



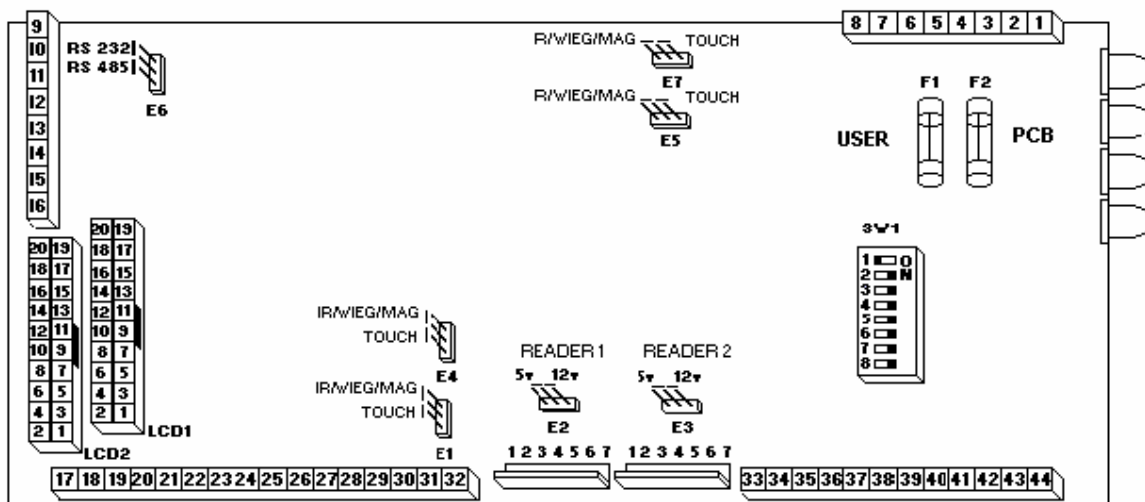
CR351/4 CONNECTION

REVISION NUMBER - 07.29

CONTENTS

1	CARD READER CONTROLLER P.C. BOARD	3
2	JUMPER AND DIP SWITCHES	3
3	CONNECTIONS.....	3
4	Softcon LC350 Hand Held Terminal	4
4.1	Introduction	4
4.2	LC350 FUNCTION KEYS	5
4.3	LC350 MENU'S.....	5
4.4	Set-up.....	7

1 CARD READER CONTROLLER P.C. BOARD



2 JUMPER AND DIP SWITCHES

There are seven sets of jumpers on the CRC, they are marked on the PCB as E1- E7. Note that the links below are for PCB version B027 and after. See the lid inserts for earlier versions.

Jumpers E1 - E7

Link	Position 1-2	Position 2-3
E1	Touch	Wiegand/ data clock
E2	5V	12V
E3	5V	12V
E4	Touch	Wiegand/ data clock
E5	Touch	Wiegand/ data clock
E6	RS 232	RS 485
E7	Touch	Wiegand/ data clock

The DIP-switches on SW1 must be set indicating the CRC **node address**. All switched in the on position is node 0 (only used in stand-alone). The node address is the sum of the off switches as follows (binary values)

DIL	Node
1	1
2	2
3	4
4	8
5	16
6	32
7	64
8	128

Examples
Node no. 23 = 1,2,3,5 off
Node no 55 = 1,2,3,5,6 off
Node no 64 = 7 off

3 CONNECTIONS

Connections to the CRC are via screw and lugged connectors. The connectors are removable from the PCB, keeping the cables connected to the connectors. The screw terminal connectors are grouped as follows:

Terminals 1 to 8	Power supply (factory connected).
Terminals 9 to 16	Communication.
Terminals 17 to 29	Inputs (each input has one leg connected to ground).
Terminals 30 to 44	Outputs

The terminal connections are as follows (PCB version before B026):

TERM NO.	FUNCTION	TERM NO.	FUNCTION
1.	+5V (FROM REGULATOR)	23 (21).	AUX INPUT 1
2.	GROUND	24 (22).	AUX INPUT 2
3.	+12V (TO REGULATOR)	25 (23).	GROUND
4.	12V AC (USER SUPPLY)	26 (24).	AUX INPUT 3
5.	12V AC (USER SUPPLY)	27 (25).	AUX INPUT 4
6.	12V AC (PCB SUPPLY)	28 (26).	GROUND
7.	12V AC (PCB SUPPLY)	29 (27).	BOOTH PRESENCE
8.	GROUND	30 (28).	BUZZER GROUND
9.	RTS-RS232	31 (29).	BUZZER + 12V
10.	GROUND	32 (30).	GROUND
11.	DATA - RS485 (LAN)	33 (31).	AUX OUT NORMALLY CLOSED
12.	DATA NOT - RS485 (LAN)	34 (32).	AUX OUT COMMON
13.	RX DATA - RS232	35 (33).	AUX OUT NORMALLY OPEN
14.	TX DATA - RS232	36 (34).	LATCH 2
15.	RTS	37 (35).	LATCH 2
16.	RTS NOT	38 (36).	LATCH 1
17 (15).	PUSH BUTTON 1	39 (37).	LATCH 1
18 (16).	ACTION COMPLETE 1	40 (38).	12V AC FOR USER (2A MAX)
19 (17).	GROUND	41 (39).	12V AC FOR USER
20 (18).	PUSH BUTTON 2	42 (40).	12V DC FOR USER (2A MAX)
21 (19).	ACTION COMPLETE 2	43 (41).	GROUND
22 (20).	GROUND	44 (42).	GROUND

The reader connections are as follows:

PIN NO.	READER 1 (P7)	READER 2 (P8)
1.	+ 5V OR + 12V DC (LINK E2/E3)	
2.	DATA/LOW DATA "0"	
3.	CLOCK/HIGH DATA "1"	
4.	GROUND	
5.	GREEN LED - pass	
6.	YELLOW LED - ready	
7.	RED LED - fail	

The PIN connections are as follows:

PIN NO.	PIN-pad 1 (LCD1) and (LCD2)
12.	5V (1) + LED anode
13.	COL 0 (2) + LED cathode
14.	COL 1 (3) + LED cathode
15.	COL 2 (4)
17.	ROW 0 (5)
18.	ROW 1 (6)
19.	ROW 2 (7)
20.	ROW 3 (8)

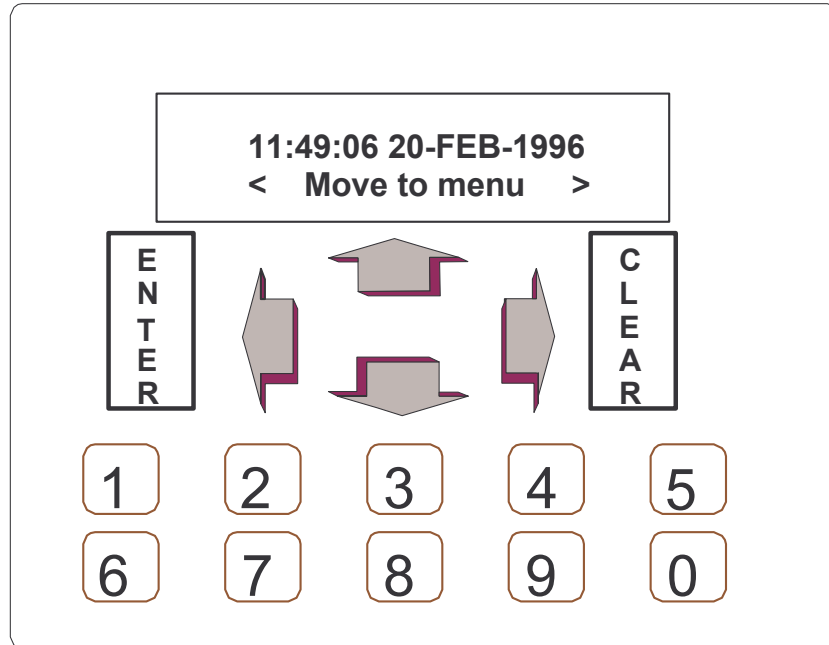
Connections for each peripheral tied to the CRC are listed in the appropriate sections above. Suggested cable colors to be used are also given. Diagrammatic representations of the connections are given in the appendixes.

4 Softcon LC350 Hand Held Terminal

4.1 Introduction

The LC350 hand held terminal provides the means to program the CRC351/4 Controllers as stand-alone units and to check of temporary change set-up. Note that in LAN installations, the PC set-up overwrite 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 CRC). The CRC should be reset from the PC when cards have been entered via the LCD350.

The LC350 is plugged it into the LCD1 connector on the CRC, connections are given above. Pressing the CLEAR button enables the programmer; the display should appear as shown below. If a PIN-pad reader is installed after using a programmer, the CRC must be re-powered up.



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

4.2 LC350 FUNCTION KEYS

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

```
12:35:21 31-12-2000
< Move to Menu>
```

- Data Base Search
- Data Base edit
- Card enter reader 1
- Card enter reader 2
- Cards batch load
- Print data base
- Print set-up
- Rest APB
- Set-up

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.

4.3 LC350 MENU'S

Data Base Search

Search for an individual card. It sets the database pointer to a selected card.

```
Data base search
Card number 12345678
```

The required card number is entered, followed the CLEAR or ENTER key. The LC350 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).

Data Base Edit

Change the status of an individual card.

```
Xref e12 Time C P
00001 11 01 1 1
```

- 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 = (01 - 15)
C = 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.

Xref Description
00001 BOND JAMES

Database 4 (only stand-alone installations), name description. The up/down scroll keys scroll through the alphabet.

A-mnth A-week A-day
000:00 000:00 00:00

Accumulation databases (odd number dBs). Totals are in hours : minutes.

Xref Card code
00001 12345678

Non-referenced databases dB8 or dB10.

Xref PIN code
00001 12345

Databases with PIN code, dB6 or 10.

Xref DDMMYY DDMMYY
00001 011299 310100

Database 14, start and expiry time, date.

Card Enter Reader 1/2

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

Card enter reader 1
Enter card at read 1

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 passback.

Cards Batch Load

Change the status of a batch of cards, e.g. enable cards 1 to 500 for both readers.

The initial display would be:-

R1e R2e Time Cap Pas
1 0 02 1 0

Reader 1 and 2 are enabled with 1, disabled with 0. Time group 1 to 15. Capture and pass-back enabled with 1, disabled with 0.

Use the right arrow key to move to the second display:-

Cards batch load
00001 to 00500 Enter

Press the ENTER key to store the new settings:

Note: You MUST be on the second page when you press the ENTER key. If not use the right arrow to get back to the second page and then press ENTER.

Print Data Base

Details of all cards may be sent to an attached RS232 Printer.

Note: CRC must be fitted with Terminal FW. (ETD or ETW)

Print Set-up

The Controllers configuration is sent to an attached RS232 Printer.

Note: CRC must be fitted with Terminal FW. (ETD or ETW)

Reset 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.

4.4 Set-up

Configures the CRC Controller. The values displayed below are the default values that are set when the RAM is 'dropped', i.e. the RAM IC is removed from its battery base. 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.

0 LAN 9/8 bit

0 = 9 bit comms

1 = 8 bit comms

1 Latch click en/dis

0 = Output relay pulses once per second. 1 = Do not pulse.

Causes DC door latches to click, giving the user an audible indication when the latch opens.

1 Action 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

1 Booth/none/1reader/in

Booth is *Softcon*'s term for "air-lock", "inter-lock" or mantrap, i.e. if a pair of doors are 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 = One reader booth (special for a sliding door booth)

3 = Interlock

2 Nr. of 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 on latch 1 for door 1, latch 2 for door 2)

0 no/Cap/mot/mC/Cdis, X

Cards capture type.

0 = Normal card reader (not motorized or capture)

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)

00 NO / NC latch L12

Latch type.

00 = Latch 1 and 2 normally open

10 = Latch 1 normally closed, latch 2 normally open

01 = Latch 1 normally open, latch 2 normally closed.

11 = Latch 1 and 2 normally closed.

00 not/Hi/P ena. R12

Reader disable option.

00 = Disable arming input for reader (1st digit = reader 1, 2nd digit = reader 2)

11 = Enable arming input for reader (1st digit = reader 1, 2nd digit = reader 2)

22 = Enable arming input for both reader and free exit button.

Auxiliary input 3 - closed disables reader 1

Auxiliary input 4 - closed disables reader 2

0 not/LO/LAN APB res

APB reset.

0 = Normal operation (hard-wired anti-passback disabled)

1 = Auxiliary input 2 resets anti-passback

2 = If LAN comms off, card granted access if enabled for wither reader. Not applicable in stand-alone mode

02 dB OF, 2C,4CN,6CNP

Data base mode. PIN readers (e.g. prox combo) requires that HH be removed and controller reset.

02 = 20,000 card number capacity, no keypads. (default)

06 = Card + PIN code

10 = Special for use with random ISO cards.

0239 Client Code

Four figure number. Together with the site-code identify the cards as belonging to a particular site/installation.

000 Site Code

Three figure number. Together with the client-code identify the cards as belonging to a particular site/installation.

11 APB en / dis / hi R12

00 = Enable anti-passback ((1st digit = reader 1, 2nd digit = reader 2)

11 = Disable anti-passback (1st digit = reader 1, 2nd digit = reader 2)

22 = Logical anti-passback (aux input 3 enables for reader 1, aux input 4 for reader 2)

< Time zone, groups >

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

T1 Group 01 MTWTFSSH

00:00-00:00 1 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.

01 ActionC1 InGroups

Input time group for action complete 1.

01 ActionC2 InGroups

Input time group for action complete 2.

01 - 01 Aux 1 InGroups

Input time group for aux. input 1, contact closed time group - open time group.

01 - 01 Aux 2 InGroups

Input time group for aux. input 2, contact closed time group - open time group.

01 - 01 Aux 3 InGroups

Input time group for aux. input 3, contact closed time group - open time group.

01 - 01 Aux 4 InGroups

Input time group for aux. input 4, contact closed time group - open time group.

02 b04, 230, 426, 627, 8M

Reader and card type.

00 = 40 bit Wiegand card format.
02 = 30 bit Wiegand card format.
04 = 26 bit Wiegand card format.
06 = 27 bit Wiegand card format.
08 = *Softcon* mag-stripe card format (not ISO).
12 = Mag-stripe card format. ISO standard 7 characters
14 = Mag-stripe card format. ISO standard 8 characters
16 = Mag-stripe card format. ISO standard 1-12 characters
18 = Touch tags, random numbers.
20 = 34 bit GSC cards (no facility, 32 bit card number).

0 MAG LRC check / not

0 = Check the LRC character on ISO mag-stripe cards.
1 = Do not check the LRC character on ISO mag-stripe cards.

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.

00-00 Card 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.

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 condition. e.g. door left open, invalid card etc.

0 sec open time-out

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

05 sec. latch time

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

00 Illegal attempts

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

00 min. Reader dis.

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

00000 Password

Function discontinued.

00:00:00 01-12-90 1

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.

0 Print except/all

0 = Print exceptions only (invalid cards, door left open etc.).
1 = Print all transactions, including card transactions.

23 Accumulate hour

5 Accumulate weekday

30 Accumulate date

Hour of the day, day of the week and day of the month when accumulation totals are recorded. (hours and minutes each card has been on site). An accumulation data base must be selected for this function to operate.

0 Print en/dis/lim

0 = Enable printout of events.

1 = Disable printout of events.

2 = Limited printout of events. (Minimum information).