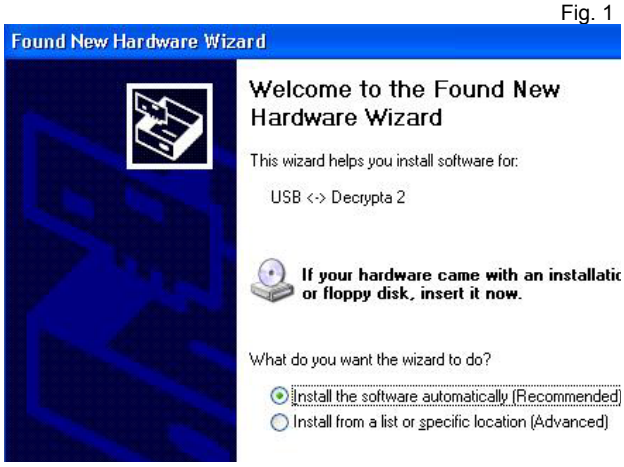
Connexion of DECRYPTA² under Windows XP or Windows 2000. First time installation

USB port enables a rapid and easy deployment of peripherals such as DECRYPTA² . Follow the steps enumerated in this section to enable USB communication between your PC and a DECRYPTA² Alarm Receiver. This procedure is common to Windows XP and Windows 2000. The procedure demonstrates a first time installation.

1. Specify the location of thedirectory containing drivers.

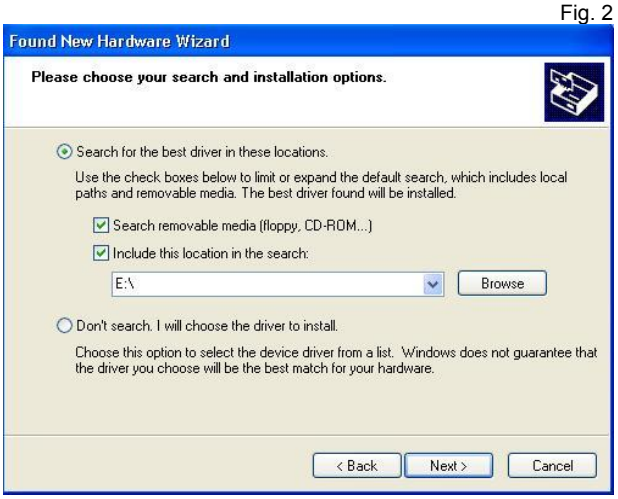
Windows takes care of bringing on screen a new hardware dialog box (fig. 1) upon first installation. At this point you should insert the DECRYPTA² CD supplied with your unit.

Fig. 1



Select the Recommended option : 'Install the software automatically' and click on Next

Fig. 2



Windows will display a new window (fig.2) to locate the direcrtory containing DECRYPTA² USB drivers. Make sure the selection Search removable media if you are installing drivers from the CD or write the direct path to a known location for drivers using the 'Browse' window.
Click on Next.

Windows will then display a list of components useful to USB installation of DECRYPTA². Fig. 3 shows a warning from Microsoft. You need to click on Continue Anyway to finish installation of USB components of DECRYPTA².

Fig.3

Fig. 4

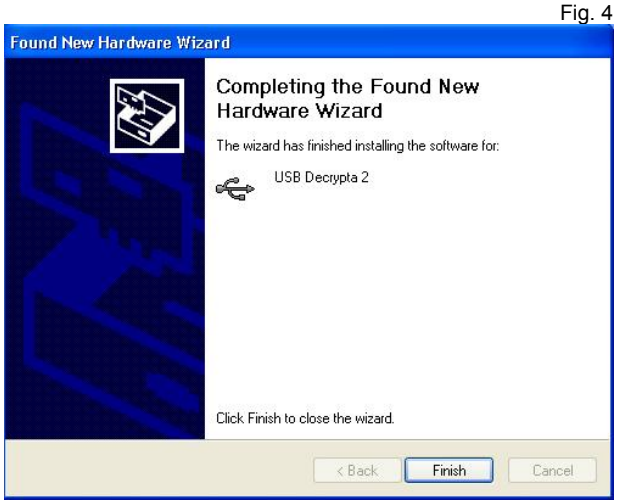


Fig .4 will be displayed to confirm the correct installation of USB components for DECRYPTA². If an error message is displayed contact MCDI support at usb@mcdi.com or support@mcdi.com

2. Installing the Virtual Serial Port.
A last component, a Virtual Serial Port, is needed to make DECRYPTA² talk to the PC. Fig. 5 show a new installation window that will pop on screen at this point

Fig. 5

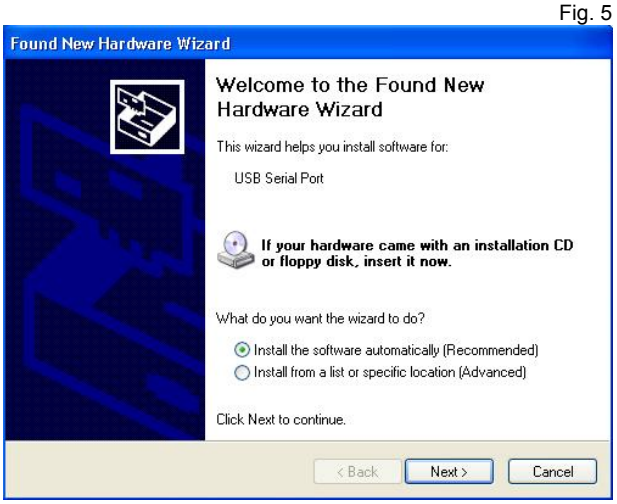
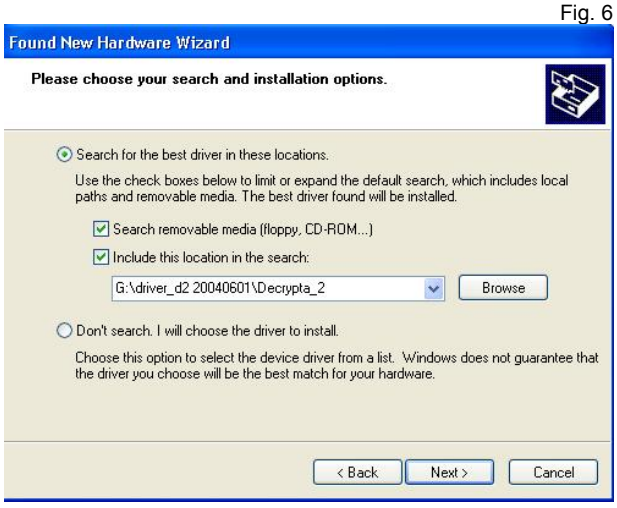


Fig. 6



Once again, you will need to specify the location of the component. We suggest you accept the Recommended selection : 'Install the software automatically' and click on Next.
Fig. 6 dialog box pops on screen to Select the location of the Virtual Port component. Once again if working from the CD select the Search removable media option and click on Next or specify the exact location of component

Fig. 7

Once again, a Microsoft warning (Fig. 7) will be displayed on screen. You need to click on Continue Anyway in order to finish installation of USB DECRYPTA² components.

Fig. 8

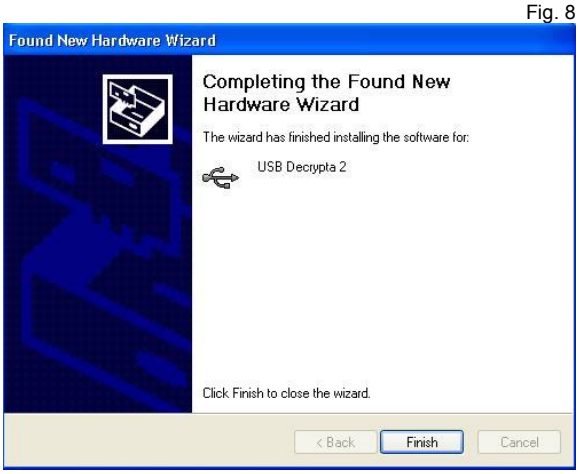
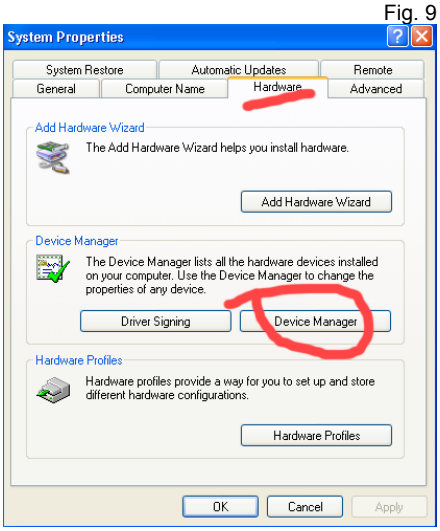


Fig .8 will be displayed to confirm the correct installation of USB Serial port component for DECRYPTA². If an error message is displayed contact MCDI support at usb@mcdi.com or support@mcdi.com

3. Verification

You can verify the correct instalation of DECRYPTA² by looking at Windows Device Manager (Fig. 9) or you can directly go to MCDI Configurator tool (section XXXXXX). Device Manager is located at Start>Control Panel>System>>Hardware tab>>Device Manager

Fig. 9

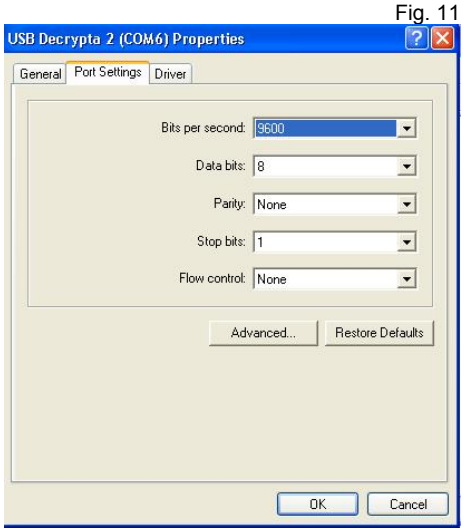


Click on tab Hardware and then select Device manager.

Fig. 10

In Ports (COM &LPT), USB Decrypta 2 (COM N) will be displayed for each DECRYPTA² connected along with the COM port in use for each DECRYPTA² unit connected via USB.

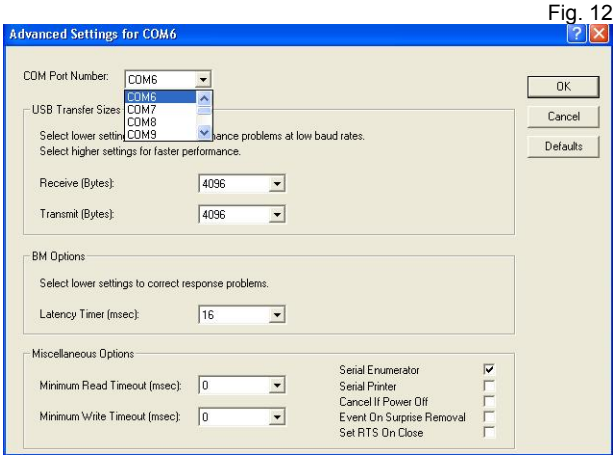
Fig. 11



4. Changing COM Ports for USB DECRYPTA²

Assigning a new com port to a DECRYPTA² is easily done. COM port can be changed manually by double clicking in each individual USB DECRYPTA² in the Device manager. A new Properties windows (Fig. 11) will be displayed. In Port Settings>>

Fig. 12



Advanced a new window Ports will be displayed (fig. 12). Com port number can be changed to desired port. It is not advisable to change other parameters. To register changes click on OK in Port Settings window and OK in the Properties window. Settings will not be registered before this is done. In the Device Manager clicking on

Refresh icon  will bring a new enumeration with changes.

You can now change internal settings of DECRYPTA² using your PC and MCDI Configurator tool.

WORKING WITH OPERATING SYSTEM

DOS (Serial communication only- no config)
LINUX
Windows 95SE, 98, ME
Windows XP and 2000.
Macintosh: OS X

Receiving

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

Listen-in function

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

DECRYPTA² 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.

3x1 and 4x2 formats have no standard codes for Listen-in. DECRYPTA² allows self selection of Listen-in codes at Setup time.

Receiver action upon reception of “Listen-in” trigger

Upon reception of event in the Listen-in category, DECRYPTA² receiver maintains the telephone line open for a period of up to 180 seconds or less then 180 seconds upon reception of any telephone tone from the keypad.

Operator control for “Listen-in”

Operator must be warned by Monitoring software of account “listen-in” capability. Operator has a maximum of 180 seconds from time of alarm reception to telephone pickup. Failure to pickup telephone in this delays will cause line hang-up by DECRYPTA² receiver.

Once the line is seized by Central station local telephone, the hang-up action of DECRYPTA² will have no effect.

To close communication with alarm signal site in the first 180 seconds when DECRYPTA² is in action, operator must press any key on the telephone keypad before hanging up. DECRYPTA² will hang up telephone line before 180 seconds only upon reception of a tone from telephone keypad.

To close communication with alarm signal site after 180 seconds of event reception, simply hang-up the telephone. This is because DECRYPTA² 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 _ [#CCCCCC|EAAZZZ/AAZZZ/AAZZZ]<CR>	Native mode
<LF>RL_ [#CCCCCC|EAAZZZ/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 _ [#CCCCCC|EAAZZZ/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)	
|	:	Field separator (SIA)	
#	:	Account ID block code (SIA)	
E	:	Function block code (SIA)	
/	:	Data code packet separator (SIA)	
<LF>	:	Line Feed	

DECRYPTA² 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
External battery backup	Time	Date	Receiver	0000	07	Low external battery
	Time	Date	Receiver	0000	08	Normal external battery
Transmission message	Time	Date	Receiver	0000	00	Bad transmission
	Time	Date	Receiver	[#0000|A BAD TRANSMISSION]		Format SIA
No Transmission	Time	Date	Receiver	0000	F1	No signal received Line 1
	Time	Date	Receiver	0000	F2	No signal received Line 2

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

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

Messages from DECRYPTA² to DECRYPTA² printer port

When computer ceases to answer "Computer absent" is sent to DECRYPTA² parallel port

When computer answers "Computer restore" is sent to DECRYPTA² parallel port

CARE OF DECRYPTA² UNIT:
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.

Operating condition: 4°C to 40°C.
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 USB port or supplied power adaptor.

FIELD REPLACEABLE PARTS (under MCDI Inc. direction)
NVRAM units (1).
Phone line interface (red PCB).
Selectable jumpers.
Cables.

FIELD UPGRADABLE (upon MCDI Inc. direction)

Firmware programming
Drivers
Communication tools
Enabling DECRYPTA² in SAMM (DOS version 8.1.95 and lower)

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 SAMM installation manual page 6 to establish a start up command string.
USB communication to the Signal logger (CD DECRYPTA² >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 DECRYPTA² in SAMM X (version 10.3 or up)
Using WSReceiver.

Enabling DECRYPTA² in WinSAMM (version 1.2 or up)
Using WS Receiver

Enabling DECRYPTA² 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 (CD DECRYPTA²>tools/communication/name of logger)can still be achieved if PC is Windows 98 and up or by sending USB signal to another PC.

Warranty

The Electronic products of MCDI Inc. are under a three year limited warranty. 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 the use ot MCDI equipment are expressely excluded of warranty.

During the period of warranty, advanced replacement service of DECRYPTA² 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
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 ConformityEC Declaration of ConformityEC Declaration of Conformity

We:

MCDI 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-DECRYPTA² alarm receiver

The products to which this declaration relates are in conformity with the following relevant harmonised 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 January 1997

MCDI 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 DECRYPTA² 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.

Table:

Clearance (mm) X	Creepage (mm) Y	Voltage Used or Generated by Host or Other Cards
2.0	2.4 (3.8)	Up To 50 Vrms or Vdc
2.6	3.0 (4.8)	Up To 125 Vrms or Vdc
4.0	5.0 (8.0)	Up To 250 Vrms or Vdc
4.0	6.4 (10.0)	Up To 300 Vrms or Vdc

For a host or other expansion card fitted in the host, using or generating voltages greater than 300V (rms or dc), advice from a competent telecommunication safety engineer must be obtained before installation or relevant equipment	Above 300 Vrms or Vdc

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 DECRYPTA² 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 DECRYPTA² 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. DECRYPTA² 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
DECRYPTA²	DECRYPTA² alarm receiver.
DB9	9 pins Connector used for serial communication. Located at the back of DECRYPTA².
DB25	25 pins connector used for parallel communication to printer. Located at the back of DECRYPTA².
Dead line detection	DECRYPTA² probes phone lines at 4 seconds interval. If dial tone is not detected, DECRYPTA² 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 DECRYPTA². 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 DECRYPTA² 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 DECRYPTA² 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.
E²	Exprecium² mode. Advanced programming for Exprecium² 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 preseted time.
FTO	Fail to open. Event created when a system remains armed at preseted time.
GCI 1800/1900	GSM backup interface by MCDI. Iinterfaces GSM phone signal to PSTN (RJ11 plugs) and transfers ring to let alarm receivers such as Decrypta and DECRYPTA² 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 alarm receivers to earth ground. Decrypta 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 commincations.Wireless phone system used in most parts of the world.
GUI	Graphical User Interface**.** Pronounced "gooey". 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 emited by the alarm panel in order to match the format of the alarm panel. DECRYPTA² emits several handshake tones in order to mate with the panel.
Handshake sequence	In DECRYPTA², the hability to specify an order of appearance in order to speed the matching process between the panel and the alarm receiver.
Hearbeat	Single caracter or group of caracters 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	Milliampere Unit of current that is 1/1000 of an Ampere. Measure of current needed to power DECRYPTA²
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.
Modem3a²	Alarm format owned by Radionics company. Built-in DECRYPTA² and Exprecium². 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 DECRYPTA² . 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 refered 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 DECRYPTA², 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 Exprecium² are of this type. Common in computer made since 2000.
Peripheral	Auxiliary equipment such as DECRYPTA² 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 DECRYPTA² external 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 DECRYPTA² 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 DECRYPTA², 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 DECRYPTA², 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 frequeny tuning on MCDI equipment.
RS-232	DB9 connector. Interface between a computer input output port and a peripheral such as DECRYPTA².
SAMM	Software developped by MCDI Inc. for alarm monitoring and Central station management.
SERIEE	French DTMF format developped by AEM. Requires specific programing of MCDI equipment
Sescoa SS	Legacyalarm 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 DECRYPTA². 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
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 DECRYPTA²
USB client	Typically a peripheral device such as DECRYPTA² 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. Developped 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 DECRYPTA²
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 developped by MCDI Inc.
WSRECEIVER	Software developed by MCDI Inc.. Key component of SAMM X (V 10.3) and WinSAMM. Necessary to add inputs in both Central Station software.