DECRYPTA 5/6 User Guide

MCDI
SECURITY PRODUCTS

DECRYPTA 6
user guide

V 0.9 2009.02

FOREWORD

This user guide is preliminary and will be updated during February and March 2009. It should be used for preview only as it is not contractual.

MCDI thanks you for your purchase of Decrypta 6. Let us know about your D6 experience and we would like to receive your comments and suggestions to help us improve our products.

Designed by MCDI Security Products Inc. of Montreal Canada, DECRYPTA 6 is the logical successor to Decrypta 1,2 and 3. D6 takes its name from the 6 phone lines.

D6 was designed with several monitoring stations in mind. It will be at ease in smaller stations seeking technological advantage or in larger operations in need of a high volume receiver. D6 advanced design is made to please several users.

Although the present user guide is made as a complete reference, D6 is designed for easy installation and intuitive use. Installation by a factory technician is not needed.

D6 is designed around the powerful embedded Extrium embedded CPU. This CPU is a single board computer using ARM 9 technology, without any mechanical parts in a highly integrated design able to support the many peripherals needed by D6 and the Extrium family. Efficiency, speed and new features are the keywords that guided MCDI development team.

One of the most important features brought by D6 is *reporting over IP*. D6 is designed to report to several destinations and to 5 remote destinations over IP. The same, D6 can be configured remotely over IP.

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To reach MCDI in English or French dial +514-481-1067 during MCDI business hours – 7 to 19AM EST/EDT
Or by email d6@mcdi.com

To reach MCDI in Spanish dial +514-487-0441 during MCDI business hours – 7 to 18AM EST/EDT
Or by email soporte@mcdi.com

IN THE BOX

D6 carton box is engineered to protect D6 and minimize damages during airfreight shipping. You should keep this box in order to protect D6 if shipping back to MCDI is needed. This box volumetric weight was studied to be a perfect balance between need to cushion and need to lower the shipping costs.

D6 is shipped with all necessary wires.
Included in the box are:
.1 Ethernet cable –crossover for direct connection to PC;
.1 Ethernet cable – straight;
.1 custom serial cable (RJ45 to DB9);
.1 printer cable with adaptor (USB to DB25);
.1 power supply auto ranging 96-240V 50Hz-60Hz 11Vdc 25W;
.1 battery connector (Molex minifit Jr to leads);
.2 SD card 2GB (one installed + one spare);
.1 lithium-ion battery (internal – not connected at shipping);
.1 CD (configuration tool, User guide);
.2 sets rack mount screws (with and without nylon washers);
.6 RJ11 to RJ11 phone line cables.
.1 USB cable type A to type B.
.4 bumpons rubber feet (installed)
.1 green ground wire. MUST BE INSTALLED. Refer to section 1.7.6
A double checklist controls packing. Contact MCDI right away if you are missing a component.

Document conventions

The present document is preliminary and is not contractual.
In case of doubt, contact MCDI support at +514-481-1067 or support@mcdi.com

Along this user guide, several warnings are stated. They are often labeled with the warning icon: ⚠ . Use precaution when you see this icon. Not following warnings may damage your D5/D6 sometimes beyond repair.

The present document covers DECRYPTA 5 AND DECRYPTA 6 except for all references to audio and 2-way voice to IP which are solely for D6.

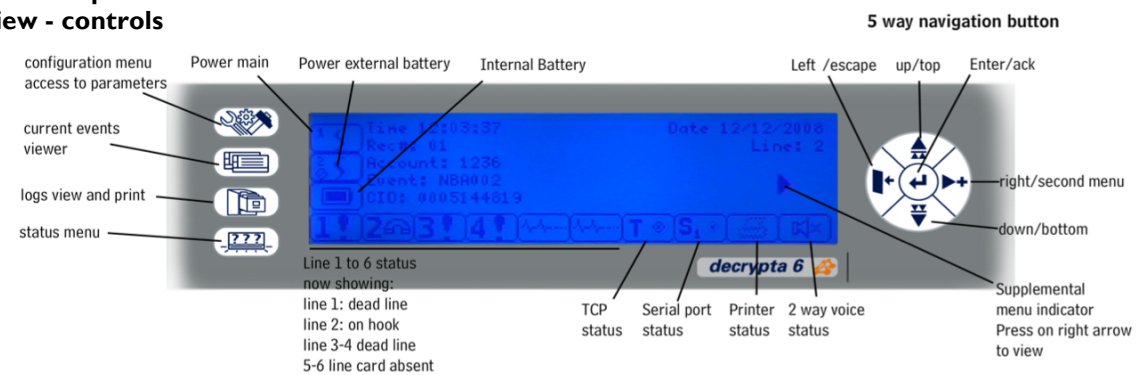
D5 and D6 are short for Decrypta 5 and Decrypta 6. Cables, accessories and physical aspects of D5/D6 may vary along with production changes or supplier of some parts like cables. Their purpose should not be affected.

MCDI ADVISES TO READ THE WHOLE DOCUMENT PRIOR TO INSTALLATION. INFORMATION IS SOMETIMES SPREAD ACROSS SEVERAL TOPICS.

1. Description and installation notes

D5/D6 measurements:
Width: 19 inches (48.26 cm) - 18.31 in (46.50 cm) between centers of mounting holes.
Depth: 9.5 inches (24.13 cm) Height: 1.75 inches 1 Unit rack-mount
Connectors clearance must be added to depth for operation and power supply lodging.
Weight: 2.2kg (without power supply). Shipping weight 4.5kg

Physical Description
Front view - controls



Physical Description
Front view

All buttons and display are located on the front of D6. Access to most internal components is achieved from the front.

To access menus and configuration

Facing D6, 4 buttons to the left of blue LCD display are:

Configuration button.
Access to configuration menus. All parameters available can be accessed from this button

Events viewer button
Access to events list (in preliminary buffer). Last 4000 events listed here.

Logs menu button. Access to logs view and print. All events written to memory card are listed by date and time. View and print menus.

Status menu button.
Access to line card status, communication with destinations status, power input status, battery charge level (% and V) firmware version number,

To navigate within menus, use the 5-way navigation button located on right side of LCD display (front view)

Up/Top button. Contextually, navigate up to top of menu hierarchy or increment selection within position.

Down/Bottom button. Contextually, navigate down to bottom of menu hierarchy or decrement selection within position.

Left/backspace button. Contextually, navigate to last position or go back to previous menu to escape current menu.

Right/next menu button. Contextually, navigate to next position or to next menu in hierarchy. When right arrow is showing upon event display, a second menu with more details on alarm events is displayed. Alarm code description is viewed when this second menu is reached.

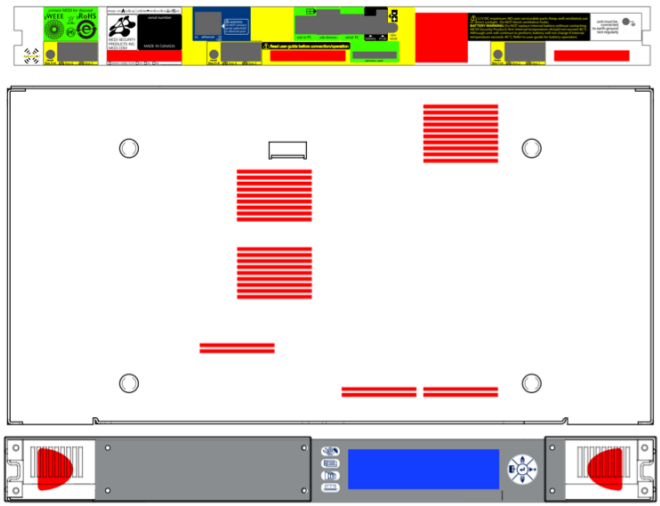
Center button doubles in context as Enter to accept some parameters selection. Doubles as Acknowledge button for manual alarm processing.

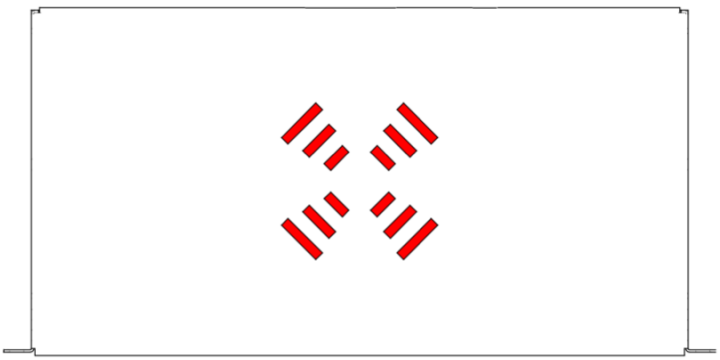
Ventilation

D6 is designed to work without mechanical fan. Special care was taken at design stage to insure electronics of D6 does not require prone to break fans. Do not block ventilation openings. Allow natural ventilation to flow around D6. Openings in the drawings below are indicated by red color.

Two D shape cuts in the front acrylic bars double as ventilation holes and a mean to hold and pull chariot to access internal components. Various ventilation holes are on top, bottom and rear of D6 to allow natural convection and dissipation. Do not block ventilation openings.

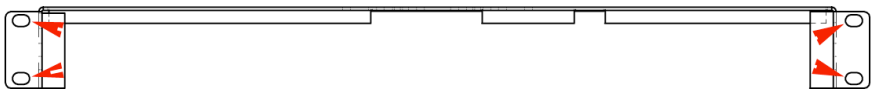
vent holes in red





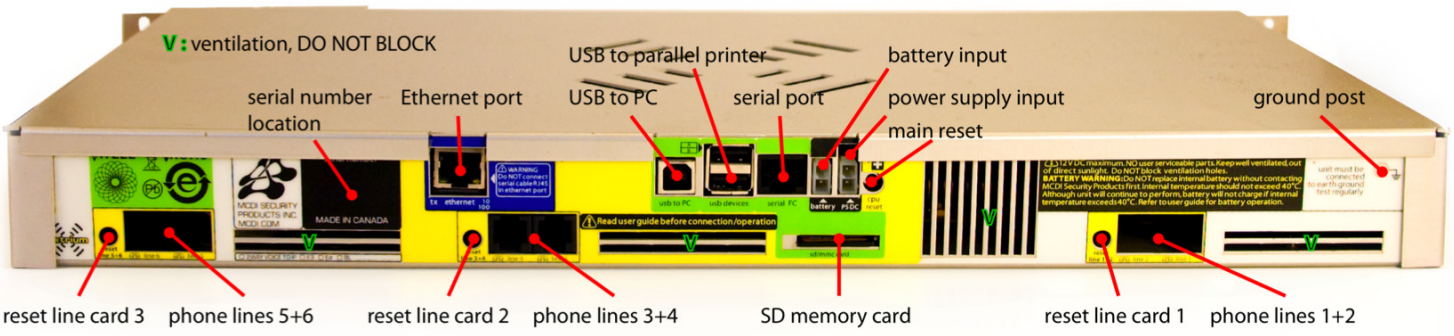
Rack mount system

Two ears located at extremities of D6 allow use of D6 in a rack mount frame or case. It is not paramount to use a Rack mount frame yet some maintenance operations are best made when D6 is in a frame.



Rear view

LOCATED ON THE BACK PLATE
Phone lines are numbered 1 to 6 with 1 at the right and 6 at the left when looking at the back of D6.



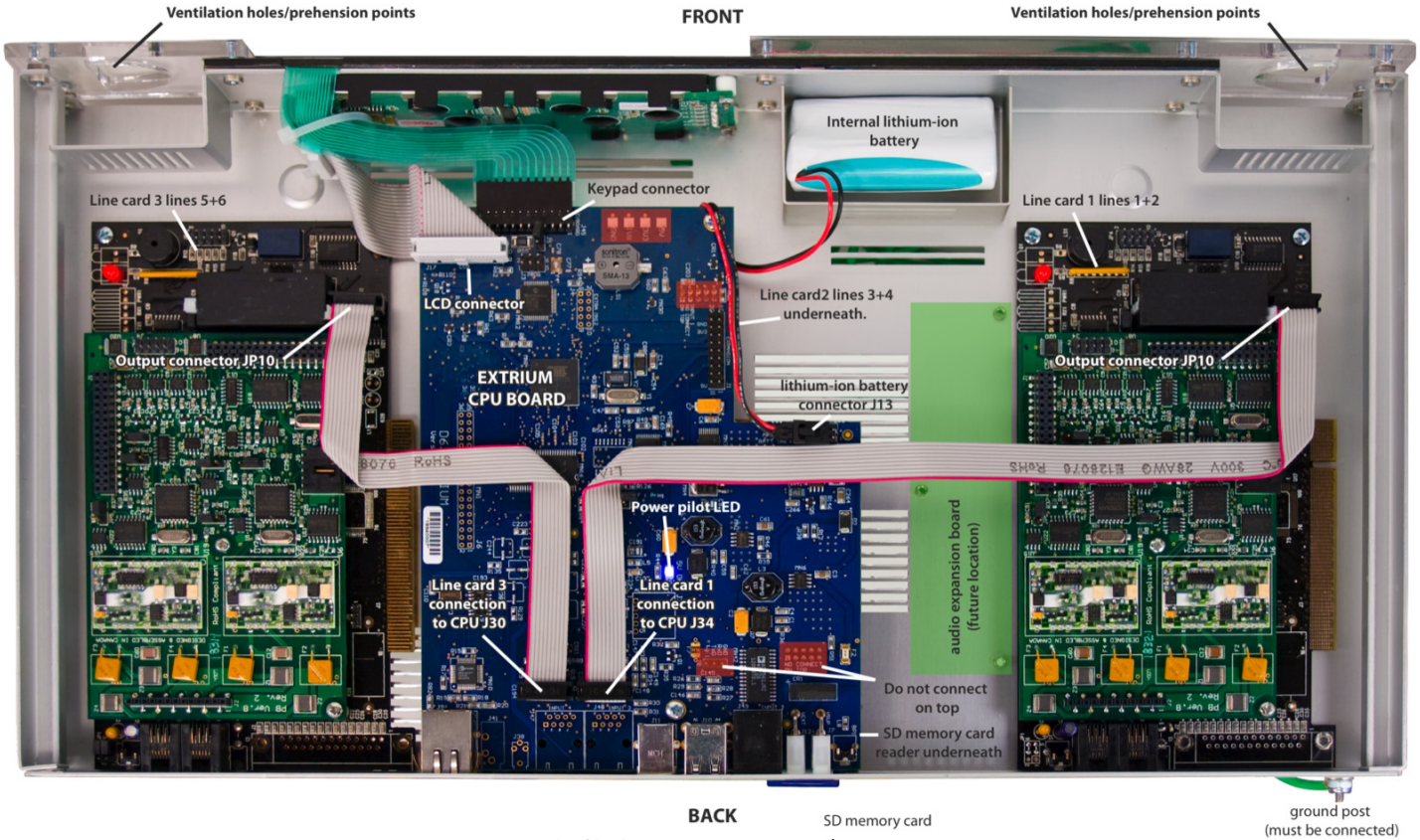
Reset button for each line card
Reset button for the main CPU
Ventilation holes
USB type B device
USB type A host

Serial port – RJ45 type
Ethernet port – RJ45 with TX and Speed indications
Serial number - Manufacturer identification
Ground post (should be grounded to earth and tested regularly)
2 power DC inputs – Molex minifit jr connectors -one with lock one without

RoHS markings
Country of manufacturing
SD Memory card

Internal

3 line cards are fixed to D6 chariot floor.
1 CPU is fixed on top of line card 2.
1 expansion board is located between line cards 2 and 3. The expansion board purpose is to digitize audio signals – 2 way voice and listen-in – for the 2 way voice to IP conversion. N.B.: This feature is not activated as of January 1st 2009. It will be implemented later in 2009.
D5 units do not receive 2-way voice to IP module. 2-way voice to IP module can be purchased separately.



Accessible connectors on CPU:
J13 lithium-ion internal battery connector
J30 line card 3 connection to CPU
J34 line card 1 connection to CPU
J1 expansion board connector for 2-way voice to IP module
J17 LCD module connector
J45 keyboard connector

Line card 1+3:
J5 audio connector – to expansion board. Not available in D5, future use in D6.
JP10 output connector to Extrium
U11 NVram removable memory (ask MCDI before removing)

Power options

D6 is powered 3 ways: from main power supply, from external battery or internal lithium-ion battery.

Main power (PS DC input)

Connect only MCDI approved power supply to main power input. A Molex minifit jr plug with lock is fitted on cord from power transformer. This connector will not fit on secondary battery input. If a replacement is needed, use only 11V 25W from a reputable supplier. Insure power supply does not deliver more than 13V and provides D6 with a regulated and stabilized electrical feed. In doubt, contact MCDI before connecting.

D6 will lean on primary power input if tension above 9.5V dc (±0.5V) is provided to this input

WARNING: Connect battery end before connecting to D6 and insure red is connected to positive side or the battery while black end of the wire is connected to negative (-) side of the battery. Do not invert polarity or short poles or wires. Damages to D6 may occur.

WARNING: Using a battery giving more than 13.8V may damage D6. Significant power dissipation inside the chassis may occur and impede D6 functioning. Do NOT use a charging device that may contact directly with D6.

Booting D6

D6 doesn't have a on/off button. From the moment D6 is powered from one of the 3 power sources – main, secondary, internal – D6 will start. Boot time of D6 application is typically 52

seconds and should be under 2 minutes in all cases. In the event flash memory is not correctly identified by D6 boot loader, boot process will be reinitialized by D6 and may be longer.

While booting from main or secondary power, D6 will first display an idle window indicating MCDI Security Products with a progress bar underneath. When boot sequence is complete, D6 main menu will be displayed with status bar on the left and bottom sides of LCD display and internal time in the middle.

If you need to restart D6, use the Main reset button located at the back of the unit. Pressing reset button will prevent lines from receiving and will stop communication with destination. If a call is in process, it will be terminated. In the event a call is already processed but not transmitted to a destination, event will be lost. Insure all calls are terminated and transmitted to Extrium CPU before pressing reset button.

Watchdog

A software watchdog is programmed in Operating system. If application quits, OS will restart the application.

A second hardware Watchdog is included for Operating system reboot. In the event main operating system is not responding or becomes unresponsive for more than 5 seconds, D6 will self reboot after a two minutes delay. This feature is enabled at factory where delay can be reprogrammed. However a delay of at least 52 seconds is necessary to allow OS and application to fully boot.

To deactivate this feature, remove jumper J4 from connector and reset main CPU.

Secondary power input (Battery)

Connect an external battery to secondary power input (label battery) using the MCDI supplied battery connector. This connector is fitted with a Molex minifit Jr WITHOUT a lock mechanism. Do NOT use other wire or connector unless approved by MCDI. Do NOT attempt to connect in main power input (label PS DC)

Verify this connection regularly. This wire is not equipped with a lock mechanism and it may fall, especially if the chariot is opened. D6 will drain battery even if not using just for the purpose of sensing battery presence and tension (V). Drain can be up to 2.5mAH. Battery will not be charged by D6. D6 only supervises the presence of said battery and will draw current from battery in the event main input tension falls below 6V.

Prefer batteries allowing 'Deep discharge' to cold crank type.

At peak, D6 may draw 650mAH. Typical consumption is 500mAH. Given this data a 7A battery fully charge and in best condition may sustain D6 for 10 hours. A 16A battery fully charge and in best condition is needed to sustain D6 for 24 hours.

Using 2 x 6V batteries (serial connection): in using serial connection of batteries, voltage of each power source will be added and delivered to D6.

Using 2 x 12V batteries (parallel connection only): using parallel connection of batteries, resulting current to D6 is the sum of current provided by each sources. 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), battery charge and battery supervision.

D6 will lean on this input if:
-main input tension is not above 9.5Vdc (±0.5V)
-external battery is supplying tension above tension of internal li-ion battery.

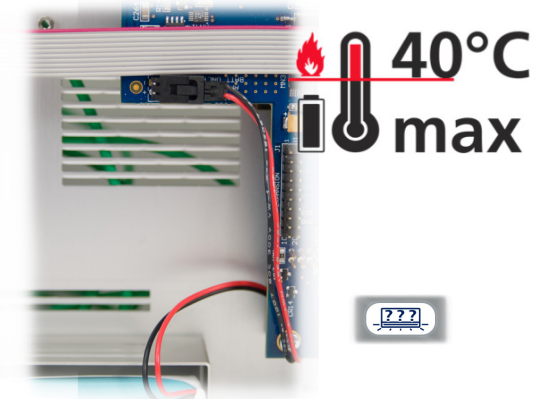
VERIFY BATTERY SET-UP REGULARLY.

Internal lithium-ion battery

N.B. D6 internal li-ion battery is shipped disconnected. It should be connected at installation. Battery is located inside D6 and confined in a compartment especially designed. Do NOT move battery except for service or replacement. Connect black and red wire from internal lithium-ion battery to J13 connector of CPU.

D6 is fitted with an internal lithium-ion 2200mAH battery pack - 2 x 18650 cells are used in parallel and nominally supply 7.4V to D6. This battery pack will sustain fully working D6 during at least one hour when battery is at peak condition and recent.

D6 will lean on lithium-ion internal battery when no other power source is available above tension of the battery (typically 7.4 to 8.2V at full charge). When switching to internal li-ion battery, D6 will cut power to LCD backlight to maximize uptime. LCD display will still be visible and all other features will be available. It is easy to see D6 is still in operation by looking at D6 top. A blue led will by lighted. LEDs are also visible through the ventilations holes.



When primary or secondary power feeds are back, the LCD backlight comes back after D6 verifies the power feed for primary or secondary sources are stable.

D6 will charge Li-ion battery automatically given D6 internal temperature is under 40°C. D6 will continue to work over 40°C but will not charge battery. It is dangerous to charge a Li-ion battery over 40°C.

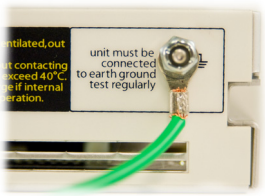
Internal Li-ion battery status is displayed by the third icon from the top in the left column of D6 LCD. This icon shows status as full, half, quarter and empty. Status of batteries may be erratic when no battery is connected or if li-ion battery pack is not connected.

Status of the internal battery is also displayed in the last window of the status mode. To access status mode, press on status menu icon. Navigate through windows using the down arrow button until you reach the Battery window. Fill status is displayed in percentage and tension reading is given. This tension (V) could be up to 7.8 V after a charge cycle. Battery pack nominal tension is 7.4V and battery will continue to feed D6 until it reaches 6.4 V.

Do not replace or modify the lithium-ion battery pack without the express and written consent or MCDI support.

Lithium-ion batteries will loose efficiency with the shear action of time or if use often. Verify regularly.

Ground



Use ground post at back of unit. A 10 feet (2,5M) green wire is supplied with D6. Eyelet ground lug is fitted at one end. This eyelet should be connected to the ground post of D6 (extreme right when looking directly at D6 from the back). Other end is skinned and is to be connected to earth ground following the shortest and lowest impedance path. Insure D6 is well grounded to earth using a mechanical ground apparatus to this effect. This will help prevent breakdown due to lightning or power surges and will minimize noise from phone lines. Verify regularly especially if experiencing dry weather.

Ground Reference: http://en.wikipedia.org/wiki/Ground_(electricity)

Rack mount installation

D6 is designed for insertion in a Rack mount frame. Opening the chariot is easier to achieve when chassis is installed in a rack frame.

D6 two parts construction allows for the top housing to be installed at all time in Rack frame while the bottom chariot parts slides out for easy access to internal components and service.

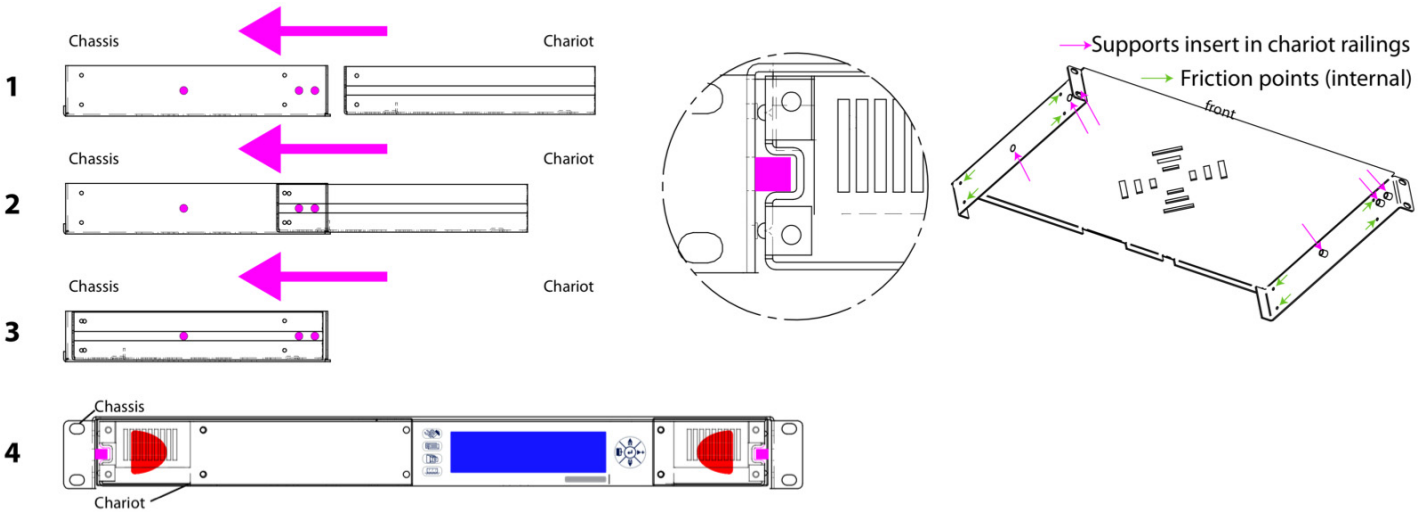
Some friction points between the chassis and the chariot are designed so chariot will not fall or separate from the chassis railing without applying some force. Warning: friction points may wear over time if chariot is separated from chassis often. Handle with care.

Fix the top chassis to rack frame using 4 screws. D6 is delivered with 2 sets or screws. Set 1 is made with 10/32 oval head screws and nylon washers. Allow spacing between units when using this kit. This is preferable, as it will allow ventilation flow over and under D6. While installing D6 in the rack frame, insure D6 is supported while you are installing screws. Failure to do so may bend the rack mount ears.

To reinsert chariot in chassis, insure all connectors in the back or in the chariot do not collide with chassis, are not bent or pulled. Insure tail connector of the front keypad is not squeezed between the chassis and the chariot.

To insert chariot in chassis: align studs of chassis with railing of Chariot (above figure, position 1). Slowly insert chariot inside chassis pushing equally on both sides and inserting parallel to the sides of Chassis. When reaching friction point A (position 2), continue to push chariot inside chassis gently but firmly until you reach second friction point (position 3). Again continue to push gently but firmly pass the friction point B until chariot is completely inserted in chassis. Insert notches of chassis in chariot railing and slowly push chariot backward. Friction points are designed in both parts to insure they mate and stay connected.

Warning: Friction points are designed to prevent chariot from sliding out of the chassis. Friction points may wear over time if chariot and chassis are separated often. Handle with care.



When close panel spacing is needed, use set 2. This set contains only 10/32 inches Philips pan screws. Bumpons rubber feet are pre-installed underneath D6. You may need to remove them for close panel spacing. Do not put weight on top of D6. Rack mount ears are not made to support additional weight and this may block ventilation holes.

Alternatively, D6 may be used as desktop unit. Rack mount ears are not removable. It may be a bit more difficult to open D6 as it is made to open in a rack frame.

It is advisable to affix or support power supply in rack installation so it does not hang from D6. Wear and tear of the connector or wire may occur if hanging. Such damage of the power connector is not covered by warranty and repair will require soldering a new connector or changing CPU board.

D6 is not made to be inserted or remove from rack frame frequently. It is designed for permanent installation in a rack frame. When installed in a rack frame, chariot is suspended on

the chassis studs. Verify studs anchor regularly. When used as a desktop unit, chariot rests on the table and Bumpon feets are the contact points.

Connections/Signal Ports

D5 and D6 are equipped with several peripheral ports. D5/D6 are shipped with all necessary cables. Always insure you use the correct cable in the correct port.

The present section details ports and cables to use. If using your own cables, always insure you use a good quality cable with at least the same characteristics as MCDI cables. Always respect pin and wire orders. Consult with MCDI support if needed.

Warning: Serial port takes the form of a RJ45 at the back of D5/D6. A custom RJ45 to DB9 cable is supplied with D5/D6. Do not connect Ethernet cable in the serial port.

Power cables

Refer to section *1.5 Power options*.

Serial cable

D6 is supplied with a custom serial cable. Cable ends are RJ45 to DB9. If an extension is needed, use DB9-DB9 or DB9-DB25 direct. Do not use a null modem cable. Insure cable RJ45 end is plugged in proper serial port of D6 NOT in Ethernet Port (blue area).

This serial port handles flow control.

Ethernet cable

D6 is supplied with 2 Ethernet cables. Yellow cable is crossover type while blue cable is straight wiring. Crossover should be used mostly when connecting directly to a PC while straight should be use when connecting to a router. If needed a longer cable, always use good quality cat 5 wiring with proper wiring arrangement.

Blue cable: straight

Yellow cable: x-over type

USB cable

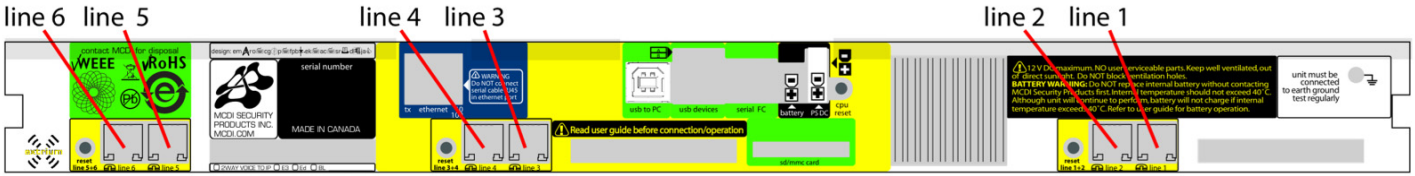
D6 is supplied with 2M USB type A to B cable. Connect in D6 type B port while other end is connected to USB hub or PC type A port. If you need to replace cable, use shortest cable possible.

Printer cable: USB to Parallel

A cable adapter is supplied with D6 for connection of a Parallel dot matrix printer. Necessary drivers for connecting this type of printer through supplied USB adapter are pre-loaded in D6. NO other printer type or adaptor supported.

Phone lines RJ11

D6 is supplied with 6 phone line connectors. Connect according to needs with RJ11 connectors.



Icons/status bar


Power input N off


Power input N on


Empty internal battery


Internal Battery at 25% capacity


internal Battery at 50% capacity


Internal Battery at 75% capacity


Internal Battery at 100% capacity


Line card dead/not detected – line card number according to position in status bar


Line card time out – line card number according to position in status bar


Line N absent – line number according to line and position in status bar


Line N off hook – line number according to line and position in status bar


Line N standby/on hook -– line number according to line and position in status bar


Serial output failed


Serial output working


Serial output unknown


TCP main, output disconnected


TCP main, output failed


TCP main, output working


TCP main, condition unknown


USB disconnected (Extrium models only)


USB failed (Extrium models only)


USB output working (Extrium models only)


USB unknown (Extrium models only)


Printer on


Printer off

Audio management icons (future use)


Volume selected


No VoIP or deactivated


Listen line N on


Listen line N disabled


Listen line N waiting


Check box selected

2.Configuration over IP

D6configurator

Front display vs PCtool

The present chapter refers to D6configurator.exe v.0.9.8.7 and v.0.9.8.8

You can configure D6 from front LCD display or via an application called D6configurator.exe. This application is installed in a PC. Connection is established directly from a connected PC, over LAN or the Internet. Some features are only available in D6configurator. Language selection will be added to D6configurator v 0.9.8.8.

To know more about configuration over LCD display, please refer to section *3. Parameters*. All direct control options are listed as well as an explanation of each parameter.

Features: logs retrieving, logs deletion, updates of line cards, update of CPU card are only available using the D6configurator tool from a connected PC.

The present section only reviews configuration over IP using D6configurator although all features and functions are similar when configured from front display.

Minimum requirements

Minimum requirements for D6configurator are similar to OS minimum requirements using Windows XP or VISTA.
Microsoft .net framework 2.0 installed (Framework 3.0 and 3.5 are backward compatible with 2.0)
1024x768 display.
Routers with VPN and Firewall security pre-established.
Internet communication, ports 22, 62340, 62341 and 62343 enabled.

Installing .net framework

Before installing D6configurator, insure .net framework 2.0 is installed on PC. This Microsoft framework is pre-installed in most VISTA OS and XP. In the event .net framework 2.0 is not installed, it should be. Installer is available from D6 CD or if you pre-installed SECURITHOR from MCDI. D6configurator will not install nor work correctly without .net framework 2.0 or later.

If you are not sure Microsoft .net 2.0 framework is installed, you may execute MCDI packaged .net installer available from the CD.
Insert CD and navigate to:
CD>net_framework_2>dotnetfx35.exe

.net framework 2.0 is necessary to install and run the D6configurator.
Framework 3.0 and 3.5 are backward compatible with .net 2.0

When .net framework installation is completed, copy D6configurator to your disk and run it.
MCDI access to D6 is made over port 22. D6 router must be configured to allow access to port 22 or you should make necessary port filtering or redirection.

Using router/firewall/VPN

Communication between D6configurator and D6 uses SSL encryption. However if using D6configurator.exe over the Internet, security precautions should be taken such as using VPN and Firewall.

If planning to use D6configurator remotely over Internet, back-up plan should be established in the event communication cannot be established between D6 and D6configurator.

Prerequisite to establish communication is knowledge of D6 IP address. If you don't know the IP address of your D6, contact your ISP for more information.

When D6 is located behind a router, it is necessary to know the IP address of said router and to establish communication over port 22 directly to D6. Further more, communication between D6configurator and D6 requires ports 62341 and 62343 to be open and available.

A good quality router should be used with D6. Several low cost units are available and will handle connection to the Internet as well as security. MCDI recommends using router such as Cisco - Linksys RV042 with dual Internet ports to provide redundant connection to the Internet as well as VPN and Firewall options.

If using D6 over Internet (WAN), you should build your installation with redundancy in mind. D6 will not be able to communicate with your Central station if Internet connection is cut, not stable or cannot be resurrected. MCDI strongly recommends using 2 dedicated Internet connections from 2 separate physical means of 2 distinct providers.

If not using D6 over the LAN, a router is not needed. However, you will need to establish network connection or connection from PC to D6 - using Ethernet cross over cable - to use D6configuration.exe application.

Over IP with D6configurator (PC tool)

In order to configure D5/D6 remotely over IP, D6configurator must be used along with a valid and secure Internet connection.

Configuration over IP is established using SSL encryption. Even if D6 uses SSL, MCDI strongly advises to establish a VPN tunnel between your PC and D6 router using VPN tunneling.

To configure D5 or D6 in languages other than English, D6configurator application is needed.

Bandwidth allocation

In order to lower possible timeout, D6 should be allowed the following bandwidth allocation. Specifications are minimal NOT averaged:
Events reporting: 2KB/s upload latency time under 2s
Configuration: 10KB/s download upload 10KB/s
2-way voice to IP: to be confirmed
SD memory card transfer: minimal rate of 50KB/s should be considered. Higher rate of transfer will allow faster transmission.

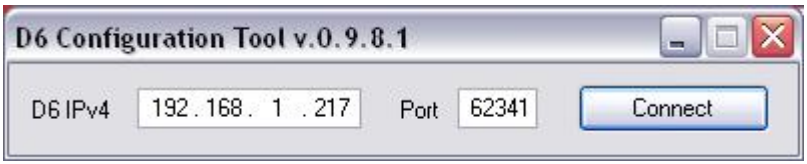
Starting D6configurator

If you are configuring a D6 over the Internet, you may want to establish Firewall protection.

If you are configuring a D6 over the Internet, you may want to establish a VPN tunnel before trying configuration.

First locate D6configurator.exe and start the application.

D6configurator will present a first simple menu: IP address. It is required to identify and locate your D6. Using Port 62341 is mandatory except if you have port redirection correctly defined in your router. Connection could take up to a minute.



NOTES:
If using D6 over LAN, this information is available from D6 configuration menu. Navigate to: Configuration button>EXTRIUM>IP Configuration>IP Address

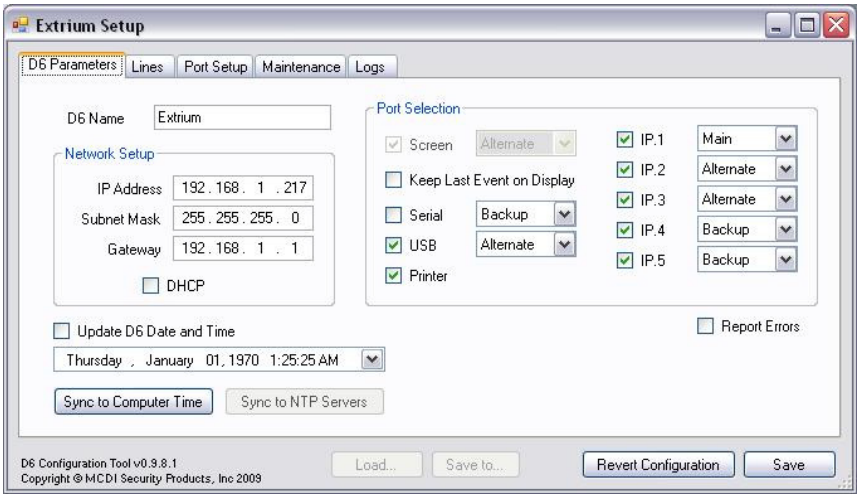
When using D6 over WAN, the IP address will be the address of your location/router. The router should redirect ports 22, 62341 and 62343 to D6.

If you don't know the IP address of your D6, ask you system administrator. IP address of your D6 will be internal and different from the address of your DSL/cable or other device enabling connection to the internet. Redirection to port 22 is mandatory to access D6 as communication with D6 is established using SSL encryption over 22.

Once IP address is entered press and port 62341 is selected, click 'Enter'. D6configuration will present a complete menu with tabs to navigate from.

Main configuration menu

This action will retrieve status from D6, populate data in the D6configurator and open a second more explicit menu (main menu):



5 tabs are presented to group information: D6parameters, Lines, Port setup, Maintenance and Logs.

*D6 parameter*s regroups IP parameters, ports selection and Date and time set-up.

Lines groups parameters specific to Line cards.

Port Setup tab groups information for defining where to send events.

Maintenance tab is dedicated to updating Extrium CPU and Line cards.

Logs tab present downloading events archives from D6.

D6 parameters tab

D6 parameters tab

D6 name

D6 name
Select up to 15 characters from the lower ASCII table. Avoid double-bytes alphabets.
Change name using alpha numerical designation without special characters such as ‘ ” >< : ; =¨ Ç À ^ è é

NETWORK SECTION
IP Address

This feature is available under both configuration modes.

When using D6 remotely it is advisable to provide D6 with fixed IP address. This will allow knowledge of D6 IP address at all time. If not using a fix IP address, on site connection or operation will be needed to configure D6 or to fetch operational status.

Confirm IP address with your ISP provider or your network administrator. Enter the 12 digits IP address. Sometimes the 0 digit is not stated and is assumed between periods e.g. 192.168.1.1 is in fact 192.168.001.001. Do not select DHCP if entering an IP address.

Dynamic DNS settings are not available directly in D6. MCDI advises to use fixed IP address to maximize uptime and minimizing communication loss. However if not possible, a Dynamic DNS set-up could be configured at router level if router permits Dynamic DNS. Alternatively a PC on same network could fulfill this task connecting to a Dynamic DNS service.

References: http://en.wikipedia.org/wiki/Dynamic_DNS

Netmask – network address

This feature is available under both configuration modes.

Confirm Netmask with your network administrator. Typically Netmask is set to 255.255.255.000. The netmask is also known as the subnet mask or network address. For more information visit: http://en.wikipedia.org/wiki/Subnetwork

Note: Net Mask should be set to 255.255.255.000. Although is it possible to set another address, ability to connect to D5/D6 will be lost and D6configuration tool will not work.

Gateway

This feature is available under both configuration modes.

A Gateway is the LAN address of your router or switch to which D6 is connected. Very often it is set to 192.168.1.0, 192.168.1.1 or 192.168.1.2. Confirm Gateway address with your network administrator. Very often the Gateway IP address will be written underneath your router.

Enter numbers for each of the 12 positions.

DHCP

Main purpose of DHCP is to let router assign an IP address automatically or enabling discovery of IP address by D6. Select if not using a specific IP address.

Dynamic Host Configuration Protocol (DHCP) is a protocol used by networked devices (*clients*) to obtain the information necessary for operation in an Internet Protocol network. This protocol reduces system administration workload, allowing devices to be added to the network with little or no manual intervention. (source Wikipedia: http://en.wikipedia.org/wiki/Dhcp)

DESTINATION SECTION
Idle display

This feature is available under both configuration modes.

D6 let's you decide if the idle display is set to the current date and time or to the last received event.

To select 'Last received event' select the option. If deselected, default option Date and Time will display.

Update time and date

This feature is available under both configuration modes.

Changing date and time: Time and date displayed are D6 own at retrieval time. D6configurator uses the PC's localization settings namely time zone, language and date and time format. D6configurator will continue updating clock on its own from this time synchronization.

Click directly in running time field to change time to be displayed in D6.

Pressing Save button will send displayed time to D6 along with parameters displayed on the page. Pressing Sync to computer time will send computer time to D6.

By default, D6 uses GMT time settings for daylight and advanced time i.e. no correction added. If you want to reflect local time, adjust it directly from LCD front display or with D6configurator. Localization of D6 time is planned for version 2.0

Port selection

This feature is available under both configuration modes.

Serial, USB and IP ports can be enabled or disabled. You can enable all ports at any time but if you are not using a port, do not select it. This will reduce security risk of external access. Using fewer resources statistically improve uptime.

Select or deselect with check box from:
Serial 1
USB
IP 1 to 5 (main IP is IP 1)
Printer

N.B. Port must be enabled to use it as Destination.

Selecting main/backup/alternate Destinations

Destination selection is made on the basis of one main destination along with alternate and back-up destinations.

When possible, always choose the serial port as Main destination. Serial communication has been used for over 25 years. It is a simple and proven technology. Not being connected to the internet, it does not require security like IP.

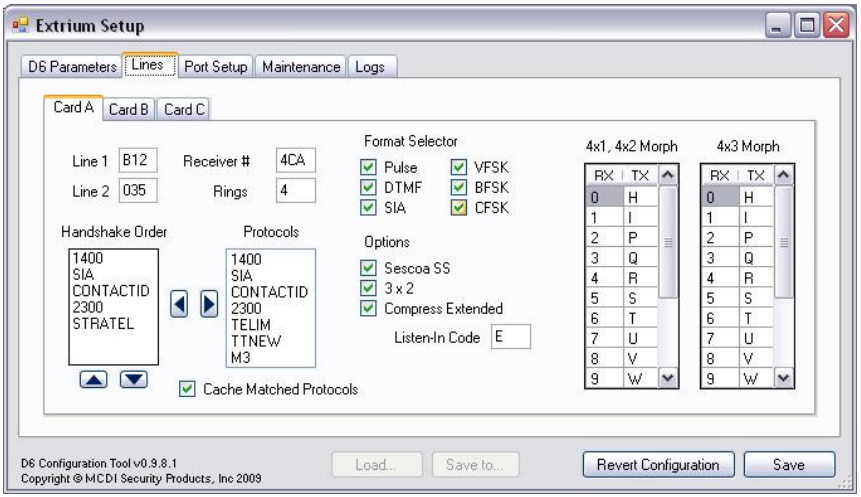
Main describes the primary destination. Typically, only one destination should be allowed to take charge of the alarm event i.e. taking actions such as sending patrols or police. D6 only allows one Main destination.

Back-up describes destination used in case of communication breakdown with Main destination. Events are sent only if main destination does not respond.

Alternate describes secondary destinations receiving a copy of the Main destination feed.

Line cards tab

Parameters in this tab are available under both configuration modes.



Line cards: select tab corresponding to line card to configure. Each line card set-up is independent from the others.

Card A line 1 + line 2 (facing D6, card to the left)
Card B line 3 + line 4 (line card in center, underneath Extrium CPU)
Card C line 5 + line 6 (facing D6, card to the right)

Receiver number

This option is available in both configuration modes
It is possible to assign receiver number for each line card (0 to 9). This receiver number is included in the string transmitted to destinations. Assigning a different receiver number to each line card can present the line card as a different receiver to the automation software. When assigning the same receiver number, Automation software will see all lines with the same receiver prefix as a whole.

Line number

This feature is available under both configuration modes.

This option is available in both configuration modes
It is possible to assign a specific line number to each line. This number will be inserted in the string of characters transmitted to Automation software. It will identify this line with a unique number. Be sure not to repeat line number. Although not a fatal error, it may be easier to troubleshoot when line numbers are unique.

Be sure to consider all receivers reporting to automation software when entering line numbers.

Format selection

This option is available in both configuration modes
Formats can be enabled or disabled. Select from DTMF, FSK-SIA, BFSK, CFSK, Pulse, Contact ID, M3, SIA, TTnew(Tunstall). It is advisable to disabled a type of format if you know you will not receive any signal of this type. This reduces the load to the line card CPU and will speed up negotiation time between receiver and panel. Stratel and Robofon formats are currently deactivated. Contact MCDI if needed.

If using TTnew from Tunstall, contact MCDI support to receive application notes. TTnew should always be in front of other formats.

Some combination of panels/brands and formats work better if some handshake formats are omitted. It is advisable to disabled a type of communication if you know you will not use it.

Handshake order

This option is available in both configuration modes
D6 line card allow handshake order to be set. Dedicating a line card to a specific handshake type or ordering handshake sequence to meet the majority of panels calling a line card will diminish transaction time with panel. See Configuration section to set handshake sequence.

Some formats require their handshake to be presented in front. Transaction with Robofon, Telim and Tunstall panels are handled best with their respective handshake in front of others. If you plan to use Tunstall TTnew, contact MCDI support to get application notes.

Options

Sescoa SS
This option is available in both configuration modes

Select only if using a legacy Sescoa receiver with Sescoa SS reporting format.

3x2 instead of 4x1
Choice of 3x2 or 4x1 formats. Only one type can be received. By default, 3x2 is enabled.
Compress extended
Enables compressing of 3x1 or 4x1 extended formats into 4x2.

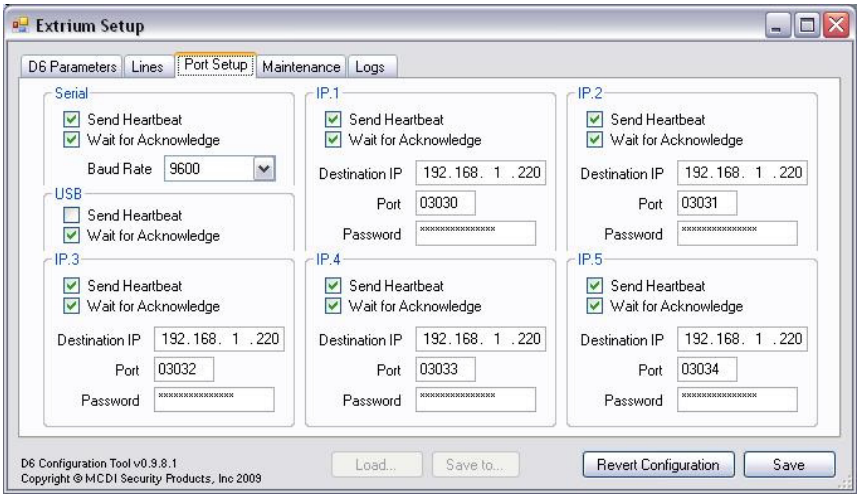
Listen-in code
Select a unique identifier for listen-in function in pulse formats only.

Remove zero padding
This option is not currently enabled. Contact MCDI if needed.

Save configuration when ready to upload parameters to D6

Port setup tab

This feature is only available from D6configurator.exe



Serial port
Send heartbeat: enabled/disabled (heartbeat sent each 30 seconds)
Wait for ACK: enabled/disabled (time out 1 minute)
Baud rate: select baud rate from 600 to 115200 bauds. Insure to match settings in automation software or communication component.

USB port
Send heartbeat: enabled/disabled (heartbeat sent each 30 seconds)

Wait for ACK: enabled/disabled (time out 1 minute)

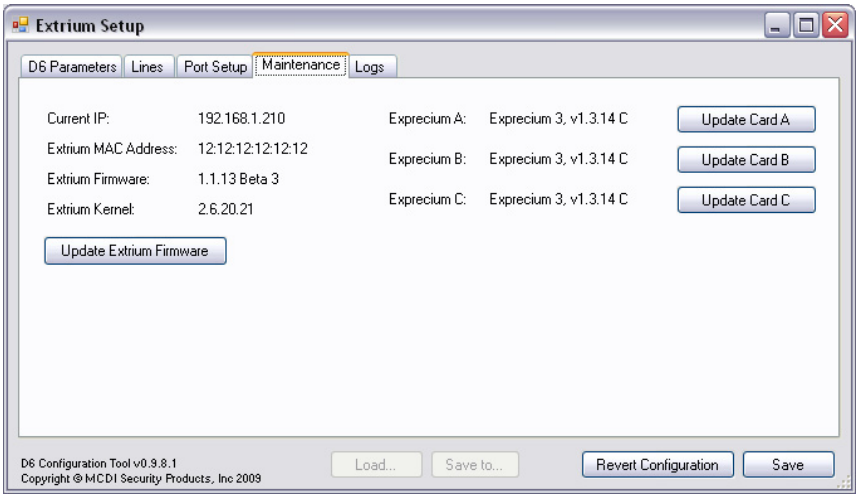
IP 1 to 5: For each destination, set parameters:
Send heartbeat: enabled/disabled (heartbeat sent each 30 seconds)
Wait for ACK: enabled/disabled (time out 1 minute)
Destination IP: Enter IP address of destination receiving signals over IP
Port: Enter port used by TCPtoCOM.exe or STreceiver at destination. Insure all IP destinations have a unique port number.

Password: match password used by TCPtoCOM.exe or STreceiver at destination.

Save configuration when ready to upload parameters to D6.

Maintenance Tab

Features in this tab are only available from D6configurator.exe



Version info for CPU and Line cards, update processes are grouped in Maintenance tab.

IP address: display D6 IP address when D6configurator was accessed.
Extrium MAC Address: displays D6 mac address when D6configurator was accessed. Last 6 digits are also serial number of unit + 0

Extrium firmware: displays version uploaded to D6 with publish date of this firmware.

Extrium kernel: displays Kernel number (Linux OS version)

Line card A: displays firmware version of line card A

Line card B: displays firmware version of line card B

Line card C: displays firmware version of line card C

Update Extrium firmware

Update Extrium firmware
This feature is only available from D6configurator.exe

Update firmware: use this button to initiate D6 firmware update. This button only updates Extrium CPU applications. Kernel is not updated by this maneuver. A new form will display and enable selection of file to upload. Insure this file is a **.D6** file as remitted by MCDI. Verify size of file and compare it to MCDI published file size to insure integrity of file. Revert configuration button will not have effect on this update.

WARNING: NEVER UPLOAD A FILE OTHER THAN MCDI APPROVED FILE AFTER VERIFYING FILE SIZE. UPLOADING AN UNAUTHORIZED FILE COULD RESULT IN SERIOUS DAMAGES TO YOUR D6. A FACTORY REPROGRAMMING COULD BE NEEDED. INSURE PROCESS IN NOT INTERRUPTED.

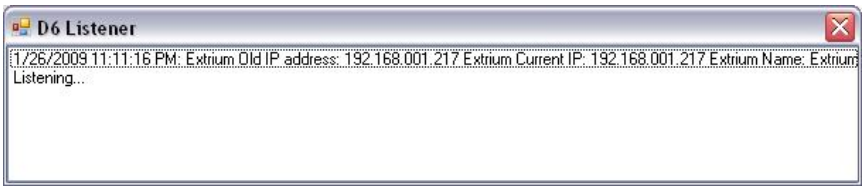
Update card N

Update Card N: use this button to initiate Line card firm update. This button only updates line card firmware selectively. It must be repeated for each line card. Kernel and application are not updated by this maneuver. A new form will display and enable selection of file to upload. Insure this file is a **.XPB** file as remitted by MCDI. Verify size of file and compare it to MCDI published file size to insure integrity of file. Revert configuration button will have not effect on this update.

WARNING: NEVER UPLOAD A FILE OTHER THAN MCDI APPROVED FILE AFTER VERIFYING FILE SIZE. UPLOADING AN UNAUTHORIZED FILE COULD RESULT IN SERIOUS DAMAGES TO YOUR D6. A FACTORY REPROGRAMMING WILL BE NEEDED. INSURE PROCESS IN NOT INTERRUPTED.

D6 listener

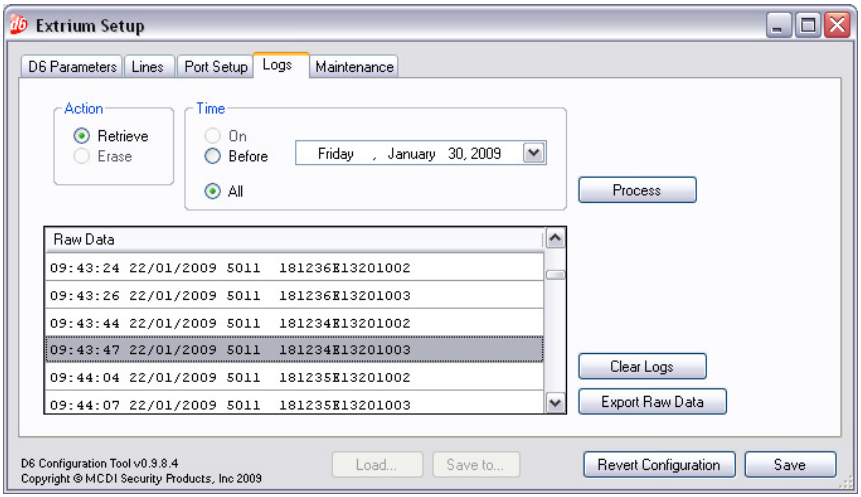
After a change of IP address or D6 name, a listener function will display in separate window. D6 listener will display Extrium CPU old and new IP address along with name of the D6-Extrium name. To quit this listener device, click on close X box. It is preferable to close after viewing as this keeps a port open in D6.



Logs tab

This feature is only available from D6configurator.exe

To retrieve alarm events stored in D6 SD memory card, use the logs tab.



WARNING:. A routine of logs transfer should be adopted in order to reduce amount of data to transfer. Consider deleting files after a transfer and a successful backup copy. Each time D6 retrieval process is started, all data on SD memory card will be retrieve even if already copied on your PC.

To retrieve logs, select Retrieve and specify Time (specific date, before a date or all logs). Click on Process to Download to your PC.

WARNING: Amount of data stored on D6 can be considerable. Transferring large amount of data from D6 could be lengthy process difficult to realize over the Internet.

As such, retrieving all data from a full memory card could take over 6 hours given an stable upload bandwidth of 100KB/s. Configuration of D6 and over IP and status display will not be available while logs download is in progress.

To erase logs, select Erase and specify Time (specific date, before a date or all logs). Click on Process to Erase.

WARNING: Insure you have a reliable back up on PC AND removable media before erasing logs from D6. There is no retrieval possible.

Although it is possible to swap SD memory cards to copy content directly from SD memory card, it is not advisable to do so as this action will impede D6 functioning. When D6 memory card is removed, no events can be recorded on SD memory card and these events will be irremediably lost. Take into account D6 reboot of D6 will be needed to re-instate SD memory card in function. A reboot will last up to 2 minutes and events receiving will be prevented while reboot is in progress.

Simultaneous Connections

For security reasons, only one connection can be maintained to D6 at all time. A connection cannot be established if a prior connection such as D6status from a second PC is up and running

WARNING: if a computer (A) connects to D6 using the Status tool, another computer (B) will not be able to configure D6 without computer A disconnecting first

3. Parameters

The present section intends to give a better understanding of features and parameters found in D6. Information might recoup some already stated in sections *1.Description* and *2.Configuration*. Also see section *6.General information* for better understanding of some concepts.

Unit name

This feature is available under both configuration modes.

A fifteen digits name can be applied to D6 configuration. This makes identification of unit easy if using several D6 under the same node.

From front display navigate to:
Configuration button>EXTRIUM> Identification>Extrium Name

Select characters from the lower ASCII table
Change name using alpha numerical designation without special characters such as ' " ><: ; =¨ÇÀ ^èé

DHCP

This feature is available under both configuration modes.

Dynamic Host Configuration Protocol (DHCP) is a protocol used by networked devices (*clients*) to obtain the information necessary for operation in an Internet Protocol network. This protocol

reduces system administration workload, allowing devices to be added to the network with little or no manual intervention. (source Wikipedia: http://en.wikipedia.org/wiki/Dhcp)

Main purpose of using DHCP is to let router assign an IP address automatically or enabling discovery of IP address by D6.

To enable or disable from front display
Configuration button>EXTRIUM>IP Configuration>IP address>
Select or deselect DHCP.

When using D6 remotely it is advisable to provide D6 with a fixed IP address to know D6 IP address at all time and have the ability to reach D6 at all time. If not using a fix IP address, on site connection or operation may be needed to configure D6 or to fetch operational status.

IP Address

This feature is available under both configuration modes.

Confirm IP address with your ISP provider or your network administrator.

To enter IP address manually, press configuration button and navigate to IP address menu:

Configuration button>EXTRIUM>IP Configuration>IP address>
Current IP address will be displayed.

Select number for each of the 12 positions by using up and down arrow keys. Move to the next position by using the right arrow key. Once completed, using left arrow key, escape the menu until main configuration menu is reached.

Netmask – network address

This feature is available under both configuration modes.

Confirm Netmask with your network administrator. Netmask is typically set to 255.255.255.000. Netmask is also known as the subnet mask or network address. For more information visit: http://en.wikipedia.org/wiki/Subnetwork

To enter Netmask manually, press configuration button and navigate to IP address menu

Configuration button>EXTRIUM>IP Configuration>Net Mask>

Current Net Mask IP address will be displayed.

Select number for each of the 12 positions by using the up and down arrow keys. Move to the next positions by using the right arrow key. Once completed, using the left arrow key, escape the menu until main configuration menu is reached

Note: Net Mask should be set to 255.255.255.000. Although is it possible to set another address, ability to connect to D5/D6 will be lost. D6configuration tool will not work.

Gateway

This feature is available under both configuration modes.

Gateway address is the LAN address of your router or switch to which D6 is connected. Very often it is set to 192.168.1.0 , 192.168.1.1 or 192.168.1.2. Confirm Gateway address with your network administrator. Very often the Gateway IP address will be written underneath your router.

To enter Gateway manually, press configuration button and navigate to IP address menu

Configuration button>EXTRIUM>IP Configuration>Gateway>
Current Gateway IP address will be displayed.

Select number for each of the 12 positions by using the up and down arrow keys. Move to the next positions by using the right arrow key. Once completed, using the left arrow key, escape the menu until main configuration menu is reached

Idle display

This feature is available under both configuration modes.

Idle display is set to the current date and time or to the last received event.

To configure this option from the front display navigate
Configuration button>Display
Select from
Keep last event on screen
Or Date/Time

Setting Time and Date

This feature is available under both configuration modes.

Beware of synchronization between D6 own time and Central station own time if both are in different time zone. Adjust according to your operational needs.

To set-up time and date from Front Display, navigate to

Configuration button>Display>Date and Time
Select each parameter by navigating with left and right arrows and change with up and down arrows. Time is in effect for each change starting at 00 seconds.

Escape using the escape/back/left arrow.

To set-up time and date from D6config:

Seasonal time change should be changed manually according to local needs. Special attention should be given to D6 when used in a time zone different from Central station's time zone. Localization is part of update 2.0.

Using a NTP server (network time protocol): this feature is not enabled and reserved for future use.

Setting destinations
Port selection

You can enable ports at any time but if you are not using a port, do not select it. This will reduce security risk of external access. Using fewer resources statistically improve uptime.

Navigate to:
Configuration button> Output>Ports Selection>
To select or deselect, use the Enter (center) button
Navigate up and down with the up and down arrows

Using the center enter key to enable/disable, select from:
Serial 1
USB
Ethernet
Printer

N.B. Port must be enabled to use it as Destination.

Selecting main/backup/alternate Destinations

Destination selection is made on the basis of one main destination along with alternate and back-up destinations.

When possible, always choose the serial port as Main destination. Serial communication has been used for over 25 years. It is a simple and proven technology. Not being connected to the internet, it does not require security like a IP port.

Main describes the primary destination. Typically, only one destination should be allowed to take charge of the alarm event i.e. taking actions such as sending patrols or police. D6 only allows one Main destination.

Back-up describes destination used in case of communication breakdown with Main destination. Events are sent only if main destination does not respond.

Alternate describes secondary destinations receiving a copy of the Main destination feed.

Main destination IP

Configuration of Main IP destination
To configure Main destination (over IP), navigate to:
Configuration>Output>Settings>IP>Main IP>
Adjust parameters to:
Output type= Main
Output format =MLR2
Send heartbeat=enabled
Wait for Ack=enabled
IP address=Enter IP address of destination using format nnn.nnn.nnn.nnn. All 12 digits must be entered. IP addresses are constructed of 4 banks of 3 digits separated by a period. Missing digits should be replaced by 0.

IP port=5 digits port between 00001 and 65000. Select a unique port number know to be available at both ends of IP communication. This port number should be unique and different from other port numbers used by D6 for Backup IP 1 to 4. The same port number should be used in STreceiver and TCPtoCOM.exe

To avoid conflicts, MCDI suggests using port number 03030. Select predefined in STreceiver and TCPtoCOM.exe. This port number can be changed but insure it is changed in STreceiver or TCPtCOM.exe as well.
Password=Default is blank. MCDI suggests using a safe password (>6 digits). The same password number should be used in ST receiver and TCPtoCOM.exe.

Before selecting a power number verify availability. Beware that some port numbers are known to be used for dedicated tasks or by applications. Consult list of
well known TCP and UDP port numbers:
http://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers

To insure stability and uptime, it is preferable to use a static IP address to a DNS based address. The later possibility is not yet implemented in D6. Feasibility remains to be assessed by MCDI.

IP Back-up Destinations 1-4

The same logic applies to Main IP destination and Back-up IP destinations. Refer to previous section for the specifics of IP destination parameters. Despite the name Back-up IP destination, they can be used as Alternate destination. Be sure to configure each destination with a different port number. Password can be common to all destinations although it is deemed safer to use different passwords.

WARNING: using Backup or Alternate destinations may contribute to downsize D6 uptime. In case of a communication failure with Backup or alternate destinations, D6 buffer will fill up rapidly. When internal buffer is filled by 4000 events (including reports of communication breakdown), D6 pauses phone lines reception. D6 will only resume communication when buffer is emptied below 2500 events. Review discussion on main, alternate and back-up destinations at section *6.3 Status Change: loss of communication.*

Serial port destination

Whenever possible, serial port should be used as main destination due to the reliability of serial communication. Loss of communication is rare in serial communication. Serial ports are not exposed to the Internet and therefore not a security risk as IP port.

To configure serial port, navigate to:
Configuration button>Output>Settings>SERIAL
Set parameters:

Output type: Main/Alternate/Backup -(Main preferred)
Output format: MLR2
Send heartbeat: enabled/disabled (heartbeat sent each 30 seconds)
Wait for ACK: enabled/disabled (time out 1 minute)
Baud rate: 600/1200/2400/4800/9600/115200.

Baud rate should match baud rate set in Monitoring software.

Communication over USB

In MCDI's experience with several receivers, serial communication should be preferred over USB. USB port should be NOT be considered as the 'main destination' except if all other options are unavailable.

D6 is not powered by USB port, however for USB port to work correctly, minimal USB status power (<100mA) should be available for port sensing.

At D6 connection, Windows will identify new USB hardware and prompt you to locate drivers if not found. Drivers are supplied on CD. To install, insert D6 CD in CD reader or copy folder *USB Drivers* to your PC. Two files are included:

usbser.sys	driver
gserial.inf	windows resource.

USB communication cannot be established between PC and D6 if using DOS or Windows 95.

To configure USB output of D6, enable USB port and navigate to:
Configuration button>Output>Settings>USB
Set parameters:
Output type= Alternate/Backup/Main
Output format= MLR2
Send heartbeat=enable/disabled
Wait for ack= enable/disabled

Output format

By default D6 uses format emulation close to Sur-Gard basic format. This format bears close resemblance to Radionics 6500. In setting up your Automation software, Sur-Gard MLR2 format should be selected for D6.

Following options are available
Normal: without date and time
Date and time: Date and time added after alarm string and before <DC4>
format: HH:mm:SS-DD/MM
Date and yet: Date and year added after alarm string and before <DC4> Seconds are removed
format: HH:mm:-DD/MM/YY.
This option is necessary for Alarmsoft's Centralworks.

Typical reporting format -4x2-+caller ID on second event:

```
1011       1234     52<DC4>
4011  12340005144819<DC4>
```

Typical reporting format –SIA- caller ID on second event:

```
S011[#1236|NBA002]<DC4>
4011  12360005144819<DC4>
```

Typical reporting format –Contact ID- caller ID on second event:

```
5011 181235E1320100208:17:20-08/01<DC4>


4011  1235000514481908:17:20-08/01<DC4>
```

IRLL__NNAAAACCCPPZZZ_____HH:mm:SS-DD/MM/YYYY<DC4>
Caller ID:
4RLL__AAAAQQQQQQQQQQHH:mm:SS-DD/MM/YYYY<DC4>

Where
I identifier, 1 general S-SIA 5=Contact ID 4=Caller ID
R receiver number
L line number
A account number

Z zone number
C alarm code
P partition number
Z zone number
NN Contact ID identifier 18
H hour
m minute
S second
D day
M month
Y year
Q Caller ID (10 digits)

<DC4> Device Control 4 – Hexadecimal ASCII 14
Signifies end of string

Communication with Automation software over IP

Using SECURITHOR
See section *10.1 Connecting to automation software* for more details.
IP output uses a MCDI proprietary format to encapsulate Sur-Gard format. An event number and checksum is added to the string of characters.

This format is integrated in SECURITHOR (using STreceiver communication component).
In STreceiver – SECURITHOR communication component- select D6/Extrium preset.

SAMM/WinSAMM Third part software

Using SAMM/WinSAMM or third party Central station software
See section *10.2 Connecting to SAMM/WinSAMM* for more details.

Using software other than SECURITHOR, install TCPtoCOM.exe provided on D6 CD. This component is derived from STreceiver and allows communication between D6 and Central station software by using a virtual serial port.

SAMM
SAMM working strictly under dos cannot communicate with D6 over IP or USB. SAMM 8 cannot communication with TCPtoCOM.exe. Serial communication must be used. Knowing your serial port, configure SAMM same as Sur-Gard MLR2.

WinSAMM
Serial connection: knowing your serial port, select it and configure D6 as a Sur-Gard MLR2 receiver.

N.B. SAMM10 must be used with current Windows OS to establish IP communication. This is not tested and SAMM 8 or 10 are not supported anymore by MCDI.

IP communication: using TCPtoCOM.exe application, establish a virtual serial port. In WSreceiver, identify this serial port and choose Sur-Gard MLR2 emulation.

Third party software
See section *10.3 Connecting to third party automation software* for more details.

Consult with your software vendor or read your user guide to learn how to open a serial port for TCPtoCOM feed.

Restore default

This option will restore all parameters to the factory default. This will de facto erase your destinations selection and IP address. Use this feature with care or with MCDI Support help.

Factory defaults are:
IP

```
<DHCP val="no"/>
<IPAddress val="192.168.001.215"/>
<IPMask val="255.255.255.000"/>
<IPGateway val="192.168.001.001"/>
<Name val="Extrium"/>
```

Error Message

```
<SendToOutputs val="no"/>
```

Entries
N.B. Same parameters are used for Line cards 1, 2 and 3. Settings are per line card

```
<config line card 1>
<receiverNum val="1"/>
<line1Num val="1"/>
<line2Num val="2"/>
<sendCidPc val="yes"/>        <!-- fixed in catapult mode -->
<sendCidPrinter val="no"/><!-- fixed in catapult mode -->
<sendCidAll val="yes"/>       <!-- fixed in catapult mode -->
<enhanced val="yes"/>
<outputFormat val="SURGARD"/><!-- fixed in catapult mode -->
<sendDateTime val="yes"/><!-- fixed in catapult mode -->
<sendYear val="no"/>                    <!-- fixed in catapult mode -->
<sendHeartbeat val="yes"/> <!-- fixed in catapult mode -->
<activeBuzzer val="no"/>      <!-- fixed in catapult mode -->
<handshakeDelay val="no"/>
<sescoa val="no"/>
<threeByTwo val="yes"/>
<clearZero val="no"/>         <!-- fixed in catapult mode -->
<compressExtended val="yes"/>
<listenInCode val="_"/>
<matchCidHs val="yes"/>
<numRings val="1"/>
<ackDelay val="9"/>           <!-- fixed in catapult mode -->
<codes4x1>  <!—values in HEX -->
                    48 49 50 51 52 53 54 55
                    56 57 65 66 67 68 69 70
<codes4x2>  <!—values in HEX -->
                    48 49 50 51 52 53 54 55
                    56 57 65 66 67 68 69 70
</codes4x3>  <!—values in HEX -->
                    48 49 50 51 52 53 54 55
                    56 57 65 66 67 68 69 70
<handshakes>1400 SIA CONTACTID 2300 STRATEL NONE NONE
Pulses ="yes"
Dtmf ="yes"/>
Sia ="yes"/>
Vfsk="no"/>
Bfsk ="no"/>
Cfsk ="no"/>
```

```
        catapultMode ="yes"/>

<VoIP>
N.B. The VoIP feature is currently deactivated and under development.  (2009.09.12)
        <Channel name="exp-int:0" type="incoming">
        <enabled val="yes"/>
        <ipAddress val="127.0.0.1"/>
        <ipPort val="5050"/>
        <userName val="pasha"/>
        <device val="/dev/dsp0"/>
        </Channel>
        <Channel name="exp-int:1" type="incoming">

<Destinations>
        <Output port="ser1" val="Main"/>
        <Output port="usb" val="Alternate"/>
        <Output port="tcp" val="Alternate"/>
        <IP>
        <Output port="tcp-sub1" val="Alternate"/>
        <Output port="tcp-sub2" val="Alternate"/>
        <Output port="tcp-sub3" val="Backup"/>
        <Output port="tcp-sub4" val="Backup"/>

</Destination>--> <Ports>
        <SerialPort name="ser1" val="no">
                <sendHb val="yes"/>
                <waitAck val="yes"/>
                <format val="MLR2"/>
                <baud val="9600"/>
        <UsbPort name="usb" val="no">
                <sendHb val="no"/>
                <waitAck val="yes"/>
                <format val="MLR2"/>
        <TcpPort name="tcp" val="no">
                <sendHb val="yes"/>
                <waitAck val="yes"/>
                <format val="MLR2"/>
                <ipAddress val="192.168.001.001"/>
```

```
                <ipAddress val="localhost"/> -->
                <ipPort val="03030"/>
                <password val=""/>
                </TcpPort>
        <TcpPort name="tcp-sub1" val="no">
                <sendHb val="yes"/>
                <waitAck val="yes"/>
                <format val="MLR2"/>
                <ipAddress val="192.168.254.254"/>
                <ipAddress val="localhost"/> -->
                <ipPort val="03031"/>
                <password val=""/>
        <TcpPort name="tcp-sub2" val="no">
                <sendHb val="yes"/>
                <waitAck val="yes"/>
                <format val="MLR2"/>
                <ipAddress val="192.168.254.254"/>
                <!--<ipAddress val="localhost"/> -->
                <ipPort val="03032"/>
                <password val=""/>
        <TcpPort name="tcp-sub3" val="no">
                <sendHb val="yes"/>
                <waitAck val="yes"/>
                <format val="MLR2"/>
                <ipAddress val="192.168.254.254"/>
                <ipAddress val="localhost"/> -->
                <ipPort val="03033"/>
                <password val=""/>
                </TcpPort>
        <TcpPort name="tcp-sub4" val="no">
                <sendHb val="yes"/>
                <waitAck val="yes"/>
                <format val="MLR2"/>
                <ipAddress val="192.168.254.254"/>
                <ipAddress val="localhost"/> -->
                <ipPort val="03034"/>
                <password val=""/>
                </TcpPort>
```

```
<PrinterPort name="printer" val="no">
        <device val="/dev/lp0"/>
```

Error events

D6 will generate and report errors upon certain conditions. D6 will send a 4+2 error event to all outputs if this option is enabled. See section *6.3 Status Change: loss of communication* before enabling this feature.

All error messages are sent to account 0000. Error messages should be defined in account 0000 of Automation software. Alarm code is in HEX

Following codes are sent to Automation software account 0000

Code	Description
60	Main IP down
61	IP 1 down
62	IP 2 down
63	IP 3 down
64	IP 4 down
65	Main IP UP
66	IP 1 UP
67	IP 2 UP
68	IP 3 UP
69	IP 4 UP
6A	USB port down
6B	USB port UP
6C	Serial link DOWN
6D	Serial link UP
6E	Internal battery charge lower than 50%
6F	Internal battery charge lower than 25%
70	Main power absent
71	External battery absent
72	Line card 1 dead
73	Line card 2 dead
74	Line card 3 dead
75	Line card 1 OK
76	Line card 2 OK

77	Line card 3 OK
78	Line 1 dead
79	Line 1 OK
7A	Line 2 dead
7B	Line 2 OK
7C	Line 3 dead
7D	Line 3 OK
7E	Line 4 dead
7F	Line 4 OK
80	Line 5 dead
81	Line 5 OK
82	Line 6 dead
83	Line 6 OK
84	SD memory absent
85	SD memory OK
86	SD memory 90% filled
87	SD memory space available
88	Extrium CPU reboot
89	Internal temperature superior to 40° Celsius
8A	Internal temperature superior to 60° Celsius
8B	Internal temperature OK
8C	Printer error

4. Line cards

D6 contains 3 line cards derived from Exprecium 3 generation. They are factory programmed in a special mode called Catapult. Although physically similar to an Exprecium board, those line cards will not work in a pc PCI slot and factory Exprecium will not work in D6 without physical modification or reprogramming. Among differences between D6 line cards and E3status mode is added, no printer port installed on the line card, event buffer limited to incoming event and programming commands are different. Checksum and event number is added for D6 internal processing.

Exprecium 3 catapult mode

The present section is an overview of D6 line cards. Refer to the configuration sections (Configuration from display and Configuration using pc tool) for a detailed view of options and features.

Among differences between a D6 line cards and standard Exprecium 3 are the absence of a printer port, absence of a PCI bridge and dedicated programming. This programming called the Catapult mode is used only in MCDI's D6 and Extrium family.

Under Catapult mode, more information is tendered to the CPU. Operational status of each line card is transmitted to the CPU upon each call or state change. CPU knows at all time if a call is in progress, completed or if a line is dead.

Catapult mode also manages internal buffer of the line card. In D6, the CPU handles the event buffer. Each line card is blocked to a single event per line to lower the risk of event loss in case of communication breakdown between CPU and line card.

Under Catapult mode, if a communication breakdown occurs between CPU and line card, the operation is halted so events cannot pile in line card buffer.

The same when a configuration change is called by reprogramming, line card will not proceed to configuration change before a call in progress is completed and event is sent to CPU. Line card will resume reprogramming after event is cleared from buffer.

Assigning receiver number

It is possible to assign receiver number for each line card (0 to F). Receiver number is included in the string transmitted to destinations. Assigning a different receiver number to each line card can present the line card as different receivers to the automation software. Visit section *2. Configuration tool* and *3. Parameters* to view how to change a specific line number.

Format selection

Some format processing can be enabled or disabled. Select from DTMF, FSK, BFSK, CFSK, Pulse, Contact ID, SIA, Telim, and Robofon. It is advisable to disabled a type of format if you know you will not receive any signal of this type. This reduces the load to the line card CPU and will speed up negotiation time between receiver and panel.

Some combination of panels/brands and formats work better if some handshake formats are omitted. It is advisable to disabled a type of communication if you know you will not use it.

Handshake order

D6 line card allow handshake order to be set. Dedicating a line card to a specific handshake type or ordering handshake sequence to meet the majority of panels calling a line card will diminish transaction time with panel. See Configuration section to set handshake sequence.

Some formats require their handshake to be presented in front. Transaction with Robofon, Telim and Tunstall panels are handled best with their respective handshake in front of others. If you plan to use Tunstall TTnew, contact MCDI support to get application notes.

Physical Installation

Line cards 1 and 3.
Line cards 1 and 3 are installed the same way i.e. they are affixed to the bottom of the chariot by screws and connected to the Extrium CPU by 10 wires ribbon cable. Power is transmitted from CPU to the line cards over the ribbon cables. Insure you have the correct pin order when changing wire. Some models may also have a 4 wires cable for audio signals sent to the audio expansion board.

Line card 2
Line card 2 is installed at the bottom of the chariot underneath the Extrium CPU. It is connected directly to the Extrium via a 2x5 header. Power is transmitted to the line card via pins of this header. Some models may also have a 4 wires cable for audio signals sent to the audio expansion board. To access Line card 2, it is necessary to remove the Extrium CPU and the SD memory card reader.

Caller ID

Caller ID is enabled by default (Bellcore type 2 FSK on hook). It is passed to the Extrium CPU. Inquire about MCDI caller id converter option if you need to receive DTMF caller ID. Those optional devices are external to D5/D6.

Caller ID is sent to Destinations as a separate string immediately following alarm signal.

2 way-voice/listen-in

Line cards support 2 way voice and listen-in. Currently all line cards will keep the line off hook for 180 seconds when a listen-in or 2 way voice signal is recognized. This period is de factor extended when parallel phone unit is kept off hook. In contact ID Signaling any DTMF pulse for parallel phone unit will close line. TTnew requires DTMF specific pulse (number 6). All 6 lines are independent.

Standardized contact id (E505/E606) or SIA codes are recognized by line card. An identifier may be specified for pulse signals. See *2.Configuration* and *3. Parameters* for more details.

D5 model doesn't support 2-way voice to IP as it lacks the necessary hardware and programming. This hardware and programming can be added as a retrofit kit to render a D5 similar to D6.

In 2008 and beginning of 2009, D6 are shipped with or without an audio expansion board. This expansion board is needed for 2-way voice to IP processing. Dedicated D6 programming is also needed. This option is in development and will not be activated before Q2 2009.

Added protection for lighting And power surges

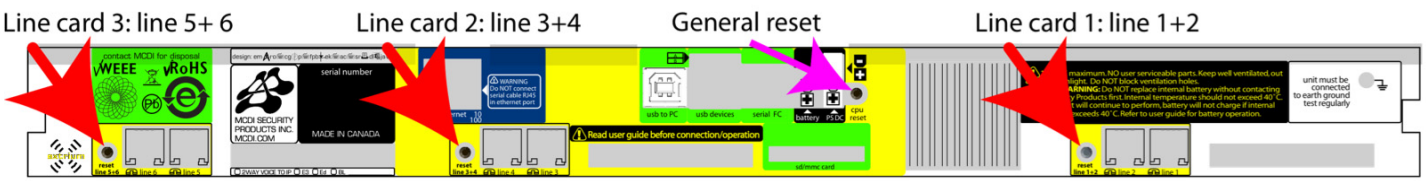
It is advisable to ground the D6 unit for added protection against lightning and power surges. An added Power Surge Protector can be purchased from MCDI. This device will protect the connected line as long as it is well grounded to earth. The purpose of this device is to rapidly deviate power surge to earth ground without impeding the normal signal.

Reset

Each line card can be reset individually. Push the reset button of the line card you wish to reset. When you know there is no call in process. Failure to do so may result in an alarm event loss. Reset will stop the alarm reception while the card is booting up. Status will be sent to the CPU shortly after reboot is completed. In some instances, it may be necessary to reboot the CPU to re-establish communication between CPU and line card.

The reset button for each line card is located less than 10mm from the RJ11 connector of the line card to reset. See red arrows for locations of reset buttons. Each button commands only one line card.

Reset buttons locations



WARNING: USING THE GENERAL RESET BUTTON WILL REBOOT ALL LINE CARDS AND CPU. EVENTS MAY BE LOST IN THE PROCESS AS THIS RESET APPLIES A POWER SHUTDOWN AND REBOOT TO THE WHOLE UNIT.

RoHS compliance

All D6 line cards are shipped as RoHS compliant. Special care should be taken to replace line cards with RoHS version even if modifying and reprogramming a non RoHS Exprecium 3.

Insure all replacement cable and wires are exempt of lead (Pb), cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

Warning: replacing a line card by a Non RoHS line card will downgrade RoHS compliance of D6.

Special care should be taken to insure RoHS compliance if local repairs are made. No lead (Pb) is to be used and soldering iron should not be tainted by lead (Pb), cadmium, mercury, hexavalent

chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants. Verify all components RoHS status with MCDI support before changing.

To check firmware version of the line cards, Navigate to:
Status button>down arrow until you reach the end of the status display. Firmware level for each line card will be displayed.

To update see chapter *2. Configuration* to upload new line card firmware using D6configurator.

WARNING: Do not upload regular MCDI Exprecium firmware to D5/D6 line cards. They are not compatible and D5/D6 will loose ability to reprogram.

5. Maintenance

It is advisable NOT to make an update of Decrypta 6 unless directed by MCDI. Performing an update will take some time and your D6 will not be available during the update.

If well planned, updating is a matter of a 5-6 minutes. Reboot will be necessary. Be prepared for 10-12 minutes downtime for each update. A back up solution should be planned for the possibility updating fails and D6 doesn't come back on line. Allowing MCDI over IP access to D6 will insure safer update process and will allow MCDI to access D6 if update doesn't proceed correctly. As a rule of thumb, contact MCDI before planning an update.

Updating kernel

Decrypta 6 uses a specially compiled version of Linux 2.6.20 kernel. This version of Linux is stripped of superfluous components and integrates special drivers for all of D6 numerous peripherals. All necessary components of OS are embedded in the Extrium board. No user settings necessary except for options provided at front display.

Except where needed, ports are closed and the ability to run another application or script is restricted to reduce security risks. To update D6 operating system, a special programming cable is needed. Refer to MCDI or to your local dealer if reprogramming of D6 operating system is needed. This operation is rarely needed as kernel is quite stable and doesn't depend on external components or devices.

To update kernel, opening D6 is required and connecting special serial cable to programming port will be required. Insure that the pin out is respected otherwise damages may result. Double check pin order matching and markings on PCB. Decrypta 6 line cards will stop reception when an upgrade is on the way. Events in the buffer will be lost. Insure you have a complete back up of D6 SD memory card before proceeding. Never make an update by way of programming port without first contacting MCDI support. If not done correctly, this upgrade could erase D6 programming.

Updating application

Application managing D6 operation and alarm routing can be updated over IP from the D6configurator or directly by MCDI over IP. Refer to section *2.Configuration tool* > Maintenance tab to know more about updating locally.

It is possible for MCDI support to make updates remotely. Internet access is required and over IP access to your D6 is needed. MCDI support will confirm connection arrangements with you if an update is to be made to your D6.

Do NOT update D5/D6 with a file other than MCDI approved binaries with extension .d6.

Updating Line cards

Each line cards can be updated using D6 configurator.exe. *See Chapter 2. Configuration tool* for specifics.

Do NOT update with file other than MCDI approved firmware with extension **.xpb** .

Contact MCDI prior to updating to verify compatibility. Never update a line card if compatibility with D6 main programming is not certified by MCDI.

It is possible to upload distinct configurations for each line card. Verify compatibility with MCDI first.

Alarm receiving will be disabled during line card update. Update is a reprogramming process handled by Extrium CPU once firmware is uploaded by D6configurator.exe.

Retrieving logs

Although possible it is not advisable to remove SD card to copy the content. This may result in loss of events and reboot of D6 will be needed. Events received while the SD card is absent will not be recorded. Any error message generated by D6 during absence of SD Memory card will not be recorded.

Retrieving of logs is achieved by a special function in D6configurator.exe. See chapter *2. Configuration tool* > Logs tab to learn how to download and erase logs from D6. Ethernet connection is required to use *D6configurator* and access logs.

Complete transfer of logs may take some time. Transfer rate is approximately 5MB/s. A SD card contains up to 2GB and a complete transfer may take up to 1 hour for a filled memory on a local network. MCDI recommends transferring data periodically and deleting the data once you are

sure the data is transferred and you have a back up. Although is it possible to continue receiving events and writing them on the SD memory card, this will slow down the rate of transfer. If not possible to stop operation, plan to make transfer during low traffic hours.

Retrieving logs over the Internet may be a lengthy process. Required time is inversely proportional to allocated bandwidth.

Periodical testing

Although a lot of efforts have been made to insure D6 uptime and a lot of redundancy is built-in D6, MCDI advises that you test all functions periodically. It is a good practice to make a routine check each week and include some tests for good functioning of ground, power input and batteries. If require by your operation, more frequent testing should be made.

If using D6 remotely, it is good practice to schedule regular maintenance visits. Although D6 has been designed to work unattended, it is good practice to test D6 on site at regular intervals. Having the ability to reboot D6 from distance or reestablish D6 routers connection to the Internet may be needed.

Batteries

Internal Lithium-ion battery should be verified periodically. Uptime of the battery should be tested at least yearly. If battery uptime is less than one hour, it should be replaced by a MCDI approved battery pack. Do NOT replace with battery pack not specifically approved by MCDI.

External battery should be verified periodically for charge and uptime. Refer to manufacturer specifications.

Care of D6

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 internal with battery charge.
4°C to 50°C without internal battery charge.
Storage condition: -15°c to 50°C . Although it is possible to store D6 at temperature slightly higher than 50°C for a short period of time, it is not advisable. Do not store in humid environment.

Always use with power source as indicated in Section *1.7. Power options*. Consult a qualified Electrician before using power sources other than MCDI approved sources.

Do not install D6 in environment prone to static discharge such as room with carpet, rolling chairs without anti-static mats or dry conditions. Avoid static discharge as much as possible. Always connect D6 ground post to earth ground.

Field replaceable parts

(under MCDI guidance)
Line cards NVRAM units
Line cards Phone line interface (green PCB).
Line cards, complete
Cables.
Extrium CPU (with sandwiched line card and memory card reader)
SD card memory
Front keypad
LCD display
Battery pack
Chassis and chariot
Power supply 11V DC 25W
GSM/GPRS modem (D7 option)
Audio expansion board (D6 only)

6. General information

D6 in a LAN

Decrypta 6 is made to work over a LAN - local area network - with Ethernet port designed as main output. Once your LAN -local area network- is established, communication with D6 should prove to be quite stable. Setting up subnet and gateway is detailed in the configuration section.

D6 over WAN

Is it possible to use D6 over WAN - wide array network - i.e. using D6 at a remote site linked over the Internet to the Central station. There is no difference between a LAN or WAN for D6. However special care and precautions should be taken in installing D6 remotely:

- A router or special equipment should be used as a mean to connect to the Internet and to establish firewall and VPN
- Insure all power options are functioning i.e. main power, sufficient battery back up and internal lithium ion battery.
- Insure room temperature is always below 38°Celsius.
- Insure internal temperature of D6 is below 40°C at all time.
- Insure you have the possibility to access D6 rapidly in order to manually reboot your D6 or troubleshoot any problem.
- Insure D6 is connected to the Internet with equipment made to resurrect an Internet connection and to enable auto-switching to an alternate Internet provider.

Special care should be taken to insure a stable and REDUNDANT Internet connection to D6. D6 is not a router and such equipment should be used to establish link to the Internet, VPN and Firewall. MCDI strongly suggests you select a router with dual WAN capacity along with 2 strong and stable Internet access. Equipments such as Cisco-Linksys RV042 or RV082 (or better) should be used, as they will manage security and dual Internet access.

Ability to reboot D6 and router or Internet access equipment should be considered. MCDI suggest to house remote D6 in a facility you control or to which you can gain access at all time.

Internet providers and Telephone companies very often rent rack space in facilities with adequate protection, electricity, air conditioning and Internet access. Specific Internet access arrangements are very often discussed with such providers.

D6 limits the amount of incoming signals stored in buffer to 4000. D6 will stop line cards until the internal buffer is not lowered to 2500. This limitation is not based on memory capacity but is a programming choice made to insure alarm events do not pile up in a remote D6 waiting for communication to be re-established.

Status change: loss of communication

D6 is programmed with mechanisms to check communication with each device connected to ports or responding devices at remote Destinations. D6 communication relies on exchange of acknowledge and heartbeat the same as a conventional alarm receiver. If acknowledge (Dec 06) is not received, D6 will consider communication with destination is lost.

Upon specific conditions, when devices starts to send acknowledge, communication between device/destination and D6 will be restored.

D6 will report loss of communication with a destination to other ports. In order to be notified, at least two destinations using different ports should be configured. Reporting to two separate devices i.e. not sending serial and IP feeds to the same PC should be considered. USB port should not be considered as a main destination.

serial port status: disconnected, alive, unknown

TCP main status: disconnected, failed, alive, unknown

'Send error events to Outputs' not activated
Only front display status icons will change. Icons will change for Serial port and IP main. Note that there is no status display for IP 1-5 if not set to main. Note that there is not status display for USB port.

Refer to section *1.10 LCD display: icons and status bar for complete list of icons.*

'Send error events to Outputs' activated
An error message specific to each port will be viewed on display and sent to all other ports. Refer to section *3.11 Error Events* or *Addendum: error codes* for complete list of error events and format.

Specific conditions

Serial port, wait for acknowledge enabled.

At loss of communication, D6 will pile up to 4000 events in buffer. D6 will pause receiving after 4000 events. D6 will send heartbeat each second. When destination sends acknowledge to heartbeat, events in buffer will be resent with event own date and time stamp. D6 will resume receiving when buffer empties to 2500 events.

Serial port, wait for acknowledge disabled.
At loss of communication, D6 will not wait for ACK and therefore loss of communication may not be detected.

USB, wait for acknowledge enabled.

USB connection status is independent from acknowledge process. Communication may be down while connection is alive.

At loss of communication, D6 will pause receiving after 4000 events. D6 will send heartbeat each second. When destination sends acknowledge to heartbeat, events in buffer will be resent with event own date and time stamp. D6 will resume receiving when buffer empties to 2500 events.

WARNING: D6 does not manage connection to the Internet. Connection to the Internet should be managed by router to which D6 is connected.

IP main

Two situations must be distinguished. D6 can be confronted to a loss of connection to the Internet or to a failing destination while internet connection is alive. Also note several IP destinations can be set with different behaviors. Verify and set-up before making changes. Test set-up afterward.

TCP is a connected mode. D6 will sense connection. Therefore IP main should not be used with Wait for acknowledge disabled.

IP main, Wait for acknowledge enabled, No IP back-up specified

At loss of communication or connection with destination is detected, D6 will pause receiving after 4000 events. D6 will send heartbeat each second or try to re-establish IP connection.

When destination sends acknowledge to heartbeat, events in buffer will be resent with event own date and time stamp. D6 will resume receiving when buffer empties to 2500 events.

IP main, wait for acknowledge enabled, IP backup are set.

At loss of communication with Main IP destination, first IP back-up will be identified as main and communication will continue with IP back-up now identified as main. If back-up 1 fails, D6 will switch to next available IP back-up to 5. No events will be buffered unless all IP main and IP back-up fail to send acknowledge. When all IP main and back-up fail, 4000 events will be buffered before D6 pauses receiving. D6 will resume receiving when buffer lowers to 2500 events.

IP main, wait for acknowledge disabled

Events will still be sent without waiting for an acknowledge. If destination does not send ACK but TCP communication is up, events will still be sent but probably loss. No switching to IP back-up.

IP alternate, Wait for acknowledge enabled

It is not recommended to enable Wait for acknowledge for IP alternate destinations. At loss of communication, D6 will pile up to 4000 events in buffer and will stop receiving. D6 will resume receiving when buffer lowers to 2500 events.

IP alternate, Wait for acknowledge disabled

D6 will not report loss of communication with destination but will report loss of connection to the internet. This mode should be selected for alternate IP destinations otherwise events could pile up in D6 buffer and D6 will pause reception.

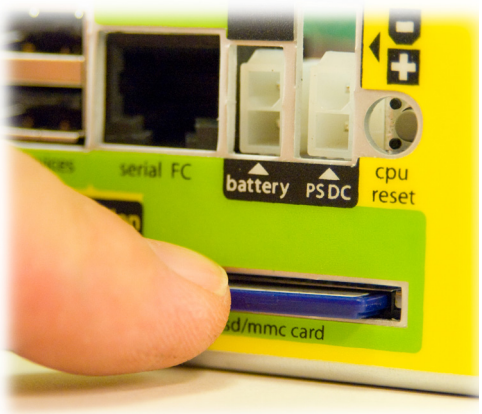
Although each event is written on SD memory card and up to 12,000,000 events can be stored on memory, D6 buffer is limited to 4000 events as a safety precaution. At 4000 events in buffer, D6 will pause line cards and will resume receiving. Option to overwrite oldest events in pending buffer is being worked on and should be available Q2 2009.

All prior descriptions are valid for destination at which Automation software doesn't need to re-establish communication by human action. D6 will resume communication on port when communication is re-established upon receiving acknowledge signal.

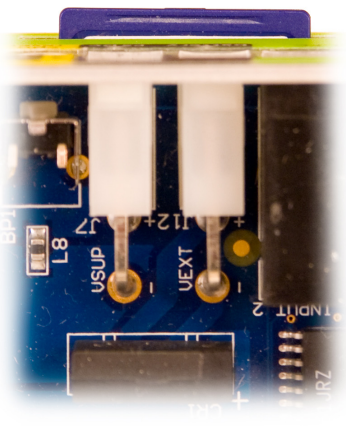
SD memory card

SD card is located underneath Extrium CPU and reader is accessible from the back of the unit. It is advisable to leave SD card in D6 at all time and only switch SD card when absolutely necessary.

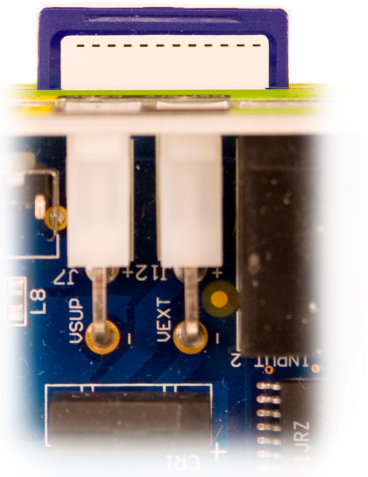
To insert or remove SD memory card, gently push on card until you sense spring action. Release pressure.



Inserted position



Ready to remove



Card will lock in place (inserting) or stick out (removing). When removing, gently grab by edge insuring not to touch gold connectors. Store SD memory card in supplied plastic container. It is possible to read SD memory card from another device but do not try to format SD memory card in device other than D5 or D6.

D5 and D6 are shipped with 2 x 2GB SD cards. Both cards are tested and one is installed in D5/D6 when shipped from MCDI plant. A few events may remain on card from testing.

2GB standard SD card used by MCDI contains in excess of 12,000,000 data lines. One data line is defined as one D6 event entry. Each SD card is expected to last for at least one year before it fills up.

Retrieving of logs is achieved by the configuration application (from connected PC). Logs can be retrieved and deleted from the SD cards. Archive logs on a safe archival media for future references.

Error messages: SD card

D6 will send error message warning through the flow of events if SD card absence is detected. This error message is formatted as 4x2 alarm code. Refer to section *3.11 Error event*s for more details. Automation software should be configured to receive this Error event.

D6 will send error message warning when SD card is filled to 90%. This error message is formatted as 4x2 alarm code. Changing SD memory card should be planned at this point.

D6 will send error message warning when SD card is filled to 100%. This error message is formatted as 4x2 alarm code. Refer to section 3.11 Error events for more details. Automation software should be configured to receive this Error event.

WARNING: removing SD card will reduce number of events in buffer. Removing SD card when data is being written will result in data corruption and may render SD card useless. Changing SD card will require a complete reboot of D5/D6.

WARNING: Do not replace SD card with a model not approved by MCDI. There are several SD cards standards and not all are compatible with D6 reader and programming. Do no use SD HC cards.

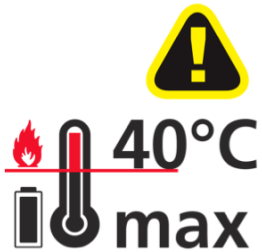
Lithium-ion battery Use and replacement

MCDI ships D5 and D6 with a battery pack of 2 x 18650 lithium-ion cells. This battery pack nominally supplies 2200mAH 7.4V DC when leaving MCDI plant. Battery pack is not connected when shipped. It should be connected when installation of D6 is made. MCDI battery pack is tested and charged. It can contain some residual charge well after shipment date. Failure to connect Li-ion battery will produce erratic voltage reading and erratic status display of all batteries.

Replacing this battery pack should be made with care with a battery pack approved by MCDI.

Lithium-ion internal battery pack is not intended as a primary power source. It is the third power source and designed to be used as a temporary back up.

The D5/D6 battery charger will not work correctly with other type of battery chemistry.



WARNING: IT IS DANGEROUS TO USE A TYPE OF BATTERY NOT SUITED FOR D6 CHARGER. CONSULT MCDI PRIOR TO CHANGING BATTERY. Connecting a battery not designed for use with D5 or D6 could result in severe damages not limited to EXPLOSION AND FIRE. Always check first with MCDI support staff prior to connecting a new battery pack.

Battery pack should never be charged when room temperature or internal temperature of D5/D6 reaches 40° Celsius or more. Battery pack should not be allowed to empty completely.

If you need to dispose of lithium-ion battery, please check with local authorities for a proper disposal method and site. Alternatively, return battery pack to MCDI following WEEE directive.

External battery

To insure a better uptime, Decrypta 6 is equipped with a secondary power input made for a 12V DC battery. At peak D6 can draw 650mAH. To calculate the number of hours of autonomy, divide battery Amperes by 0,650. Results will express D6 number of hours of autonomy given battery is at peak condition and fully charged. 24 hours autonomy requires at least a 16A battery. Numbers are stated for a fully charged new battery. Results may vary with an older battery.

WARNING: Never use a battery of more than 12Vdc. Serious damages to D5/D6 may result.
Insure your 12V battery doesn't deliver more than 13.8V DC to D6. Serious damages to D6 may result.

WARNING: Insure polarity is not inverted. Serious damages to D5/D6 may result

Maximizing uptime Best Practices

Some best practices should be respected to maximize uptime of D6:

-Giving an acceptable load.
Although D6 can function at 100% capacity at all time, operating in such fashion statistically raises the possibility of failure. Establishing a conservative load will reduce the risk of failure or more pragmatically, the impact in case of failure. Not enabling functions or ports if you do not use them will also raise the uptime.

-Security issues when connected to the Internet
When D6 is given Internet access, it should be kept behind an updated and maintained firewall. Although D6 is not a windows machine, it should never be connected to the Internet without protection.

-Well tested installation
Insuring all connectors, conduits and electrical connections are optimal will insure a better uptime.

-Dual power input
Having two power sources will warrant a better uptime. All the processing chain should receive the same treatment.

-Verifying Internet access regularly
Internet instability or breakdown is the foremost source of downtime for D6. Although D6 will continue to work to some extent, lack of Internet connection will impede D6 work if you are feeding signals over the Internet.

-Protecting against lightning and power surges
Damages due to power surges and lightning are the single most important source of repair for line cards. A good protection will make the difference. Some MCDI customers have used TLR line cards for 15 years while others may experience rapid failure due to lightning and poor grounding.

D6 line cards are constantly in use and polling phone lines at short intervals to warn against a dead phone line. This makes D6 sensitive to lightning and power surges coming from phone lines. Providing a good connection to earth ground and insulating phone lines with power surge protectors will help reduces occurrence of damages to D6 line cards.

-Restrict D6 access to key staff.
A high source of support calls is parameters changed by operators without the knowledge of the local technical staff. Given the somehow complex nature of settings due to the number or available parameters and the fact correct set-up is assumed, it is rather time consuming to troubleshoot such problems. Allowing only key and knowledge staff to change parameters of D6 will insure better uptime.

-Verify time and date at the beginning of each shift
D6 time drift is less than 1 second per 24 hours however it is a good practice to verify all time synchronization of receivers, automation software, PC, logging apparatus and all other necessary device at the beginning of each operator shift.

-Keep a back up unit or stand-by parts.
Although D6 is designed for the best uptime, the possibility of failure still exists. Given shipping time and turnaround, it is advisable to keep a local backup or replacement parts to insure the continuity of your operation. If not keeping a local back-up unit or component, inquire to your

local MCDI dealer about their replacement part stock, loan of equipment and replacement options. You can also inquire to MCDI about replacement parts for your D6 such as CPU, line card and power supply. Each are sold separately and costs are lowered than keeping a standby full D6.

-Insuring high bandwidth availability
If using D6 over LAN, insure there is no bottleneck in network and bandwidth is constant and sufficient for operation you want to achieve. Insufficient bandwidth will results in time outs and sometimes packet loss. Operations such as updates, 2-way voice to IP or Memory card transfer require larger bandwidth.

Reset

If your D6 appears stalled notwithstanding software and hardware watchdogs, it may be necessary to reset D6 as a remedy. Prior to reset D6, insure the unit is not only at idle waiting for incoming alarm events. To do so, verify all following:

-time is not incrementing
-no visible results is produced when pressing buttons on the front keypad
-it is impossible to connect to D6 over IP
-no incoming event is answered i.e. by calling one of the phone lines, insure you get a busy signal.

If all 4 conditions are met, reset the unit using the main reset button. Unit will reboot after no more than 3-4 minutes.

If not all 4 conditions are met, you may still reset D6 but could also call MCDI to troubleshoot if alarm events are still answered and transmitted. Sometimes LCD or keypad may fail due to static discharge while rest of the unit is still running smoothly.

See section *3. Line cards* for all reset button location

Ventilation

D6 is designed to work without a fan. In MCDI testing, internal temperature of D6 rarely goes more than 2° Celsius above room temperature. MCDI achieves those measurements with D6 units well ventilated at room temperature ranging from 18° to 34° Celsius. Keeping all opening clear will help natural convection.

Insure no heat source under or over D6 can radiate into D6. This is especially true in a rack frame, especially a closed one. If using D6 in a close space, you should look into providing

ventilation to this close space and verify the internal temperature of D6 regularly. Refer to section on lithium-ion battery, to learn about restriction on battery charge when higher temperature is experienced.

Beware of exposure to sunlight. Internal temperature of D6 can rise sharply above 40°Celsius if exposed to sunlight.

D6 can continue to function to some extent under higher temperature. Be aware that keeping a higher temperature over a short period of time can reduce the life span of your Decrypta 6 unit.

7. 2 way voice to IP (2009)

7.2.1 Decrypta 5

7.2.2 Decrypta 6 audio expansion board

Decrypta 5

Some units are shipped as D5. They do not contain the audio expansion board nor the audio programming needed for 2-way voice to IP. Those D5 can be upgraded to D6 by purchasing the 2 way voice to IP module available mid 2009. Inquire to MCDI or your local reseller.

All other features are similar between D5 and D6. This user guide is equally valid for D5 or D6 except for the audio functions which are not available in D5..

D5 models are shipped with a D5 label on the front keypad. The back membrane also specifies if the audio expansion module is installed. Serial number differs between D5 and D6.

D5 offers some 2 way voice and listen-in features limited to line card operation. Refer to line card section 4 for more details.

Decrypta 6 audio expansion board: 2 way voice to IP

Starting Q4 2009, all D6 will be delivered with an audio expansion board. Purpose of this board is to make an Analog to Digital and Digital to Analog conversion of audio signals from line cards. This bi-directional communication will allow 2 way voice signals to be router over Ethernet to the Central operator's PC and headset. Hardware design is completed as of 2009.01.20 but programming remains to be completed and tested. Customers who purchased D6 will receive a retrofit kit and programming update.

Sendmail option (2009)

The Sendmail option is planned for Q3 2009. Sendmail will be added to D6 in order to enable sending error messages by email or sms (via email gateway).

If you are interested by this option, inquire to MCDI sales staff to add it to your D6. An update and reboot will be needed with a downtime of 10-12 minutes. This update can be programmed so MCDI Support makes it by connecting directly to your D6 over IP.

Alive Internet connection will be required to use the sendmail option. Sendmail option will not work properly if Internet connection is down or unstable.

GSM/GPRS back-up interface

This option is planned for late 2009. Inquire to MCDI sales staff in order to add this option to your D6.

Purpose of this option is to send error messages over SMS or Emails via GPRS. Error messages and uptime information will be sent over this port.

Working GSM subscription will be needed along with a SIM card.

MCDI will test this solution in 2009 in order to use GPRS IP as an alternate IP port. No conclusion is yet available.

10. Connecting to Automation software

Viewing events

Printing

Connecting to SECURITHOR

IP output uses a MCDI proprietary format to encapsulate data. An event number and checksum is added to the string of characters. This format and tools are integrated in MCDI's SECURITHOR but also available for external use with Third Part Automation software.

For Serial and USB ports, automation software should be set as Sur-Gard format in order to receive string emulated by D6.

The MCDI IP format is integrated in SECURITHOR (using STreceiver communication component). In STreceiver – SECURITHOR communication component- create:
'New TCP', enter port number corresponding to the one defined in D6 and select D6/Extrium preset. This format is non-encrypted contains an event number and checksum. If using D6 over the internet, MCDI strongly suggests to create a VPN tunnel between D6 router and CMS router.

Over serial port, open STreceiver or bring it on screen. Select corresponding COM and use preset Sur-Gard MLR2. Set speed in bauds to the corresponding speed defined in D6. Given the relatively low traffic needed by alarm strings, 9600 bauds is enough to handle a 6 events per second traffic but you can adjust the speed up to 115200 bauds. Set parity to 8 bit 1 stop bit.

Over USB 2.0 port, first enable USB port in D6 Configuration.

Navigate to: Configuration button>Output>Ports Selection and enable USB using the Center button.

In STreceiver, use corresponding COM and use preset Sur-Gard MLR2. Set speed in bauds to 115200 bauds. Set parity to 8 bit 1 stop bit.

Connecting to SAMM or WinSAMM

SAMM working strictly under dos cannot communicate with D6 over IP or USB. Serial communication must be used. Knowing your serial port, configure SAMM same as Sur-Gard MLR2. Speed in D6 must be set to 1200bauds, parity to 8 bits, 1 stop bit.

WinSAMM
Serial connection: Using WSreceiver and knowing your serial port, select it and configure D6 as a Sur-Gard MLR2 receiver using same baud rates as set in D6, parity to 8 bits, 1 stop bit.

IP communication: using TCPtoCOM.exe application, establish a virtual serial port. In WSreceiver, identify this serial port and choose Sur-Gard MLR2 emulation. TCPto COM will automatically adapt to WSreceiver speed settings. Refer to discussion on TCPtoCOM lower in the present chapter.

Connecting to Third Part software

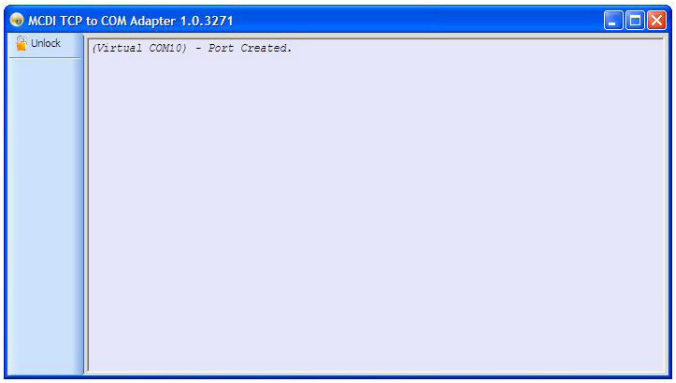
Third part Central station software
Using software other than SECURITHOR, install TCP2COM.exe provided on D6 CD. This component is derived from STreceiver and allows communication between D6 and Central station software by using a virtual serial port. TCP2COM handles communication with D6 and will render Sur-Gard emulation to the Central station software. Refer to discussion on TCPtoCOM lower in the present chapter.

Consult with your software vendor or read your user guide to learn how to open a serial port for TCP2COM feed to virtual serial port.

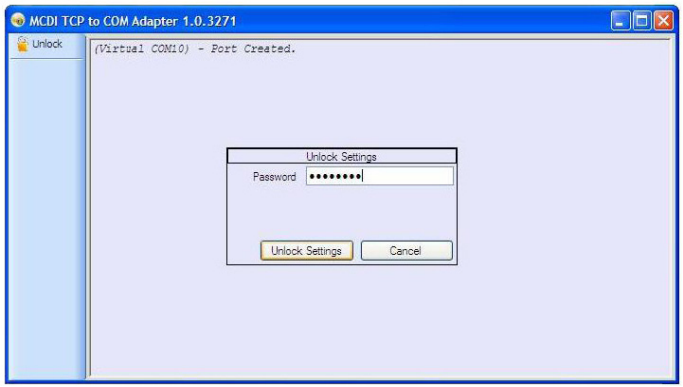
Handling connection to Third part software over SERIAL port is typically made the same way you would connect a traditional receiver using Sur-Gard emulation. Insure your communication speed is the same at both ends i.e. your automation software will accept the communication speed, parity and stop bit definition you selected in D6.

Using TCPtoCOM.exe

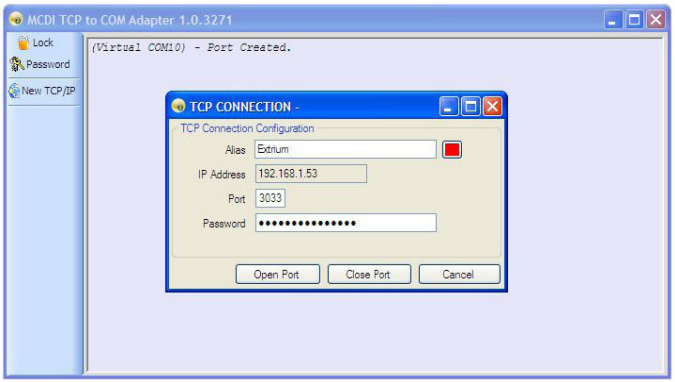
This tool will allow you to receive alarm signal from the D6 over TCP/IP and route them to WINSAMM through a serial communication port.



When the application runs and you are on the main menu, the application displays what serial com port to use with WSRECEIVER/WINCOMM and you need to unlock the settings to configure the tool.

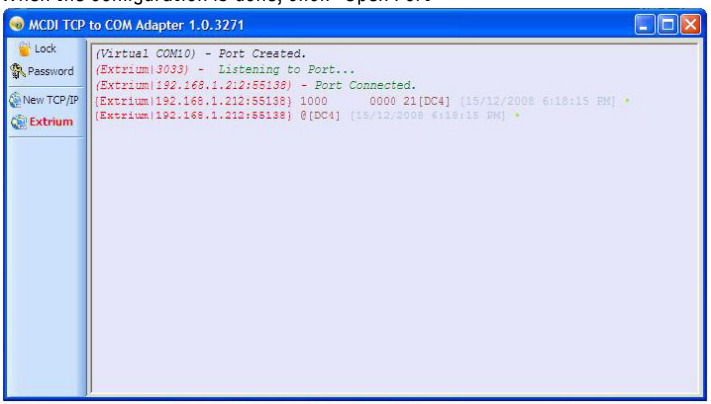


The password is: TCPTOCOM



After the settings are unlocked you need to configure the TCP settings for incoming events from the D6. Alias: any name you want to give the connection to easily identify it within the tool Port: the port the D6 will be connected to for example - 3030 Password: the password set on the D6 for TCP communications typically - 85jkmgjbdy12345

When the configuration is done, click "Open Port"



The application will only start receiving from the D6 when a connection has been made between WSRECEIVER/WINCOMM and TCPtoCOM over the com port.

Viewing alarm events

It's easy to view incoming events on LCD display but sometimes the flow of events will dictate that you do so from the event viewer.

If the option 'Keep last event on screen' is selected, D6 will always display the last incoming event on screen. When the flow of event is high, it may be more practical to view events from the events viewer of the logs menus.

To access the event viewer navigate to Event viewer button and use the up and down arrows to go up or down the events list.

When inactive for more than 10 seconds, the event viewer will disappear and D6 will return to main idle screen. Pressing once again on event viewer button will bring you back to last event consulted. This is behaviour is available only when the Display Time and Date feature is used. If the option 'Keep last event on screen' is selected, last even will always be displayed when returning to the event viewer. The same, if a new event is received, the event viewer will change display to the last incoming event. Given high traffic D6 can handle, it may be easier to view events from the logs or switching the display option

Alarm event – first page

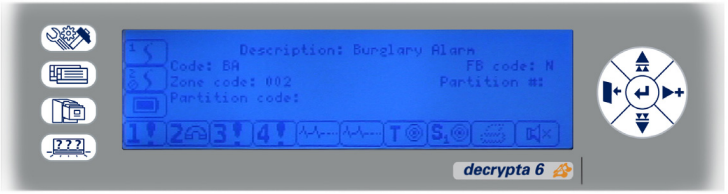
Incoming alarm events are displayed using their respective raw alarm format
Time - Date: Time and date of D6. D6 uses international notation DD:MM:YYYY
Rec#: receiver number as defined in configuration parameters
Account: typically 4 digits, sometimes 6. Account 0000 usually refers to internal error events.
Event: raw format event listing (account number removed in most cases)
CID: Caller ID –Bellcore type 2
Line: Assigned line number to physical line. See *2.Configuration and 3.Parameters* for more details.

Alarm event – second page

When displaying an event, pressing on right arrow will display a secondary menu for this event. D6 will break down Alarm events string. Contact ID and SIA events display more information namely:

Contact ID:
Matching description (based on internal table see *Addendum Contact ID alarm codes*)
Qualifier: typically E or R
Zone code
Code
Group:

SIA:
Matching description (based on internal table see addendum SIA alarm codes)
Zone code
Partition code
Code



Logs viewer - print

Sometimes if may be easier to view events using the Logs viewer. Logs viewer allows to navigate through archives, to view events or to select a print list. Navigate to the logs archives by pressing the logs viewer. Select view if you do not wish to print right away.
Using up and down buttons and select from Year, Month, Day using the up and down arrow to move higher of lower in the hierarchy.

When high number of events are contained in a single day file, it may take a while to display on screen. Events are displayed from the oldest to the youngest in the same day. Events are stored in their raw format such as

Pulse and other formats
1012 1234 52 00:03:03-07/01/2009
FRLL___AAAA___CC_HH:MM:SS-DD/MM/YYYY

Contact ID
5012 181235E13201002 00:02:04-07/01/2009
FRLL_AAAAA5EACCCCCCCC_ HH:MM:SS-DD/MM/YYYY

SIA
S012[#1234|NBA003] 00:02:38-07/02/2009
FRLL[#AAAA|CCCCCC]_ 00:02:38-07/02/2009

F format identifier. 1 is general, 5 is Contact ID and S is SIA
R receiver number as assigned in parameters
L line number as assigned in parameters
A account number (hex or ascii depending on format)
C alarm code
H hour
M minute
S second
D day
M month
Y year

To select a specific alarm event, navigate the list with up and down buttons. To view second page details of a specific event, bring highlight box on this event and select the CR button to view first page. Once first page is displayed, press right arrow to display second page details. Use the backspace button to go back to the events list and eventually to the top menu of the event viewer.

To print, press the event viewer button and select the print option. Navigate through year, month, and day to view the event list. Select an event and print.

Printing incoming events

To print all incoming events, select the printer Printing is achieved by using the special sub to parallel converter supplied with D6.

To select printing navigate to:

Configuration button>Output>Ports selection>Printer.
Once highlight is focused on Printer, Enable printer port by selecting with center button.

WARNING: D5/D6 can receive large number of events. Traffic may be high and a parallel printer may not cope with traffic. D5/D6 is not designed to handle exception errors from printers. The amount of paper needed may be high. Logging event electronically on a separate PC maybe a solution instead of printing. See setting up alternate IP destination to achieve a second log feed.

Print specific time period

To print a specific time period, select 'Print' from top Events viewer menu and bring highlight cursor to the time period then press the enter button to select it. D6 will present the dialog:
Do you want to print this files: 'name of the period'?
Yes No

Press Yes to accept or No to go back one menu up in the hierarchy.

WARNING: D6 will print Year, Month and days complete logs although it is not recommended to attempt to print Year and Month, as this would mean a considerable amount of event. D5/D6 resources may be tied by this printing and may run out of memory if the number of event is too high. MCDI suggests you transfer logs to a PC using the D6configurator tool and print from this PC instead.

11. References

Care and handling

Except for the lithium-ion battery, external battery and SD memory card, there are no parts requiring user service on a regular basis. Line cards and CPU should be changed or maintained only when necessary and on advice of MCDI or local dealer. All D5/D6 parts can be changed in the field by local dealer or directly by end user with the advise of MCDI support staff. Spare parts are shipped with all necessary connectors.

Clean D6 using soft and dry cloth. Special care should be taken when cleaning keypad. Keypad clear window can be damages if using a solvent or abrasive. Prefer soft cloth with eyeglass cleaning liquid if necessary. Test only a small part to the top right of the LCD area first. Using abrasive or solvent may fog LCD area beyond repair.

Never clean by applying a liquid or vapor directly to D6. If such liquid is necessary, it is preferable to apply cleaning product on soft cloth and then clean D6.

D6 metal chassis and chariot are mostly made of Anodized Aluminum. Some cleaning product may damage finish.

MCDI support will be able to assist your over phone, email or videoconference to change a component of D6.

Consult section *6.7 Maximizing uptime* for general discussion on Security best practices.

First step toward enhanced security is not connecting D6 to the Internet if you don't need to. If you need to connect your D6 to the Internet, it should be behind a router or other device providing VPN and Firewall services.

Establishing a VPN virtual private network between your router and remote site will tunnel all communications between D6 and remote site. Various types of VPN exist. Data flow from D6

does not demand a large bandwidth and enhanced encryption could be added without affecting flow of data.

For more information see: http://en.wikipedia.org/wiki/Firewall_(networking)

Firewall protection should be set at all time. Some ports could be opened only when needed if possible.

All ports could be closed except for the following:

22 Temporarily to allow MCDI access to D6 for troubleshooting (fixed)
62341 To allow communication over WAN with D6configurator (fixed)
62343 To allow communication over WAN with D6configurator (fixed)
3030 Default port for Main IP destination (can be changed)
3031 Default port for Destination 1 (can be changed)
3032 Default port for Destination 2 (can be changed)
3033 Default port for Destination 3 (can be changed)
3034 Default port for Destination 4 (can be changed)
3035 Default port for Destination 5 (can be changed)

For more information see: http://en.wikipedia.org/wiki/Firewall_(networking)

MCDI web sites

MCDI 's main web site contains a lot of information and FAQ on alarm receiving and MCDI products. See http://mcdi.com

EXTRIUM.COM web site will be developed during 2009. Information specific to D6 and the Extrium family will be available and constantly updated.

MCDI can access D6 over IP to make updates. MCDI can also access D6 to troubleshoot unit. Access to port 22 and a stable Internet connection is needed. Latency time under 3 seconds is needed.

Other mean of updating D6 is by way of D6configurator. Refer to section *2. Configuration*

Limited warranty

All equipment manufactured under RoHS compliance carry a limited 2 years warranty starting from date of purchase. Batteries such as internal lithium-ion battery of D5 or D6 receivers are specifically excluded from MCDI's general warranty and carry a warranty of fitness for 90 days from date of purchase.

During those periods, electronic products shall be free of defects in materials and workmanship when under normal use. 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. 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 pr. its 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.

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.

Batteries such as D5 and D6 internal lithium-ion battery are specifically excluded from MCDI's general warranty and carry a 90 days limited warranty from date of purchase. Heating or using lithium-ion battery when internal temperature of D5 or D6 reaches 41 degree Celsius or above will void Battery warranty.

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. The warranty extension is currently offered for D5 and D6 at cost of 795$USD per year

Power surges coverage: add 175$ per year per line card to warranty extension or during original warranty. Partial coverage is not available. All lines must be covered.

Advanced replacement for line cards: 100$ flat fee to end used+ shipping (requires deposit by credit card of replacement value) .

Advanced replacement for CPU and line card 2: 200$ flat fee to end used+ shipping (requires deposit by credit card of replacement value) .

Advanced replacement of complete D5/D6: 400$ flat fee to end-user + shipping (requires deposit by credit card for replacement value) .

All price stated as of January 1st 2009. Price may change without prior warning, Please contact MCDI staff to inquire about current prices.

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

Obtaining a RMA number (return of merchandise authorization): contact our support group at support@mcdi.com or call 514-481-1067. D6 box is engineered to protect D6 and minimize damages during airfreight shipping. You should keep this box in order to protect D6 if shipping back to MCDI is needed. This box volumetric weight was studied to be a perfect balance between need to cushion and need to lower the shipping costs.

Replacement parts – back-up parts

Replacement parts are available from MCDI during D5/D6 commercial life span and thereafter until MCDI runs out of stock.

Stand-by back-up parts can also be purchased from MCDI. Given the turnaround time and shipping time, having a stand-by back up of key components can speed-up repair process. All components are tested upon shipping and include all necessary cables.

Components available for D5/D6:

Main Extrium CPU (rev 1.5 current – specify D6CPU)
E3 Line cards (positions 1 and 3 interchangeable, position 2 sold assembled with CPU)
Power supply
Front LCD display
Front keypad
Internal lithium-ion battery pack (not recommended to stock for more than one year)
Front acrylic covers/chariot handles
All cables
Rack mount screws
Programming updates
Metal chassis and chariot (only current production model kept)

D6 could not have been done without the help of many people. MCDI wishes to acknowledge the help and many work hours contributed (in the order they joined the project) by:

Roman Ogourstov B. Eng. - Programming,
Stanislav *Pasha* Soukhanov B. Eng - Programming,
Christian Grenier B. Eng. - Hardware Design,
Cobel Lu B. Eng - Hardware Design support,
Jean-Christian Roy d.i. - Industrial Design,
François-Pascal Bello Eng. - Head Hardware Design,
Alexandre Forget B. Eng - Programming,
Jacques Arseneault - Head Testing, Support, Manufacturing,
Edouard Kourbanov B. Eng - Programming,
Adrien Cottenceau M. Eng. - Head Programmer,
Sophie Rial M. Eng. - Programming,
Danny Leblanc - 3D drawings,
Gustavo Garcia- Translation, Support and sales,
Yves Methot Eng.-Sales.

Many thanks to Jacques Poire and François Larose Eng. from CSTM for invaluable advices on metal cutting, bending and finishing.

Eric Methot c.i.r.c- Design and manufacturing

Legal compliance and Warning (USA)

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 measures 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 presses 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. The manufacturer or its representatives must make repair or exchange.

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 – **DECRYPTA 6** 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 January 1997

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 **DECRYPTA 6** receiver are:

From External Battery (standby) 12V 25W

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 14V 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.

Addendum

Glossary
Alarm codes lists
Service log sheet
Index

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 DECRYPTA^3 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 DECRYPTA[3] when in MCDI Catapult mode.
Close	For the alarm industry, the act of arming a system
CID	Caller ID. This acronym is also used for Contact ID, an Ademco format. DECRYPTA[3] 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. Widely used.
CR	Carriage return
DECRYPTA[3]	DECRYPTA[3] alarm receiver.
DECRYPTA 5	DECRYPTA 5 rack mounted alarm receiver. Similar to DECRYPTA 6 without 2-way to IP audio features. Does not contain audio expansion board.
DECRYPTA 6	DECRYPTA 6 rack mounted alarm receiver. Similar to DECRYPTA 5 with added 2-way to IP audio features. Contains audio expansion board.
DECRYPTA 7	DECRYPTA 7 rack mounted alarm receiver. Similar to DECRYPTA 5 and 6 with added reporting features.
DB9	9 pins Connector used for serial communication. Located at the back of DECRYPTA[3].

DB25	25 pins connector used for parallel communication to printer. Located at the back of DECRYPTA^3.
Dead line detection	DECRYPTA 5 and 6 probe phone lines at 4 seconds interval. If dial tone is not detected, DECRYPTA 5 or 6 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 DECRYPTA^3. 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 DECRYPTA^3 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 DECRYPTA^3 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^3	Exprecium^3 mode. Advanced programming for Exprecium third generation receivers. Common to MCDI Exprecium^3 PCI cards, EXSAr Decrypta ^{3}R. Derived line card used in MCDI DECRYPTA 5 AND 6. 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 pre-set time.
FTO	Fail to open. Event created when a system remains armed at pre-set 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 and DECRYPTA^3 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	Global System for Mobile communications. 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 emitted by the alarm panel in order to match the format of the alarm panel. DECRYPTA[3] emits several handshake tones in order to mate with the panel. Handshake sequence In DECRYPTA[6], the ability to specify an order of appearance in order to speed the matching process between the panel and the alarm receiver.
Hearbeat	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	Milliampere Unit of current that is 1/1000 of an Ampere. Measure of current needed to power DECRYPTA^3
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 DECRYPTA^3, Expreciu^2, Expreciu$^{3.}$, EXSA and DECRYPTA 6. 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 DECRYPTA^3. 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 DECRYPTA^3, 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 DECRYPTA^3 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 Supply	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
RACK	(RACK MOUNT). 19 inches wide standard frame to lodge devices such as MCDI's DECRYPTA 5 AND 6. Unit of height is 1U corresponding to 1.75 inches. Typically 2 screws per side per 1U are available to fix device permanently in rack frame. Rack frame sometimes referred as H frame.

Receiver	Alarm receiver such a DECRYPTA 6 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 DECRYPTA^3 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 DECRYPTA^3, 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 DECRYPTA^3, 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 specific frequency tuning on MCDI equipment.
RS-232	DB9 connector. Interface between a computer input output port and a peripheral such as DECRYPTA^3.
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 DECRYPTA[3] 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 DECRYPTA[3]
USB client	Typically a peripheral device such as DECRYPTA[3] 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 DECRYPTA[3]

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.
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.

Support options

Support contracts are available beyond the original two years limited warranty by increments of 6 and 12 months. Support is available during MCDI Business. A 24 hours support contract is also available during or after the original one year warranty.

Data salvation and migration are only done under a one year support contract when possible.

Warranty extension for hardware: The warranty extension is currently offered for D5 and D6 at cost of 795$USD per year (January 1st 2009).

Power surges coverage: add 175$ per year per line card to warranty extension or during original warranty (January 1st 2009). Partial coverage is not available. All lines must be covered.

Advanced replacement for line cards: 100$ flat fee to end used+ shipping (requires deposit by credit card of replacement value) .

Advanced replacement for CPU and line card 2 : 200$ flat fee to end used+ shipping (requires deposit by credit card of replacement value) .

Advanced replacement of complete D5/D6: 400$ flat fee to end-user + shipping (requires deposit by credit card of replacement value) .

All price stated as of January 1st 2009. Price may change without prior warning. Please contact MCDI staff to inquire about current prices. MCDI may change support options and may discontinue support options without prior warning.

Contact MCDI support staff to discuss the best support option for your Central station at support@mcdi.com +514-481-1067

The following alarm codes definitions are displayed by D6 when a matching Contact ID alarm code is received. To view alarm code definition, press the right arrow key when alarm event is displayed.

E100 Medical
E101 Pendant Transmitter
E102 Fail to Report in
E110 Fire Alarm
E111 Smoke
E112 Combustion
E113 Water Flow
E114 Heat
E115 Pull Station
E116 Duct
E117 Flame
E118 Near Alarm
E120 Panic Alarm
E121 Duress
E122 Silent
E123 Audible
E130 Burglary
E131 Perimeter
E132 Interior
E133 24 Hour
E134 Entry / Exit
E135 Day / Night
E136 Outdoor
E137 Tamper
E138 Near Alarm
E140 General Alarm
E141 Polling Loop Open
E142 Polling Loop Short
E143 Expansion Module Failure
E144 Sensor Tamper
E145 Expansion Module Tamper
E150 24 Hour Non-Burglary
E151 Gas Detected
E152 Refrigeration
E153 Loss of Heat
E154 Water Leakage
E155 Foil Break
E156 Day Trouble
E157 Low Bottled Gas Level
E158 High Temperature
E159 Low Temperature
E161 Air Flow Loss
E200 Fire Supervisory
E201 Low Water Pressure
E202 Low CO2
E203 Gate Valve Sensor
E204 Low Water Level
E205 Pump Activated
E206 Pump Failure
E300 System Trouble
E301 AC Loss
E302 Low System Battery
E303 RAM Checksum Bad
E304 ROM Checksum Bad
E305 System Reset
E306 Panel Program Changed
E307 Self-test Failure
E308 System Shutdown
E309 Battery Test Failure
E310 Ground Fault
E320 Sounder Relay Trouble
E321 Trouble Bell 1
E322 Trouble Bell 2
E323 Trouble Alarm Relay
E324 Trouble relay
E325 Reversing relay
E330 System Peripheral
E331 Polling Loop Open
E332 Polling Loop Short
E333 Expansion Module Failure

E334 Repeater Failure
E335 Local Printer Paper out
E336 Local printer Failure
E350 Communication Trouble
E351 Telco Fault 1
E352 Telco Fault 2
E353 Long Range Radio TransmFault
E354 Fail to Communicate
E355 Loss of Radio Supervision
E356 Loss Central Polling
E370 Protection Loop
E371 Protection Loop Open
E372 Protection Loop Short
E373 Fire Trouble
E380 Sensor Trouble
E380 Sensor Trouble
E381 Loss of Super RF
E382 Loss of Super RPM
E383 Sensor Tamper
E384 RF Transmitter Low Battery
E400 OPENING / CLOSING
E401 OPENING
R401 CLOSING
E402 OPENING - GROUP -
R402 CLOSING - GROUP -
E403 OPENING - Automatic
R403 CLOSING - Automatic
E404 OPENING - Late
R404 CLOSING - Late
E405 Deferred O/C
E406 OPENING - Cancel
E407 OPENING - Remote
R407 CLOSING - Remote
E408 Quick Arm
E409 Keyswitch O/C
E411 Callback Request made
E412 Download Good
E413 Download No Good
E414 System Shutdown
E415 Dialer Shutdown
E421 Access Denied
E422 Access report by User
E520 Sounder/Relay Disable
E521 Bell 1 Disable
E522 Bell 2 Disable
E523 Alarm Relay Disable
E524 Trouble Relay Disable
E525 Reversing Relay Disable
E551 Dialer Disabled
E552 Radio Xmtr Disabled
E570 Zone Bypass
E571 Fire Bypass
E572 24 Hr Zone Bypass
E573 Burglary Bypass
E574 Group Bypass
E601 Manual Trigger test
E602 Periodic Test Report
E603 Periodic RF Transmit
E604 Fire Test
E605 Status to Follow
E606 Listen-in to Follow
E607 Walk test Mode
E621 Event Log Reset
E622 Event log 50% Full
E623 Event Log 90% Full
E624 Event Log Overflow
E625 Time/Date Reset
E626 Time/Date Inaccurate
E627 Program Mode Entry
E628 Program Mode Exit
E631 Exception Schedule Change

The following alarm codes definitions are displayed by D6 when a matching SIA alarm code is received. To view alarm code definition, press the right arrow key when alarm event is displayed.

AR0..AR9999 AC Restoral
AT0..AT9999 AC Trouble
BA0..BA9999 Burglary Alarm
BB0..BB9999 Burglary Bypass
BC0..BC9999 Burglary Cancel
BH0..BH9999 Burglary Alarm Restore
BJ0..BJ9999 Burglary Trouble Restore
BR0..BR9999 Burglary Restoral
BS0..BS9999 Burglary Supervisory
BT0..BT9999 Burglary Trouble
BU0..BU9999 Burglary Unbypass
BX0..BX9999 Burglary Test
CA0..CA9999 Automatic Closing
CE0..CE9999 Closing Extend
CF0..CF9999 Forced Closing
CG0..CG9999 Close Area
CI0..CI9999 Fail to Close
CJ0..CJ9999 Late to Close
CK0..CK9999 Early Close
CL0..CL9999 Closing Report
CP0..CP9999 Automatic Closing
CT0..CT9999 Late to Open
CW0..CW9999 Was Force Armed
CZ0..CZ9999 Point Closing
DC0..DC9999 Access Closed
DD0..DD9999 Access Denied
DF0..DF9999 Door Forced
DG0..DG9999 Access Granted
DK0..DK9999 Access Lockout
DO0..DO999 Access Open
DR0..DR9999 Door Restoral
DS0..DS9999 Door Station
DT0..DT9999 Access Trouble
DU0..DU9999 Dealer ID
ER0..ER9999 Expansion Restoral
ET0..ET9999 Expansion Trouble
FA0..FA9999 Fire Alarm
FB0..FB9999 Fire Bypass
FH0..FH9999 Fire Alarm Restore
FI0..FI9999 Fire Test Begin
FJ0..FJ9999 Fire Trouble Restore
FK0..FK9999 Fire Test End
FR0..FR9999 Fire Restoral
FS0..FS9999 Fire Supervisory
FT0..FT9999 Fire Trouble
FU0..FU9999 Fire Unbypass
FX0..FX9999 Fire Test
FY0..FY9999 Missing Fire Trouble
GA0..GA9999 Gas Alarm
GB0..GB9999 Gas Bypass
GH0..GH9999 Gas Alarm Restore
GJ0..GJ9999 Gas Trouble Restore
GR0..GR9999 Gas Restoral
GS0..GS9999 Gas Supervisory
GT0..GT9999 Gas Trouble
GU0..GU9999 Gas Unbypass
GX0..GX9999 Gas Test
HA0..HA9999 Holdup Alarm
HB0..HB9999 Holdup Bypass
HH0..HH9999 Holdup Alarm Restore
HJ0..HJ9999 Holdup Trouble Restore
HR0..HR9999 Holdup Restoral
HS0..HS9999 Holdup Supervisory
HT0..HT9999 Holdup Trouble
HU0..HU9999 Holdup Unbypass
JA0..JA9999 User Code Tamper
JD0..JD9999 Date Changed
JH0..JH9999 Holiday Changed

JL0..JL9999 Log Treshold
JO0..JO9999 Log Overflow
JR0..JR9999 Schedule Executed
JS0..JS9999 Schedule Changed
JT0..JT9999 Time Changed
JV0..JV9999 User Code Changed
JX0..JX9999 User Code Deleted
KA0..KA9999 Heat Alarm
KB0..KB9999 Heat Bypass
KH0..KH9999 Heat Alarm Restore
KJ0..KJ9999 Heat Trouble restore
KR0..KR9999 Heat Restoral
KS0..KS9999 Heat Supervisory
KT0..KT9999 Heat Trouble
KU0..KU9999 Heat Unbypass
LB0..LB9999 Local Program Begin
LD0..LD9999 PROGRAM -Access Code Incorrect
LE0..LE9999 Listen-in Ended
LF0..LF9999 Listen-in Begin
LR0..LR9999 Phone Line Restoral
LS0..LS9999 Local program Success
LT0..LT9999 Phone Line Trouble
LU0..LU9999 Local Program Fail
LX0..LX9999 Local Programming Ended
MA0..MA9999 Medical Alarm
MB0..MB9999 Medical Bypass
MH0..MH9999 Medical Alarm Restore
MJ0..MJ9999 Medical Trouble Restore
MR0..MR9999 Medical Restore
MS0..MS9999 Medical Supervisory
MT0..MT9999 Medical Trouble
MU0..MU9999 Medical Unbypass
NF0..NF9999 Forced Perimeter Arm
NL0..NL9999 Perimeter Armed
OA0..OA9999 Automatic Opening
OC0..OC9999 Cancel Report
OG0..OG9999 Open Area
OI0..OI9999 Fail to Open
OJ0..OJ9999 Late Open
OK0..OK9999 Early Open
OP0..OP9999 Opening Report
OR0..OR9999 Disarm from Alarm
OT0..OT9999 Late to Close
OZ0..0Z9999 Point Opening
PA0..PA9999 Panic Alarm
PB0..PB9999 Panic Bypass
PH0..PH9999 Panic Alarm Restore
PJ0..PJ9999 Panic Trouble Restore
PR0..PR9999 Panic Restoral
PS0..PS9999 Panic Supervisory
PT0..PT9999 Panic Trouble
PU0..PU9999 Panic Unbypass
QA0..QA9999 Emergency Alarm
QB0..QB9999 Emergency Bypass
QH0..QH9999 Emergency Alarm Restore
QJ0..QJ9999 Emergency Trouble Restore
QR0..QR9999 Emergency Restoral
QS0..QS9999 Emergency Supervisory
QT0..QT9999 Emergency Trouble
QU0..QU9999 Emergency Unbypass
RA0..RA9999 Remote Programmer Call Failed
RB0..RB9999 Remote Program Begin
RC0..RC9999 Relay Close
RD0..RD9999 Remote Program Denied
RN0..RN9999 Remote Reset
RO0..RO999 Relay Open
RP0..RP9999 Automatic Test
RR0..RR9999 Power Up
RS0..RS9999 Remote Program Success
RT0..RT9999 Data Lost
RU0..RU9999 Remote program Fail
RX0..RX9999 Manual Test
SA0..SA9999 Sprinkler Alarm
SB0..SB9999 Sprinkler Bypass
SH0..SH9999 Sprinkler Alarm Restore
SJ0..SJ9999 Sprinkler Trouble Restore

SR0..SR9999 Sprinler Restoral
SS0..SS9999 Sprinkler Supervisory
ST0..ST9999 Sprinkler Trouble
SU0..SU9999 Sprinlker Unbypass
TA0..TA9999 Tamper Alarm
TB0..TB9999 Tamper Bypass
TE0..TE9999 Test End
TR0..TR9999 Tamper Restoral
TS0..TS9999 Test Start
TU0..TU9999 Tamper Unbypass
TX0..TX9999 Test Report
UA0..UA9999 Untyped Zone Alarm
UB0..UB9999 Untyped Zone Bypass
UH0..UH9999 Untyped Alarm Restore
UJ0..UJ9999 Untyped Trouble Restore
UR0..UR9999 Untyped Zone Restoral
US0..US9999 Untyped Zone Supervisory
UT0..UT9999 Untyped Zone Trouble
UU0..UU9999 Untyped Zone Bypass
UX0..UX9999 Undefined
UY0..UY9999 Untyped Missing trouble
UZ0..UZ9999 Untyped Missing Alarm
VI0..VI9999 Printer Paper In
VO0..VO9999 Printer Paper Out
VR0..VR9999 Printer Restore
VT0..VT9999 Printer Trouble
VX0..VX9999 Printer Test
VY0..VY9999 Printer Online
VZ0..VZ9999 Printer Offline
WA0..WA9999 Water Alarm
WB0..WB9999 Water Bypass
WH0..WH9999 Water Alarm Restore
WJ0..WJ9999 Water Trouble Restore
WR0..WR9999 Water Restoral
WS0..WS9999 Water Supervisory
WT0..WT9999 Water Trouble
WU0..WU9999 Water Unbypass
XE0..XE9999 Extra Point
XF0..XF9999 Extra RF Point
XI0..XI9999 Sensor Reset
XR0..XR9999 Transmitter Battery Restoral
XT0..XT9999 Transmitter Battery Trouble
XW0..XW9999 Forced Point
YB0..YB9999 Busy Seconds
YC0..YC9999 Communications Fail
YD0..YD9999 Receiver Line Card Trouble
YE0..YE9999 Receiver Line Card Restored
YF0..YF9999 Parameter Checksum Fail
YG0..YG9999 Parameter Changed
YK0..YK9999 Communications Restoral
YM0..YM9999 System Battery Missing
YN0..YN9999 Invalid Report
YO0..YO9999 Unknown Message
YP0..YP9999 Power Supply Trouble
YQ0..YQ9999 Power Supply Restored
YR0..YR9999 System Battery Restoral
YS0..YS9999 Communications Trouble
YT0..YT9999 System Battery Trouble
YW0..YW9999 Watchdog Reset
YX0..YX9999 Service Required
YY0..YY9999 Status Report
ZA0..ZA9999 Freeze Alarm
ZB0..ZB9999 Freeze Bypass
ZH0..ZH9999 Freeze Alarm Restore
ZJ0..ZJ9999 Freeze Trouble Restore
ZR0..ZR9999 Freeze Restoral
ZS0..ZS9999 Freeze Supervisory
ZT0..ZT9999 Freeze Trouble
ZU0..ZU9999 Freeze Unbypas

Account: 00000 Format: 4x2

Code	Description
60	Main IP down
61	IP 1 down
62	IP 2 down
63	IP 3 down
64	IP 4 down
65	Main IP UP
66	IP 1 UP
67	IP 2 UP
68	IP 3 UP
69	IP 4 UP
6A	USB port down
6B	USB port UP
6C	Serial link DOWN
6D	Serial link UP
6E	Internal battery charge lower than 50%
6F	Internal battery charge lower than 25%
70	Main power absent
71	External battery absent
72	Line card 1 dead
73	Line card 2 dead
74	Line card 3 dead
75	Line card 1 OK
76	Line card 2 OK
77	Line card 3 OK
78	Line 1 dead
79	Line 1 OK
7A	Line 2 dead
7B	Line 2 OK
7C	Line 3 dead
7D	Line 3 OK
7E	Line 4 dead
7F	Line 4 OK
80	Line 5 dead

81	Line 5 OK
82	Line 6 dead
83	Line 6 OK
84	SD memory absent
85	SD memory OK
86	SD memory 90% filled
87	SD memory space available
88	Extrium CPU reboot
89	Internal temperature superior to 40° Celsius
8A	Internal temperature superior to 60° Celsius
8B	Internal temperature OK
8C	Printer error
8D	Printer OK

SERIAL NUMBER: _____ D6name_____ SERVICE LOG PAGE__/__
MAC address: ___:___:___:___:___:___ CPU firmware version_____ Line cards firmware version: _____

PURCHASED FROM: _____ INSTALLED BY:_____

INSTALL DATE:_____/_____/2_____ MCDI staff on duty _____

UPDATES TO FIRMWARE: VERSION _____ DATE: :_____h_____ _____/_____/2_____
INSTALLED BY:_____ MCDI STAFF:_____
NOTES: _____
_____
_____

UPDATES TO FIRMWARE: VERSION _____ DATE: :_____h_____ _____/_____/2_____
INSTALLED BY:_____ MCDI STAFF:_____
NOTES: _____
_____
_____

UPDATES TO FIRMWARE: VERSION _____ DATE: :_____h_____ _____/_____/2_____
INSTALLED BY:_____ MCDI STAFF:_____
NOTES: _____
_____
_____

SD MEMORY CARD CHANGE BY: _____ DATE: :_____h_____ _____/_____/2_____
SD MEMORY CARD CHANGE BY: _____ DATE: :_____h_____ _____/_____/2_____
SD MEMORY CARD CHANGE BY: _____ DATE: :_____h_____ _____/_____/2_____

INTERNAL BATTERY VERIFIED BY:_____ DATE: :_____h_____ _____/_____/2_____ _____V
INTERNAL BATTERY VERIFIED BY:_____ DATE: :_____h_____ _____/_____/2_____ _____V
INTERNAL BATTERY VERIFIED BY:_____ DATE: :_____h_____ _____/_____/2_____ _____V

RoHS status change or contamination:_____ DATE: :_____h_____ _____/_____/2____ BY_____