



SW3 Rd Error How2

Revision 003

06 December 2023

Revision History

Version	Date	Person	Reason For Changes
001	2022-08-26	MTL	Initial
002	2023-10-26	MTL	Ignore noise pulses
003	2023-12-06	MTL	No Facility code, card num 1, 2

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1 AIM

The aim and goal of this .PDF document is to serve as addition help manual for the use of the Softcon Systems. The document details how to resolve reader problems, i.e. none of incorrect reading of tokens from Tag, Card, Bio readers.

2 GENERAL

In this document, the following is used to identify information:

- ❖ Information related to universal controller mode only is indicated in GREEN.
- ✓ Help option that can be used to resolve the problem.

3 CONTROLLER

Readers (Tag, Card, Bio , etc.) are connected to CR355 / CR390 / CR391 Control Panels (CntrP). Most CntrPs have 2 identical reader ports with Wiegand / Data-clock interfaces. The CR391 CntrP can be expanded to 8 x Readers (via Serial interfaces to other Expanders or serial readers).

3.1 INSTALLATION

The following minimum installation procedure must be adhered to:

- ✓ The provided earth terminals in the CntrPs must be connected to the Mains Earth. To check that the earth is connected at the distribution board, measure 230VAC between Live (brown) and earth (green) at the CntrP connector block.
- ✓ Reader cable screens must be connected to the provided earth terminals in the CntrP.
- ✓ The metal that readers are mounted on must be connected to earth (e.g. Gooseneck, Gate, Door Frame). If the metal is not earthed, connect the reader screen to the screw mounting the reader (ensure connection to the metal i.e., not isolated by paint).
- ✓ All RS485 (FLAN, SLAN) cable screens must be connected to the provided earth terminals in the CntrP. These cables must only be earthed at one end of the segment, i.e., do not earth the cable at both ends.
- ✓ All inductive load (all locks, relay and solenoid coils – also those switched in barriers) require fly-back diodes connected between the 12V (Anode – the side with the marked ring) and ground.

Noise Pulses

Old CR391 FW versions (before 2020-03-01) did additional checks, disregarding reader data pulses were not at least 100usec.

This has been reimplemented (2023-10-24).

Versions that ignore short noise pulses:

Legacy	before 00Z.???	013.???	and after.
Universal	before 100.???	103.???	and after.

Note: Readers function correctly on any version if proper earthing is done as given above.

3.2 READER PORTS

If using 2 readers with the same interface (e.g., Wiegand) connected to the CntrP and one has an issue:

- ✓ Simply swap the two plugs on the controller (the CntrP does not have to be switched off).

If the issue moves to the other reader (e.g. reader 1 had a problem, now reader 2), then the problem is the reader or the cable to the reader.

3.3 HAND-HELD

The Softcon CR375 / CR395 Hand-Held Programmer (HH) provides numerous utilities that can be used to test / identify token data read by a reader connected to the CntrP.

Move left or right to the following menus (hold * and multi-select 2 or 3 to the menu) and enter the menu by selecting down (* and 5).

3.4 DISPLAY CARD HEX

Reader 1
Reader 2

30.F7800000000000
36.8F0DE

Selecting down (*5↓) displays reader 2/3, 3/4, etc.

This option is used for debugging purposes.

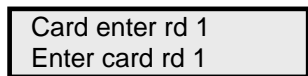
The token data presented to the readers are displayed in HEX code.

The numbers of bits read are displayed before the dot.

This data can be decoded to find the Client and Site Codes (if applicable to the type) and token number – call Softcon for support.

- ✓ The data displayed must consistently be the same. If varies, then reader error.
- ✓ If the High / Low (Data0 / Data1) are the way around, the correct number of bits will still be displayed, but High bits will generally then be more that low (generally more low). As most formats have even parity on 1st half and odd parity on the last, decoding will indicate the wrong way around.

3.5 CARD ENTER READER X



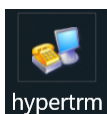
❖ Selecting down (*5↓) displays reader 2/3/4. Etc.

Displays the number of the token (finger / Face / Tag / Card) as they are presented to the selected reader.

Note: The CntrP 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.

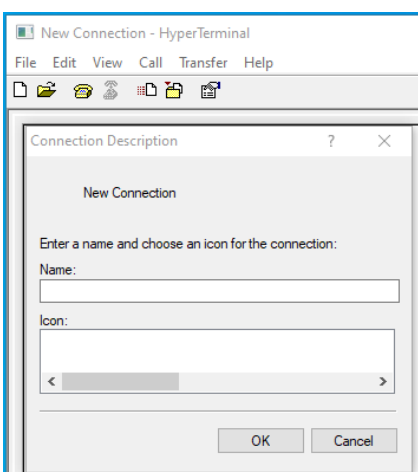
The token is automatically enabled for both readers and set with time group 1, not capture, not pass-back. If the CntrP is on-line and the token does not have access, the token will be removed by data from Softwin3 running on the PC.

3.6 DISPLAY DECODING ON HYPERTERMINAL

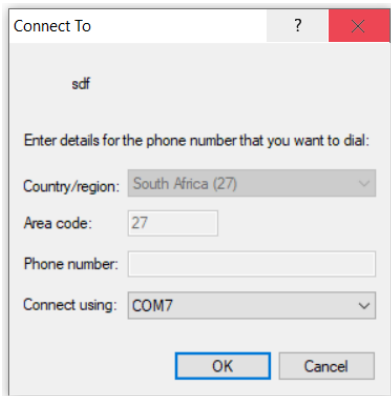


Connecting COM3 (Com3) – RS232 of the CR391 CntrP to a PC / Laptop (use a RS232 to USB converter if no RS232 port is available on the PC / Laptop) and setting ComC to type Test, all possible decoding of the token read is displayed on the PC by running a program such as HyperTerminal and select the key R.

The new Softcon CR395 HH with USB or CR395 U (has USB) can also be used to do this decoding.



HyperTerminal can be downloaded from www.softconserv.com / downloads, or from the Softcon USB.



Select File / New connection. Type in any name, select OK.

Select the PC Com port the USB driver found – to see ports:

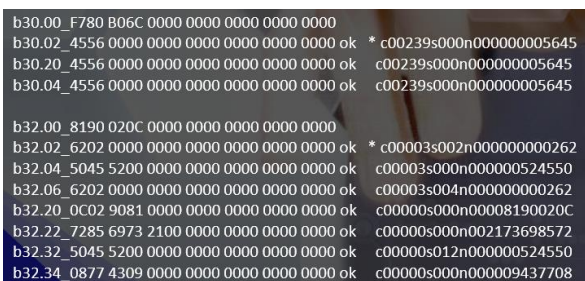


Right click on the windows Icon and select Device Manager /

> Ports (COM & LPT)

Or enter Device Manager in the Windows applications.

Set the Baud to match the CntrP setting (9k6 or 19k2), 8 bit, no parity, no handshake.



When the token is badged, the number of bits is shown before the dot, followed by the type selection:

00 on the first line is the raw data read (same as Display Card Hex on the HH described above).

lines following show decoding for type selection 02, 04, etc.

The last column show the data decoded into Client and Site codes and number for each decoding type.

The * indicates the current type selected.

3.7 CNTRP SETTINGS

Generally setting are done in Softcon application SCS_Client running on the PC (see below).
The setting can be seen and temporarily edit (updated by the PC when selecting Controller – Setup or Reset).
If the CntrP functions only in stand-alone, these setting must be done in the CntrP using the HH programmer.

- ✓ If any of these setting are incorrect, the data will be decoded incorrectly

See [SCS_sw3_Token_Decode.how2](#) for additions to the following.

The settings in the Access (Legacy) or Rd/Card (Universal) Menus are the following:

RD-Clk Polarity	Mag cards – the clock pulse is inverted.
Card Type	This is the decoding type as shown in the previous paragraph.
Client / Site Code	Certain card types have section of data unique for the site (facility number-Client and Site code). If set to zero, this section is ignored, resulting in loss of security. For CntrPs with library (CR392 and later), version 01W (2016-05) or later, token types without facility codes ignore facility settings. Other CntrPs require facility set to zero, even if the token type does not have a facility code. Use CardNum2 with Facility set to 0 if installation uses tokens with and without facility codes.
Nr, Facility location	where in the data these sections are (For certain types like Mag).
Alt selection	For certain dual function card (Visitor / Staff) functions.
Nr, Facility Digits	Using Facility code and number as digits in the number. See SCS_sw3_Token_Decode.how2
RD polarity	Polarity in the data is ignored (switched off is certain implementations).
RD Exact Bits	Speeds up decoding if only one type of card is used or when reader periodically sends “keep alive data”.
Duress Bit	Enables duress finger in Sagem finger print readers.
Format Error	Enables the reporting for incorrect Facility code cards read.
Read / Pin Tg	Set when Reader and card must be used to request access. If 0 then optional to use.

4 SOFTWIN3



Then CntrP(s) are installed on-line (via TCP Network and RS485 LAN) connections, the CntrP Settings listed above, is set in the Softcon Application SCS_Client.

4.1 SETUP

These settings are in the menu Setup / Setup Editor / Readers and also for Legacy mode, in the menus Setup / General Setup and Setup / Setup Editor / CR351-4.

Setting expanded on below are generally used, all setting are described in SCS_Client.help

Re.	Description	User...	Last User	Last Time	Area In	Area To	Controller	Port	Token Type	ATB	APB	Operati...	UseToken	U_Car...	U_Car...	U_Car...	U_Car...	U_Client ...	U_Clo...	U_Exa...	U_Fa...	U_Fa...	U_Fa...	
1	C1 Rd 1	0	Card 0		Outside	Inside	Controller 1	1	02 Wiegand 30	0	None	Normal	CardNum 1	0	0	0	0				0	0	0	0
2	C1 Rd 2	0	Card 0		Outside	Inside	Controller 1	2	02 Wiegand 30	0	None	Normal	CardNum 1	0	0	0	0				0	0	0	0

Depending on the version installed, all these options may not be available or not be visible (right click on any column name, select Properties, select and move the selected left (to not visible) or right (to visible)).

Note that setting applicable to Universal mode only, are named starting with U_.

- ✓ Area In and Area To, must be selected to enable the Area Groups setting for a User (where the person has access to).
If incorrect, **OUT OF AREA** error will result.
- ✓ Each reader is allocated to port 1 or 2 on the specific CntrP.
- ✓ Token (card) type sets the decoding type.
- ✓ Operational – if set to isolated, the **READER DOES NOT READ**.
- ✓ Use Token (card) sets which number to use in the users (Card Holders) profile setting (only one “Use Token” can be select for a CntrP) – default is CardNum1. See mixed card types in Clint/site codes in CntrP setting above
- ✓ For universal mode, Client, Site and positions are set in this menu per reader.
In Legacy mode, these settings are in the General Setup menu.

R.	Controller	Doors	Latch sec	Latch 1	Latch 2	Portal	Too long	R2 Capture	Attempts	Illegal Dis ...	Mantrap
1	Controller 1	Two	5	Normal closed	Normal closed	Norma...	0	None	0	0	None
2	zController 2	Two	5	Normal closed	Normal closed	None	0	None	0	0	None

For CntrPs in Legacy mode, the CR351-5 settings:

- ✓ There must be a line for each CntrP (if not and no lines available, right click on any line and select Add Record).
Set Controller to the appropriate CntrP.
- ✓ If Doors is set to 1, then Lock 1 and Portal 1 Sensor is linked to both readers (Egress, Push Button).
In Universal mode, Link in the reader setup is used).
- ✓ The Portal Sensor (Action complete) sets when the portal is re-locked and when Card Entered is reported (if not opened, event is **NOT OPENED**).

AreaZoneGroup

Area Name

A.	Area Zone	Timeout	Time Group	U_Time Group
<input checked="" type="checkbox"/>	1 Outside	0	Time group 0	uTime group 0
<input checked="" type="checkbox"/>	2 Inside	0	Time group 0	uTime group 0
<input checked="" type="checkbox"/>	3 zArea zone 03	0	Time group 0	uTime group 0
<input checked="" type="checkbox"/>	4 zArea zone 04	0	Time group 0	uTime group 0
<input type="checkbox"/>	5 zArea zone 05	0	Time group 0	uTime group 0

In Setup / AreaZoneGroup, Groups that are allocated to users set where access will be granted. A tick enables the group for an AreaZone.

Non-zero TimeGoup sets when users will be granted to the zone. If Zero, the TimeGoup setting for the Users is used.

- ✓ If TimeGoup is not active, **OUT OF TIME** is reported.
- ✓ If a Timeout is set for a zone, the user is disabled if longer then the timeout in the zone and **DISABLED** is reported.

4.1 USERS

Users (Card Holders) set the token number, where and when the users has access.

Select Users and the requires User display. Right click on the user and select properties and the Users Data Tab to set these parameters.

- ✓ If the correct Token number is incorrect, **NOT FOUND** is reported.
- ✓ If AreaGroup or AG delete does not grant access, **OUT OF AREA** is reported. Note that multi-group setting is used, that selection may grant access.
- ✓ If TimeGroup does not grant access, **OUT OF TIME** is reported. Note that is the AreaGoup has a TimeGroup setting for a area Zone, that TimeGroup is used.
- ✓ For other settings, see [SCS_Client.help](#)