CR39X HH Booklet

Revision 026

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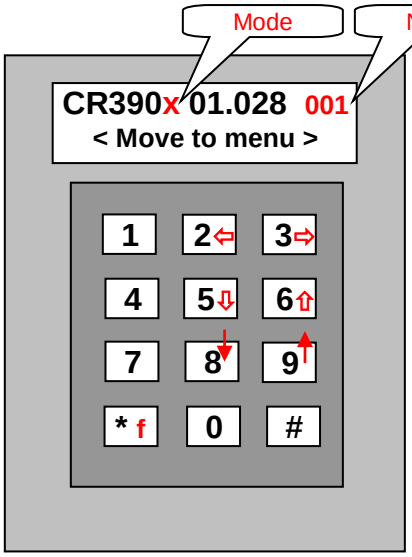
1 GENERAL INFORMATION



The CR374 or CR375 hand held terminal provides the means to program the CR39X Controllers as stand-alone units and to check of temporary change set-up. Note that in LAN installations, the PC set-up overwrites the set-up done by the programmer. Editing / adding cards for random databases could cause unknown results (when database locations differ in PC and in controller). The controller should be reset from the PC when cards have been entered via the CR374/5.

The CR374/5 is plugged it into the HH connector on the controller for serial communication and power, connections are given above. Pressing the CLEAR button enables the programmer; the display should appear as shown below.
A link (see controller documentation) on the controller must be in for the programmer to work. The address link E3 of the CR374 must be removed. The FrontP enable for the interface 0 need not be set to 1.

Certain functions listed below may not be available to the controller or to other setting for the controller.

Mode displays the set mode: o=CR351; f=CR355; c=cash loader; k=key vend, v=vender; a=CR355A

key is Enter. * key is Clear or a **function** key, and when kept in, the arrow keys **2**⇦, **3**⇨, **5**⇩ and **6**⇧ move the cursor as indicated. ↓ and ↑ allow the character to scroll 0 to 9, A to F to 0 in certain menus.
In most menus, # key is same a down key.

Keeping down a key, the selection runs, i.e. as if multiple selections are being made.

2 FUNCTION KEYS

The left and right arrow keys moves to the required menu.

C390 x 00.28 001 < Move to Menu >	Data Base Search	Data Base edit
	Card enter reader 1	Card enter reader 2
	Cards batch load	Rest APB
	Set-up	Versions

Selecting the down key moves in to the menu. The arrow keys move the cursor to the data to be edited or to the next/previous page of the option. The clear key moves the display to the top menu.

3 MENU'S

3.1 Data Base Search

Data base search
CardNum 00000008

Search for an individual card. It sets the database pointer to a selected card.
The required card number is entered, followed the CLEAR or ENTER key. The CR374 returns to the main menu. When selecting "Data base edit" card entered will be displayed. Note that when a card is presented at either reader, the pointer is set to that card (unless in the dB edit mode).

3.2 **Data Base Edit**

Xref	e12	Tg	CP
00001	11	01	00

Xref	e12	T1T2	CP
00001	11	0101	00

Change the status of an individual card.
Xref = card number
e1 = reader one (1 = card valid for reader (enabled), 0 = card not valid)
e2 = reader two (1 = card valid for reader, 0 = card not valid)
Time = **time group** (1-15 or 1-60 for CR355A),
T1 for reader and T2 for reader 2 (T1 is also used for reader 2 if set own TG option is not set).
C = **capture** card (1 = capture, 0 = do not capture)
P = **passback** (1 = ignore any programmed anti-passback)

The up arrow moves to the previous card. The down arrow moves to the next card.
CLEAR key exits to main menu, having stored the new settings.

The following displays are available for certain database selections.

CardNo	PIN Code
12345678	1234

Databases with PIN code, dB6 or 10.

When controller type is set to vending and the node address is zero, the stand-alone vending database edit is as follows:

Fr	Re	RRcc
12	34	56788

Fr: Daily free vends (99 is unlimited).
Re: Free vend remaining for the day.
RRcc Value remain (currently not used).

*** Vending mode, and Node is 0**

3.3 **Card Enter Reader 1/2**

Card enter rd 1
Enter card rd 1

Displays the number of the cards as they are presented to the selected reader.

Note: The Controller must be set for the correct card format, client-code and site-code for this function to work. If any of these are wrong then card 65535 is displayed. The card is automatically enabled for both readers and set with time group 1, not capture, not pass-back.

3.4 **Cards Batch Load**

R1e	R2e	Time	Cap	Pas
1	1	01	1	1

Change the status of a batch of cards, e.g. enable cards 1 to 500 for both readers.
The initial display would be:-
Reader 1 and 2 enabled with 1, disabled with 0.
Time group 1 to 15 or 1 to 60 for CR355A. Capture and pass-back enabled with 1, disabled with 0.

Use the arrow keys to move to the second, third display

Free	Remain	Value
00	00	00000

If Free is 99, remain does not decrement. * **Vending mode, and Node is 0**

Batch load	R
00001 to 00500	2

Press the ENTER key to store the new settings.
For Random database (dB10) R sets the card number:
0=Clear, 1=copy xref to number, 2=no change
Note, depending on the number of cards loading, this may take up to 10 seconds to complete.

3.5 **Nr Cards Enabled**

Displays the number of cards enabled for reader 1, reader 2 , for both reader 1 and 2 and for either reader.
Menu down or up displays the number of cards set for each time group.
Note, depending on the number of cards set, each display may take up to 10 seconds to calculate.

3.6 **Reset**

ALL.	Resets all the following. This is the same as doing a reset by linking the reset pins of the uP PCB. See controller for reset pins / reset sequence.
APB.	Clear anti-passback, giving each card one free movement. This is useful where a reader may have been down for a time and people have entered or exited without presenting their cards. Enables the card for both readers if it is enabled for either.
BRAM.	Defaults all the Setup stored in Battery RAM as described below.
Card dB.	Defaults the card database.
ERAM.	Defaults all the Setup stored in EERAM as described below.
Keys.	Clears the SW keys.
Vends Reset.	Forces reload of vends remain with the free vends set per card (if vending enabled).

When power-up with reset link in, a serial port defaults to test, 19k2 baud (see controller for default port). This test port setting remains even if a reset is done.
The test port can be changed with the HH or by reset after power-up without the reset link in.
Note reset may take up to 10 seconds to complete.
It is suggested that in TCP connected controllers, the Ethernet cable be removed before the factory reset is done and only replaced when the correct IP setting have been entered. This eliminates possible problems with certain smart routers that block the port when detecting the default IP address 192.168.100.001.

3.7 **Display Card HEX**

Reader 1 Reader 2	30.F780000000000 36.8F0DE

The cards presented to the readers are displayed in HEX code. The numbers of bits read are displayed. This option is used for debugging purposes.

3.8 **Nodes / Event Simulate**

Nodes/Event Simu sss-eee SimNodes	Nodes/Event Simu rrr Event I1 L/H

For testing, a slave LAN controller can serve as multiple nodes – the range of nodes sss-eee simulate the event - Input 1 low, input high, repeated rrr, sent every time enter (# key) is selected.
See library manual for details.

3.9 **Simulate reader**

Start End Ssssss : Eeeeee	Repeat *250msec Rrrr : xx

A Wiegand reader is simulated – generating card number on Hi/Lo data lines.
Cards in data from Start to End are simulated on output ports set to Reader-Hi and Reader-Lo.
Settings of 0 does from 1st to last card in the database.
The loop is repeated Rrrr times (0=continuous). Delay between card simulation is set multiple of 250msec.
See library manual for details.

3.10 **Sub LAN Status**

LAN-status yyy xxxxxxxx n/y/p/o

*** Only when comms type is LAN Master**

Status of 8 slaves (starting at node yyy) Status:

0 Not configured. Node is ignored, never polled.
1. Yes configured for polling.
2 Polling. Master is polling, but not on-line.
3 Node is on-line.

Shift 6 (up)/ 5 (down), shows previous/next 8 nodes
Key 0 disables the node. The node is ignored, will not be polled.
Key 1 configures the slave and a poll is done if polling started (key 8 or 9).
Key 8 polls all configured continually.
Key 9 does poll continually, ignores on-line to PC.
Key 7 stops poll.
When exit menu (* key) – polling stops.

3.11 **Event Stats Log**

The controller keeps statistics on certain events – counting the number of time the events occur.
The counters are displayed by scrolling down or by #.
Selecting the 0 key clears the counters on display, 9 clears all the totals.

The counters are (see library manual for details):

Communication buffer. On-line, into buffer, out of buffer and cleared (not sent).
Reader events, counters for local controller and for all controllers on the LAN.
Card In (entered), Reversed, Framing and facility errors.
Pin duress, entered, Wrong PIN.
OutTime, OutArea, Not opened.

3.12 **Output Groups / Multi-output control**

Access control opens latch 1 and/or latch 2.
By allocating an output group to a card, enabled cards can control multiple outputs for each reader (if the card has Output Group=0, no multi-control is done.
Card Database must be type 10, enabled for OuputGroups.

Grp	Rd	Pt	Act	Tg
01	1	02	06	00

Up to 128 output group setting – sets what output (Pt=port) and how (Act=activity) controlled when card with Group (Grp) is granted access at Reader (Rd).

Grp Group 1 to 63 (a group is allocated to a card). If 0, setting is not used.
Rd Reader 1 or 2 of the controller. If 0, at either reader.
P2 Output port 1 to 80. If the output is not type Aux-Out, that type has overriding control.
Act Activity that the output is controlled (all functions not enabled in all versions):
0=No control.
1=Off
2=Pulse Uses latch time
3=Input. On till input with type OutGroup changes (function not enabled).
4=Latch. Follow latch. Control same as latch setting.
5=Door. Control until door opens (function not enabled).
6=Toggle. Change over output.
7=On.
Tg Timegroup when the control is done. If 0, control is always done.

The 128 setting can be viewed and edited with the HH. Settings can be received from the PC (is the PC program has this function).
When entering the Output Group menu, the functions are scrolled (up/down keys) and selected with #

Clear: The Clear criteria is edited (only Grp and Rd are used to find settings to be cleared).
All setting matching the Grp (or any group if 0) and the Rd (or all readers is 0) are cleared when Down or # is selected.

Search: The Search criteria is edited ((only Grp and Rd are used to find settings to be displayed).
All setting matching the Grp (or any group if 0) and the Rd (or all readers is 0) are displayed when Down (or #) or Up is selected. Down (or #) shows the next setting ordered by Group. Up displays the group in descending order from the back (from setting 128).
When no more matches are found, the 1st blank setting (Grp=0) is displayed – up or down resumes with the initial search criteria.
The data on display can be edited.

Edit: The settings 1 to 128 (with Down or #) or 128 to 1 (with Up) are displayed and can be edited.

Add: Finds the 1st blank setting (Grp=0). If none found, setting 1 is displayed.

Typically: Grp=1, Rd=1, Prt=3, Act=2
Grp=1, Rd=1, Prt=4, Act=6
will pulse output 3 and toggle 4 when card with Group 1 granted access at reader 1

3.13 **Versions**

Displays the Firmware (FW) or Software (SW) versions of the controller processor and the connected interfaces and the electronic ID of the controller and interfaces. Version is displayed as xxx.yyy where xxx is the product version (FW specific to the product) and yyy is the FW library version (FW common to all Softcon products).

3.14 **Nodes/Event Simulate**

Nodes/Event Simu xxx-yyy SimNodes	Nodes/Event Simu zzz Event I1 L/H	Nodes/Event Simu ccc-ddd Card-Del

Slave controller responds to own node and to nodes xxx to yyy (if not 0). Setting revert to 0 on power-up.

Zzz events of input 1 low (level 1 - closed) and high (level 2 – open) are simulated to the transaction stack. Cards in the first ddd database locations are disabled, then cards found in the first ccc locations are reported as entered (if enabled) or out-of-area.

These events are removed off the stack by the LAN master polling the matching address, or removed if 200 consecutive poll do not match the polling address.

3.15 **Vends simulate**

Vends Simulate # sim vend done	# Key simulate Key 000 R000-00

*** Only when controller is Vend**

Selecting the # key simulates commands from a vending machine – vend done or key selection.
The key and price simulated can be edit as required.

3.16 **Set-up**

Configures the CRC Controller. **The values displayed below are the default values** that are set when the SRAM is 'dropped', i.e. the link uE1, or reset via link uE9. The arrow keys are used to move the cursor position and the data is overwritten. The value options are listed below. An illegal value entered prevents the LCD moving to another display and must be corrected to a legal value.

< Set-up Comms >

001 Node address	*** Not set by PC**	**Stored in EEPROM**

The node address on the RS485 LAN. No two controllers may have the save address on a LAN.

1 4/5/C/k/aV/A/F	***Sw3**	**Stored in EEPROM**

COntrollers can function in modes that emulate other Softcon controllers. When set to type:
0, CR351/2/4 controllers are emulated (PC type CR351).
1 sets CR355 (PC type CR355), that have configurable inputs and outputs and additional features.
2 (PC type Cash) sets cash loader.
3 (PC type Vender) sets key/machine Vender
4 (PC type Access Vend) set Access vender.
5 sets CR355A (PC type CR355A).
6 sets Fuel controller.
Settings 2 to 4 and 6 require database mode 10.

0 CR390 / CR390V	**Stored in EEPROM**

Hardware configuration (different base PCBs)

1 Ser/IP/MOD/USB	**Stored in EEPROM**

Comms mode to top (interface to PC/ top LAN). LAN (RS485) or serial, TCP, Modem, USB (special version).

1 n/PcMast CommI	**Stored in EEPROM**

0=slave, 1=Direct to PC comms (interface to PC) or a LAN Master (Interface to slaves).

128.168.100.001a	***Only when PC mode is TCP/IP**	**Stored in EEPROM**

Net IP Address.

128-168-100-002m	***Only when PC mode is TCP/IP**	**Stored in EEPROM**

Net mask

128-168-100-002g	***Only when PC mode is TCP/IP**	**Stored in EEPROM**

Net gate. Only required when TCP connections via routers.

56789 TCP Port	***Only when PC mode is TCP/IP**	**Stored in EEPROM**

TCP port address, defaults to 56789.
Older versions were fixed at 00701.

0004A3-5D3B31mac	***Only when PC mode is TCP/IP**	**Stored in EEPROM**

If option is enable, the Net MAC. The Hex digits scroll 0-9, A-F with up/down or edit 0-9. Cursor on '-'scrolls up/down to next set-up option. 1st digits are reserved (allocated byte IEEE) – the first two digits can only be 00 or 02 (indicates MAC set locally) – if not, MAC will default on next power-up. The last 6 are the HW ID (PCB serial number) - e.g. 06110001 is Hex 5D3B31. On reset, MAC defaults to the HW ID and should ideally not be changed. When MAC is changed (e.g. by replacing a PCB), certain net switches and PCs may need to be reset (for PCs, running ARP –d from the command line, resets the PC MAC settings).

02ComA nSMTHCVPFR *** Not set by PC** **Stored in EEPROM**

The communication type for serial COM A to COM F (number of COM ports according to controller)

00 = None (Port not used). 01 = Slave LAN (controller is slave on LAN).
02 = Master LAN (controller master to LAN, i.e. a MUX).
03 = Test port (displays debugging, set-up). 04 = Hand programmer.
05 = Cash (note) reader. 06 = Vending machine.
07 = PC comms. 08 = Fuel comms.
09 = RFpolygon comms (requires 9k6, 8 bit). See document SCS_CR390_RFpolygon.manual.doc
10 = GSM modem 11 = ASCII basic
12 = Serial reader (1st=Rd1, 2nd Rd2) 13 = WiFi
14 = Salto reader/lock 15 = Front LAN slave
Type 0 functions as 04 is HH link installed, else as 01 (LAN slave) or 02 (LAN master)

Note that setting an unconnected test could cause errors. See reset for default of test port.

01 ComA 192/96/48/24 *** Not set by PC** **Stored in EEPROM**

The communication baud rate speed (bits per second) of the main serial port is set at:

0 = 19k2 1 = 9k6
2 = 4k8 3 = 2k4

When the RAM is 'dropped' (power off and battery link removed), the option defaults to 01.

00 ComA 9/8/7 *** Not set by PC** **Stored in EEPROM**

The communication character bits (bits per character).

00 ComA P n/e/o/1/0 *** Not set by PC** **Stored in EEPROM**

The communication parity bits: none, even, odd, 1 (high) or 0 (low).

02ComLED nSMTHCVPF *** Not set by PC** **Stored in EEPROM**

Select diagnostic LEDs to show TX and RX for a communication type set above. 0=no diagnostic.
Default is LAN slave.

001 LAN Slaves *** Only when comms type is LAN Master**

The number of slave controller on the LAN (largest node address), max 128

0000 FrontP 3210 ***Sw3 Only set by PC when type CR355**
Not when Front Slaves>0 **Stored in EEPROM**

As indicated in the installation options, front end RS484 interfaces connected to the reader ports, provide inputs, outputs and readers remotely. Reader 1 and its I/O are connected to the controller reader 1, or on an interface connected to reader 1.

Reader 1 can have interface 0 (no link on the interface address link) and interface 1 (link on the interface address link). Reader 2 can have interfaces 3 (link on the interface address link). Interface 2 to be included in future versions. To enable an interface, set a 1, e.g. interface 0 and 3, set 1001. Although the programmer is an interface 0, interface 0 need not be set for the programmer (the HH link uE8 acts as an enable for interface 0).

00 Front Slaves **HH Requires V1.20, requires Fronts with node address**

The number of slave controller on the Front LAN. When not zero, replaces FrontP setting above.
HH is node 1 (CR374 only requires address link installed). Expander nodes (CR374) follow non-expanders.
Fronts slaves ignore TTL expanders (only LAN expanders function).

0 Stack s/Dump/L

Transactions can be sent to PC. When off-line, the transactions are buffered.
Setting available are:

0 Save transactions to a backed-up (non-volatile) stack.
1 Dump. Transactions are not reported to the PC.
2 Save to local (volatile) stack (stack is lost if no power supply).

3

00000 nGSM ADSCT *** Only when a comms type is GSM**

1's enable the option: A=audio, D=data, S=SMS, C=Clip, T=Test (Com set to Test echo's with GSM)
e.g. 00011 enables Clip and Test
A, D and S to be included in future versions.

< Set-up Access >

10000 Cards *** Not set by PC** **Stored in EEPROM**

Maximum cards in the local database. See controller for maximum. When set lower, searches are faster.
When set to 0, controller determines largest number on power-up, corrected on additions.
If zero, edit down adds card to end, up on card 1 goes to end (does not add).

02 db 2C,10 ran

Data base mode. 02 = Running numbered cards.
10 = Random number cards. See controller for the number of cards.

0 dB Lock

1=first 10 cards in the local card database are never overwritten (edited with HH).

0 not/PIN used ***Sw3**

In data mode 10, PIN pads can be used. If used, the database size is 10 000 card, if not the size is 15 000 cards. Using PIN readers (e.g. prox combinations) requires that HH be removed and controller reset before the PIN readers function correctly.

0 One/each RD Tg ***Sw3**

Cards can use one time group or have different time groups per zone. When using different time groups per zone, the database is smaller for database 2, i.e. 32 000 (64 000 if one time group).

0 n/Output Group

Output group database.

0 n/RandomSearch

Random search database.

000-000% Random V0.33

Reader Random search %. If random search dB, cards % setting overrides reader. If reader 0%, random disabled. If 100% all searched. Random search also en- disabled on input.

2 Nr.Readers 0,1,2

Number of readers controlled by the CRC. Normally 2.
Set to 0 vending/cash, requires no card, card 1 is simulated. Note reader enabled if reader 1 input enabled.

0 Salto Readers

Number of Salto readers controlled by the CRC. Standard systems allow 1 or 2 readers, systems that have the universal controller type allow up to 4 readers.

02-02b Card type

Reader and card type format for reader 1, reader 2. Refer to the manual for a complete list.

00 = 40 bit Wiegand.
02 = 44,40,37,36,35(corporate 1000),34,32,30,26 bit Wiegand.
04 = 26 bit Wiegand, 32 bit corporate 1000, 34 bit Dutch.
06 = 32 bit Wiegand (Aritech).
08 = ***Softcon*** MAG (not ISO).
12 = MAG. ISO 7 characters.
14 = MAG. ISO 8 characters.
16 = MAG. ISO 1-12 characters
18 = Touch tags, random(must be db10).
20 = 32 bit BCD, 34 bit GSC cards (no facility, 32 bit card number).

0239 Client Code 000 Site Code

Four and three figure numbers. Together identify the cards as belonging to a particular site/installation. Ignored if client and site codes set to zero.

00-00 Nr Location

Location of card number data on the mag-stripe card. (start character = 01).

00-00 Facility location

Location of facility code data on the MAG-stripe card. (start character = 01).
For type 12 MAG-stripe cards:- Client-code = facility-code / 256 Site-code = remainder.
e.g.. If facility = 1122, Client = 1122 / 256 = 4, Site = 1122 - (4 x 256) = 98.

00-00 Alt Nr location

Location of card number data on the MAG-stripe card (start character = 01), if the facility number does not match.

00-00 Fc-Nr Digit

Number of facility and card number digits for Wiegand (db10). When Facility digits not zero, facility decoded as separate number and added to front of the card number.

00000 Card offset

Five digit number that adds an offset to the card number. e.g. If the lowest card number to be used in the system is 6,001 then by setting an offset of 06000 card 6,001 becomes card number 1.

0 RD parity check/not

0 = Check ISO MAG LRC, parity on Wiegand. 1 = Do not check LRC, parity.

0 RD-Clk Polarity

0 = Down pulse 1 = Up Pulse.

00 RD exact bits

Reader does not delay after the exact number bits have been read. 00 delays to read more bits.

00 FormErr R12 n/y

0 = Not report reader format errors. 1 = Report reader format errors.

1 Latch click en/dis

Causes DC door latches to click, giving the user an audible indication when the latch opens.
0 = Output relay pulses once per second. 1 = Do not pulse.

00 no/HI/P ena. R12

Reader disable option (1st digit = reader 1, 2nd digit = reader 2).
0 = Disable arming input for reader. 1 = Enable arming input for reader.
2 = Enable arming input for both reader and free exit button.
For CR351/5 Input 7, 8 - closed disables reader 1, 2. Other types input settable.

0 n/LO/LAN/Ena APB

Anti-pass back (APB) reset. CR351/4 APB reset input is Aux 2. Other types input is configured.
0 = Normal (hard-wired APB disabled). 1 = Input resets APB.
2 = If LAN comms off, card granted access if enabled for either reader.
3 = Input enables all cards for both readers. When a card enters at either reader, card disabled for both.

1 Booth/none/1dr

Booth is ***Softcon***'s term for "air-lock", "inter-lock" or mantrap, i.e. if a pair of doors is set for booth then they are inter-locked, only one may be opened at any time.

0 = Booth mode. 1 = Normal mode (no booth).
2 = 1 door booth (special sliding door booth). 3 = Interlock.
4 = 1 reader (reader=active rd enable input). 5 = Call booth (Door opened by button, reader in booth).

0 no/Cap/m/mC/Cd,

Cards capture type.

0 = Normal card reader. 1 = Reader in conjunction with a capture bin.
2 = Motorized reader (not capture). 3 = Motorized read (with capture capabilities).
4 = Capture reader (disable card after capture). 5 = if expired, capture & exit (special function).
6 = if not expire, exit (special function). 7 = Pulse capture bin to open.

11 APB en/dis/hi R12

Anti-pass back (APB) enable (1st digit = reader 1, 2nd digit = reader 2).

00 = Enable APB. 11 = Disable APB.
22 = Logical APB. CR351/4 aux in 3 = rd 1, aux in 4 = rd 2. Input settable for other.

00 R12 ATB clr/n

00=R1 Clears card from R2 ATB list, R2 clear R1
01=R1 Clears card from R2 ATB list, R2 not clear R1
10=R1 Not clears card from R2 ATB list, R2 clear R1
11=R1 and R2 not clear R2 and R1

00 Illegal attempts

After X number of illegal attempts (invalid card or PIN) the reader / PIN-pad will be disabled for XX minutes.

00 LED12 3,f/2,f

Reader LED type (1st digit = reader 1, 2nd digit = reader 2).

0 = 3-LED normal. 1 = 3_LED flash yellow.
2 = 2-LED normal. 3 = 2_LED flash yellow.

12 LCDs for R12

LCD(s) to display card activities (Enter, out of time, etc.) for reader 1 and reader 2
For each reader, 0=display on both, 1=display on LCD 1, 2=display in LCD 2.

n/card Display

Display card number when badge

0 dis/BEEP/al/B+a,aux

0 = Buzzer output disabled.
1 = Buzzer once for card accepted, twice for card rejected.
2 = Buzzer on alarm (door left open, invalid card etc.).
3 = Reader / Door2 to aux relay (CR351/4), others output set.

11 RDPwr 0/5/12V

Reader supply (1st digit = reader 1, 2nd digit = reader 2). Certain controllers have links to set the voltage.
0 = off. 1 = 5V (default). 2 = 12V.

00 Dual Badge R12

Dual (or multi-) badge sets how many enabled cards must be badged before the latch is unlocked, per reader. 0 or 1 has no effect, i.e. only 1 enabled card is required.
Setting 2 or 3 requires 2 or 3 enabled cards to be badged within the number of seconds set in DualTmout (see below). The dual time-out of 1 to 9 seconds restarts on every badge. Setting of 0 is taken as 9 seconds. On timeout, the cards that have badged are cleared.
The cards that were badged are reported as entered.

< Set-up Tick >

hhmmss DDMMYY w

Sets the real time (24 hour clock), date (dd-mm-yy) and day of week (Monday = day 1, Sunday = 7). The enter key must be used to accept this data.

< Time zone, Groups >

Use the right or left arrow keys to enter the time group options.

T1 Group 02 MTWTFSSH 00:00-00:00 1 1 1 1 1 1 1

The up and down arrows move between the time-zones.
The right and left arrows move between the time-groups.
T1 = Card time-zone 1 Group 01 = Card time-group 1
Time-zone of 00:00-00:00 = Never valid.
Time-zone of 10:00-10:00 = Always valid. (24 hours per day)
Time-zone of 08:30-17:15 = Valid from 8:30am to 5:15pm.
There are time-zones and time-groups for when Reader 1, Reader 2, PIN-pad 1, PIN-pad 2, Door 1 open, Door 2 open, inputs and outputs are active. When controller = CR355A, 60 time groups.

< Input time gr >

***For CR351-4 mode only reserved inputs function**

Input time group for inputs, closed time group – open time group. If door tg also illegal, not opened, too long.

< Output time gr >

***For CR351-4 mode only reserved output 3**

Output time group for level 1.

TG MAX NOW 01 00000 00000

V0.33

Access Time group counters. If a MAXimum is set, the time group NOW value increments on enter at reader 1 and decrements on enter reader 2. If NOW is equal for greater than MAX, access is denied. An output can be set to close when NOW equals or greater than MAX.

00-00 Holiday 01

30 holidays in the year, in the format DD-MM. Right and left off the month or date, displays the next, previous holiday.

16-17 Reader Tg	18-19 PIN Tg	20-21 Latch Tg

Time groups for when Reader 1-2, PIN 1-2 required and Latch 1-2 open.
*For CR355A mode only

240 SlavePoll sec

*** Only when comms type is LAN Master**

Seconds before next poll of all nodes.

xx-xx 250ms PCdi"

Timeout for PC display message.

05 sec. Lock time

Number of seconds the door output relays will operate for. If action complete is enabled then it will over-ride the latch time.

4 *250msec 1sec

250 msec latch time multiplier when lock time set to 1 second.

000 10ms ACbounce

Action complete debouncelength in 10msec multiples. Max is 255 = 2.55 seconds.
0 is 5msec, any other setting has a resolution of 10msec (e.g. 10 = 90 to 110msec).

00000 s open time-out

Number of seconds (0 to 65 000) the door may be left open after being opened with a card or free exit request before a "door left open" alarm occurs.

0000 10ms CapPuls

When capture is pulse, sets the pulse length in 10msec multiples. Max is 255 = 2.55 seconds.
0 or 1 is 10msec, any other setting has a resolution of 10msec (e.g. 10 = 90 to 110msec).

10 sec CapTmout

Time-out to capture card. On capture, delay CapPuls before close. On CapTmout, reports not captured.

0000 10ms RanPuls

Radom search pulse, length to keep random output active after pass / fail.

10 sec RanTmout

Time-out for random search to give inputs pass or fail. If pass, latch activated, pass and entered reported. On RanTmout, reports failed.

00 R12 min ATB

Minutes a card is anti-time back per reader

00 min reader dis

On multiple illegal entry attempts, the time period for which the reader will be ignored.

00 Dual Tmout R12

Timeout per reader (0 to 9 seconds) between cards badging for Dual (or multi-) badge (see above).
Setting of 0 is taken as 9 seconds.
.

< Set-up Vend >

0 n/Project Vend ***Vending mode**

Forces entering of a project number via HH keypad before vend can be selected.

0 n/OffLine Free ***Vending mode**

Allows Vending when offline.

0 n/Credit Vend ***Vending mode**

Allows Vending credit – vend is deducted from local value received from PC.

0 nCoin Vend ***Vending mode**

Set to zero results in credit of 99.99 being display, enabling product selection.
Set to 1 allows coin (and/or note reader) with the card system. 99.99 is not displayed. Product selection only after card read, while name is display – the value of the card is sent to the vending machine. If the card value is zero, the maximum item value in the machine is set.

0 MDB/Exec/IO Vend ***Vending mode**

MDB or Exec protocol with vending machine.
IO vend has no serial comms – Vend key inputs vend to Vend outputs.

0 Cashless Node ***Vending mode**

MDB cashless 0 or 1.

0 n/DetDone Vend ***Vending mode**

Detect vend done (completed) signal from the vending machine. Must be 1 to stop/start I/O vend.

00 Key Offset Vend ***Vending mode**

Offset added to vending key from the vending machine.

0 Hex/BCD/Dec key ***Vending mode**

Key from the vending machine in hexadecimal, in Binary Coded Decimal or decimal.

15sec Select TMOUT ***Vending mode**

Timeout in seconds for user to select item.

15sec Vend TMOUT ***Vending mode**

Timeout in seconds for vend to complete.

0 Vend disp Fund ***Vending mode**

Display funds after vend.

0 n/Debug ***Vending mode**

Add additional vending debug information on the LCD

< Set-up I/O >

0 Input Expanders ***Not set by PC** **Stored in EEPROM**

A/D expanders (16 inputs). Onboard inputs=1 to 16. Expander 1=17 to 32. Expander 2=33+, etc. Front modules inputs (4 each) after last set input expander (e.g. 17 or 33, etc.).

0 Output Expanders ***Not set by PC** **Stored in EEPROM**

Output expanders (8 outputs). Onboard outputs 1 to 14. Expander 1=15 to 22. Expander 2=23+, etc. Front modules outputs (6 each) after last set output expander (e.g. 15 or 23, etc.).

< Input Port type > ***CR355 mode**

When the controller type is set to CR355 (setting above), the input ports are configured. Each of the local 16, the front modules 1 and 2 (4 each) supervised inputs are set as ***Aux inputs*** (normal input) or as a special function input, linked to reader/door 1 or 2. Each input is also set to be a 2 level detection (not supervised) or 4 level (supervised). Level is changed by entering 2 or 4.

APB follow. The cards APB is only changed when this input is read as high (open).

APB reset. When the input is read as low, all cards that have access on either reader, are given access on both.

Action complete. Door monitor.

Booth occupied. In booth (mantrap) mode, a low input (closed contact) indicates that the booth is occupied.

Call booth. When booth type 5, 1st door is opened on Call 1, door 2 on call 2 input low. Second door on reader. Egress functions as normal in egress inputs.

Capture. When card capture is set, a low input (contact closed) indicates that a card has been entered in to the capture bin.

Continue. Before activating (opening) a latch (1 or 2), inputs Continue (1 or 2) is checked and if low, the activation is done. The door open time-out is timed-out for receiving the Continue low input. Typically used for search applications. Similarly, Continue booth input must be low before the second door of booth is opened – 1st door does not check continue booth input. If continue 1or 2 and continue booth inputs are set, both inputs (the continue booth and the second door continue must be loc for the second door to open).

Count tg reset . All tg counters are reset to zero when the input is low.

Egress. When the Egress or push button input is read as low, the door is opened.

Latch monitor. The latch is monitored and only when locked after door closed (action complete) is action complete. When action complete is till door closed, latch is controlled locked on door closed.

Random search. Random 0% disables random search for reader 1or 2,
Random 100% forces search of all cards at reader 1 or 2.
Pass opens latch, reports passed and entered.
Failed reports failed.
Clear deactivated random output.

Reader enable. The associated reader is enabled when the input is high (open) and the reader functions normally. When low, the reader is disabled and the red led indicates that data from the reader is ignored.

Reader tamper. The latch control (via reader or push button) is disabled when the tamper input is low. This input is connected to a micro switch mounted on the reader that is low when the reader is removed from its mounting.

Vend key. Vending select button. 1st vend key input=key 1, 2nd=key 2. 1st vend key input without vend key output is vend output calibration key.

< Output Port type >

***CR355 mode**

When the controller type is set to CR355 (setting above), the output ports are configured.
Each of the local 14 (outputs 13 and 14 are virtual), the front modules 1 and 2 (9 each, 9th output is virtual) outputs are set as ***Aux outputs***, or as special function outputs linked to the reader/door.

Buzzer.	Audible alarm output.
Capture.	Control of the capture bin.
Count Full (1-15).	Access Time group counter – when full, output is activated.
Interlock busy.	When booth sequence is in progress or interlock with a door open/unlocked, the output is activated.
LAN off-line.	The output is activated when communication to the LAN is off-line.
Latch.	Control of the latch.
LED G, R, Y.	LEDs are controlled displaying green for access granted, yellow flashing for ready and red for access denied or reader disabled. Flashing red indicates booth busy.
Random search.	Output driven indicating when random search must be done for card at reader 1 or 2.
Reader Isolate.	Output driven by the PC when reader is isolated (data is ignored). When set to a **virtual** output, the reader isolate is controlled without an output being controlled.
Vend 250ms xxx.	Vend key output. 1st vend output=key 1, 2nd=key 2. Xxx is how long * 250msec the output is active when vending (xxx/4=seconds). Edit xxx via digit keys or vend calibration.

2 Nr.doors 0,1,2

Number of doors controlled by the CRC.

0 = No doors (no relay output).
1 = One door (output on latch 1 only).
2 = Two doors (output latch 1, latch 2).

1 AC O/N/C/Ot/Ct

Action compete is the ***Softcon*** term for Door Monitoring.

0 = Normally open contact.
1 = No door contact - i.e. disable door monitoring.
2 = Normally closed contact.
3 = Normally open contact with time-out.
4 = Normally closed contact with time-out.
5 = Normally open contact till closed.
6 = Normally closed contact till closed.

00 O/C/xO/xC/x L

Latch type (1st digit = latch 1, 2nd digit = latch 2).

0 = Latch normally open.
1 = Latch normally closed.
2 = Egress NO, Reader change over.
3 = Egress NC, Reader change over.
4 = Egress and Reader change over.

00 CaptOut NC/NO

Invert the capture output if 1.