Miscellaneous information about the Sensormatic RS422 Translator

Configuration Information

22 March 2002

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[1] `$Header: d:/sears/RCS/txbscnfg.tex,v 1.4 2002-01-25 13:54:51-08 Hamilton Exp Hamilton $`

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Note

A change bar will be used where any changes have been made since the last version of this set of miscellaneous information was printed.

As is common, those pages with changed page numbers and references to those numbers, (this includes the Table of Contents and the Index) do not qualify for a change bar. Neither will there be a change bar on this page.

A summary of the changes will also be listed here.

Date	Notes
None	

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1 Breakout problems

When using a computer that has Windows on it there is a problem[3] in decoding the output of Breakout. This relates to the way that Breakout saves the data. The problem is that the order of data in the `.CAP` file is not as useful as might be expected. Here are three examples of before and after hand editing of a dome's power up sequence. These three examples came from a file of over 14,000 (`27JUN01B.CAP`) lines of output from the `DB` (Dump Breakout) program, many of which required fixing. I have included an oscilloscope picture (Figure 1, page 8) of the third example to show what the "real" timing was like. As can be seen, the actual **exact** order of messages going back and forth, is not faithfully reproduced/preserved by Breakout, so **never** assume that the **exact** order of data flow is as shown in these communication line examples. Carefully examining an oscilloscope picture for each command sequence is time consuming and as a result not normally done in any of the other examples.

The time and effort required to get the exact order of information flow is excessive and these few examples are the only times it was done. Always be wary of the exact order of information flow in a Breakout record.

1.1 Original Breakout records

In all of these examples, I started and ended on "poll" messages. There were no messages/-commands deleted in between these two "poll" messages. And having the two "poll" messages present shows that this all occurred within one second. (There is more accurate timing information in the oscilloscope picture, Figure 1, page 8.)

[2] `$Header: d:/sears/RCS/bp.inc,v 1.5 2001-12-12 15:04:37-08 Hamilton Exp Hamilton $`

[3] This problem does not happen with a **P**lain **O**ld **D**OS computer. I have started to use an old 486SLC based computer to collect data and it does better than the old 200 MHz Pentium based Windows computer I used for much of this decoding.

Example #1	Example #2	Example #3
0-4B 0-94 0-21	0-13 0-94 0-59	0-1F 0-94 0-4D
1-06 1-C1	1-06 1-C1	1-06 1-C1
0-06 0-97	0-06 0-97	0-06 0-97
1-39 1-06	1-39	1-39 1-06
0-63 0-06	0-63	0-63
1-06	1-06	1-06
0-80	0-06 0-80 0-7A	0-06
1-C4	1-06 1-C4	1-C4
0-7A	0-06	0-80 0-7A
1-36	1-36	1-36
0-06	0-97 0-63 0-06 0-95	0-06
1-06	1-06	1-06
0-97	0-65	0-97
1-0F	1-0F 1-EB	1-0F
0-63	0-14 0-94 0-58	0-63
1-EB		1-EB
0-06 0-95 0-65		0-06 0-95 0-65
0-4C 0-94 0-20		0-20 0-94 0-4C

Table 1. Breakout problems

1.2 Cleaned up versions

In the three cleaned up versions note that none of them are exactly the same. In most cases the order of at least one command/response differs. Finally note that none of them are the same, similar but not the same, as the most likely version.

Cleaned up first example:

```
 1    0-4B 0-94 0-21    <75: Poll, Dome type query>
 2    1-06 1-C1 1-39    < 6: Dome Power Up Message>
 3    0-06 0-97 0-63    < 6: ACK to dome>
 4    1-06              < 6: ACK>
 5    0-06 0-80 0-7A    < 6: Unknown 80>
 6    1-06 1-C4 1-36    < 6: Unknown Response C4>
 7    0-06 0-97 0-63    < 6: ACK to dome>
 8    1-06 1-0F 1-EB    < 6: Undefined message 1>
 9    0-06 0-95 0-65    < 6: Request Alarm Status>
10    0-4C 0-94 0-20    <76: Poll, Dome type query>
```

Cleaned up second example:

```
 1    0-13 0-94 0-59    <19: Poll, Dome type query>
 2    1-06 1-C1 1-39    < 6: Dome Power Up Message>
 3    0-06 0-97 0-63    < 6: ACK to dome>
 4    1-06              < 6: ACK>
 5    0-06 0-80 0-7A    < 6: Unknown 80>
 6    1-06 1-C4 1-36    < 6: Unknown Response C4>
 7    0-06 0-97 0-63    < 6: ACK to dome>
 8    0-06 0-95 0-65    < 6: Request Alarm Status>
 9    1-06 1-0F 1-EB    < 6: Undefined message 1>
10    0-14 0-94 0-58    <20: Poll, Dome type query>
```

Cleaned up third example:

Note

1. Note that lines 6 should follow 3 as the oscilloscope record shows that commands `0x97` and `0x80` occur as a pair.
2. Note that lines 8 and 9 are reversed as the oscilloscope record shows that `0x97` and `0x95` occur as a pair. And that it makes the most sense to have the reply to a request for alarm status come in **after** receiving the request.

```
 1    0-1F 0-94 0-4D    <31: Poll, Dome type query>
 2    1-06 1-C1 1-39    < 6: Dome Power Up Message>
 3    0-06 0-97 0-63    < 6: ACK to dome>
 4    1-06              < 6: ACK>
 5    1-06 1-C4 1-36    < 6: Unknown Response C4>
 6    0-06 0-80 0-7A    < 6: Unknown 80>
 7    0-06 0-97 0-63    < 6: ACK to dome>
 8    1-06 1-0F 1-EB    < 6: Undefined message 1>
 9    0-06 0-95 0-65    < 6: Request Alarm Status>
10    0-20 0-94 0-4C    <32: Poll, Dome type query>
```

1.3 Oscilloscope picture of example 3

27JUN01B.PS, 06-27-01 3:34p

Figure 1. Power up sequence of dome #4

Trace	Use
1	Commands from the AD2083/02 translator.
2	Response from Dome #4, a type `0xF5` dome.

Note

1. Observe on the upper trace that there are two “bunches” of commands. By carefully measuring the duration of each the are found to be about 13 ms long. This indicates that each one contains two three byte commands with no gap between them. (A three byte command is about 6 ms in length as shown in Figure 3, page 12. One byte acknowledgements are about 2 ms in length as shown in Figure 3, page 12.)
2. In observing the second trace note that there is a first three byte message.
3. The dome waits for something from the controller.
4. Now the dome sends a one byte acknowledgment to the controller **and** a second three byte message in reply to the first two commands that it has received.

5. Following receipt of the second command block, the dome sends a last three byte command.

Most likely actual dome $\leftrightarrow$ controller conversation from the third example:

```
0-1F 0-94 0-4D          <31: Poll, Dome type query>
1-06 1-C1 1-39          < 6: Dome Power Up Message>
0-06 0-97 0-63          < 6: ACK to dome>
0-06 0-80 0-7A          < 6: Unknown 80>
1-06                    < 6: ACK>
1-06 1-C4 1-36          < 6: Unknown Response C4>
0-06 0-97 0-63          < 6: ACK to dome>
0-06 0-95 0-65          < 6: Request Alarm Status>
1-06 1-0F 1-EB          < 6: Undefined message 1>
0-20 0-94 0-4C          <32: Poll, Dome type query>
```

1.4 Detailed power up sequence for dome #5

This information is similar to that shown in the three examples of Section 1, page 5. This data is shown only for comparison purposes. The most interesting information is the timing as shown in Figure 2, page 11, as the older dome is noticeably slower. (Data is from 28JUN01A.CAP.) The original data is not shown as it is quite boring.

First attempt to break down the power up data.

```
0-30 0-94 0-3C          <48: Poll, Dome type query>
1-06 1-C1 1-39          < 6: Dome Power Up Message>
0-06 0-97 0-63          < 6: ACK to dome>
1-06                    < 6: ACK>
0-06 0-80 0-7A          < 6: Unknown 80>
1-06 1-C4 1-36          < 6: Unknown Response C4>
0-06 0-97 0-63          < 6: ACK to dome>
1-06 1-00 1-FA          < 6: Undefined message 1>
0-06 0-95 0-65          < 6: Request Alarm Status>
0-31 0-94 0-3B          <49: Poll, Dome type query>
```

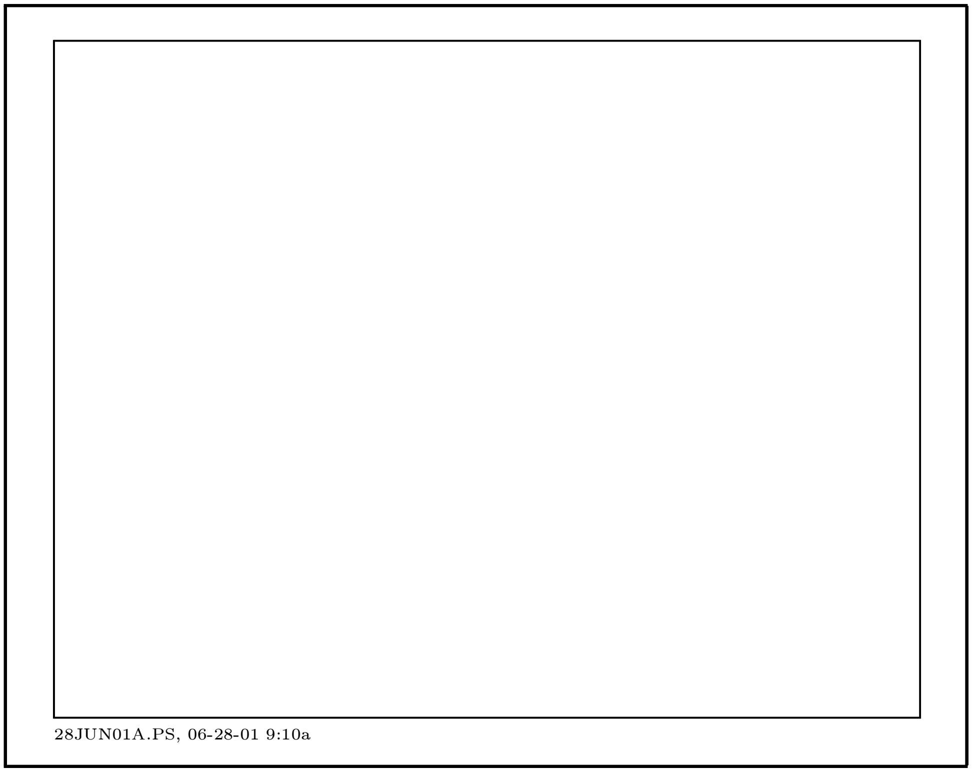
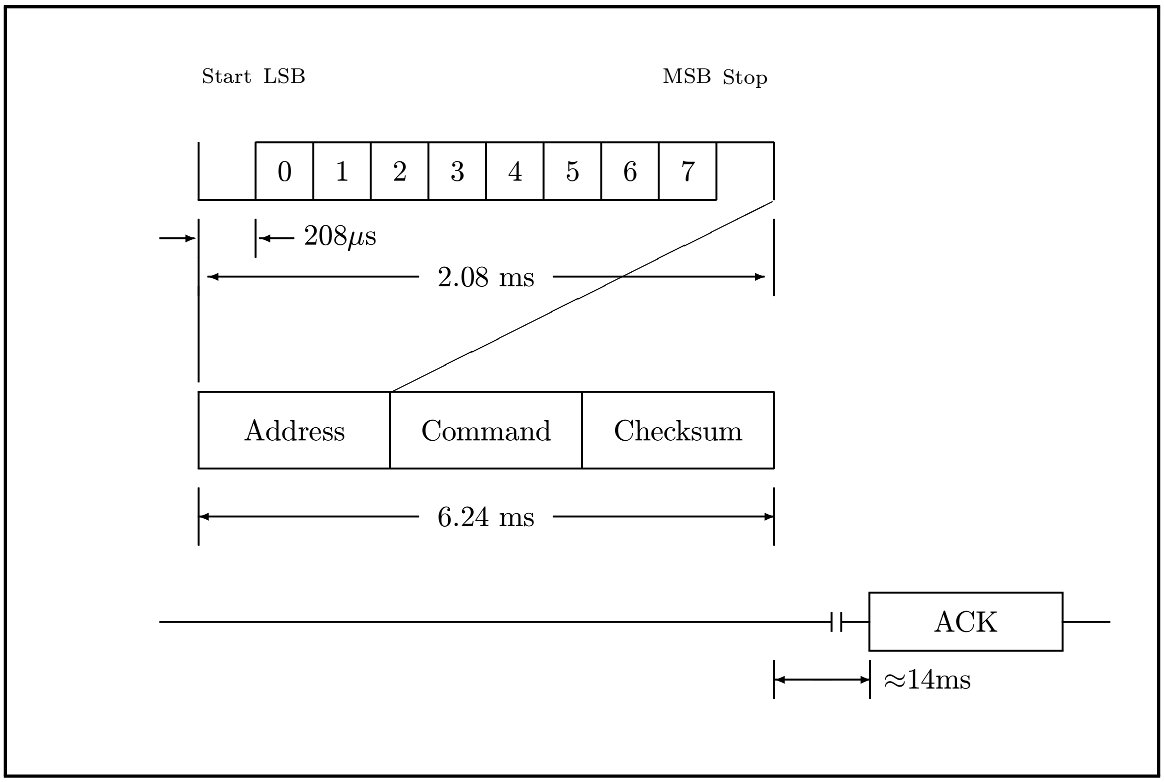


Figure 2. Power up sequence of dome #5

Trace	Use
1	Commands from the AD2083/02 translator.
2	Response from Dome #5, a type `0xE8` dome.

Most likely actual communications when compared against the oscilloscope picture.

```
1    0-30 0-94 0-3C     <48: Poll, Dome type query>
2    1-06 1-C1 1-39     < 6: Dome Power Up Message>
3    0-06 0-97 0-63     < 6: ACK to dome>
4    0-06 0-80 0-7A     < 6: Unknown 80>
5    1-06               < 6: ACK>
6    1-06 1-C4 1-36     < 6: Unknown Response C4>
7    0-06 0-97 0-63     < 6: ACK to dome>
8    0-06 0-95 0-65     < 6: Request Alarm Status>
9    1-06 1-00 1-FA     < 6: Undefined message 1>
10   0-31 0-94 0-3B     <49: Poll, Dome type query>
```



$RCSfile: 3bytfmt.inc,v $

Figure 3. 3-byte format

2 Log of data captures from Sensormatic domes

Note

Usually data directions are reversed when seen by the DB processing program, thus when the notes in this table indicate that the data is "reversed" it really is "normal".

File	Size	Data	Time	Notes
12MAR01A.CAP	924	03-12-01	2:44p	Reversed data direction, 1st day playing with dome #1
13MAR01A.CAP	158,672	03-13-01	3:29p	Learning basics of protocol with various domes.
16MAR01A.CAP	19,340	03-16-01	9:27a	Learning basics of protocol with various domes.
16MAR01B.CAP	12,860	03-16-01	2:10p	Learning basics of protocol with various domes.
19MAR01A.CAP	5,756	03-19-01	9:38a	Learning basics of protocol with various domes.
19MAR01B.CAP	5,464	03-19-01	10:36a	Learning basics of protocol with various domes.
19MAR01C.CAP	3,120	03-19-01	11:04a	Learning basics of protocol with various domes.
20MAR01A.CAP	23,508	03-20-01	9:21a	Learning basics of protocol with various domes.
20MAR01B.CAP	99,168	03-20-01	9:47a	Learning basics of protocol with various domes.
20MAR01C.CAP	3,628	03-20-01	11:04a	Learning basics of protocol with various domes.
20MAR01D.CAP	3,724	03-20-01	1:05p	Learning basics of protocol with various domes.
20MAR01E.CAP	117,788	03-20-01	3:57p	Learning basics of protocol with various domes.
21MAR01A.CAP	13,872	03-21-01	9:18a	Learning basics of protocol with various domes.
21MAR01B.CAP	67,320	03-21-01	12:20p	Learning basics of protocol with various domes.
				Continued on the next page.

[4]`$Header:  d:/sears/RCS/caplog.inc,v 1.8 2002-01-30 15:33:59-08 Hamilton Exp Hamilton $`

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File	Size	Data	Time	Notes
21MAR01C.CAP	22,736	03-21-01	1:13p	Learning basics of protocol with various domes.
22MAR01A.CAP	228,936	03-22-01	8:30a	Sears Fresno, examine and record system response with an RC58 type system. Southern portion of system is down. Using port 5.
22MAR01B.CAP	196,456	03-22-01	9:15a	Sears Fresno, examine and record system response with an RC58 type system. Southern portion of system is down. Using port 4 and 3.
22MAR01C.CAP	202,748	03-22-01	9:52a	Sears Fresno, examine and record system response with an RC58 type system. Southern portion of system is down. Using port 2, 1 and then back to port 5.
23MAR01A.CAP	19,200	03-23-01	3:15p	Learning basics of protocol with various domes.
28MAR01A.CAP	12,960	03-28-01	8:54a	Learning basics of protocol with various domes.
28MAR01B.CAP	54,076	03-28-01	11:30a	Learning basics of protocol with various domes.
28MAR01C.CAP	14,296	03-28-01	11:48a	Learning basics of protocol with various domes.
28MAR01D.CAP	44,644	03-28-01	1:15p	Learning basics of protocol with various domes.
29MAR01A.CAP	303,956	03-29-01	8:17a	Sears Fresno, examine and record system response with an RC58 type system. System ports have been reconfigured.
29MAR01B.CAP	101,264	03-29-01	8:40a	Sears Fresno, examine and record system response with an RC58 type system. System ports have been reconfigured.
03APR01A.CAP	76	04-03-01	9:28a	Reversed data direction, ID to dome #5
03APR01B.CAP	84	04-03-01	9:45a	Reversed data direction, ID to dome #2
03APR01C.CAP	120	04-03-01	10:03a	Reversed data direction, ID to dome #1
03APR01D.CAP	124	04-03-01	10:08a	Reversed data direction, ID to dome #4
06APR01A.CAP	209,680	04-06-01	2:30p	—

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File	Size	Data	Time	Notes
09MAY01A.CAP	26,416	05-09-01	1:31p	—
22MAY01A.CAP	137,844	05-22-01	9:20a	Program verifaction with an alpha model of a TXB-S422 at Pelco
22MAY01B.CAP	105,668	05-22-01	1:02p	Program verifaction with an alpha model of a TXB-S422 at Pelco
22MAY01C.CAP	2,852	05-22-01	2:49p	Program verifaction with an alpha model of a TXB-S422 at Pelco
25MAY01A.CAP	33,748	05-25-01	8:48a	Examining an RC216H (VM96) at Pelco
30MAY01A.CAP	89,196	05-30-01	8:08a	Examining an RC216H (VM96) at Sears Clovis
08JUN1A.CAP	89,196	06-07-01	3:48p	Examining an RC216H (VM96) at Sears Clovis
08JUN1B.CAP	6,624	06-07-01	3:53p	Examining an RC216H (VM96) at Sears Clovis
08JUN1C.CAP	6,208	06-07-01	3:57p	Examining an RC216H (VM96) at Sears Clovis
08JUN1D.CAP	15,304	06-07-01	4:04p	Power cycling an RC216H (VM96) at Sears Clovis
14JAN02A.CAP	129,596	02-14-02	7:59a	Finding final bugs at Sears Clovis
15JAN02A.CAP	34,948	02-15-02	8:08a	Finding final bugs at Sears Fresno

3 Command sequence for testing Sensormatic systems

This set of generated commands was generated with an American Dynamics AD2052 matrix with an AD2083/2 translator driving dome #5.

All keys generate an "off", or "stop", command when the key is released. The key up "off" commands are usually omitted for most multikey commands.

Command	Hex	Comments
Right	0xC0 0x82 0x83	
Down	0xC0 0x85 0x86	
Left	0xC0 0x81 0x83	
Up	0xC0 0x84 0x86	
Right-Down	0xC0 0x82 0xC0 0x85 0x83 0x86	
Down-Left	0xC0 0x85 0xC0 0x81 0x83 0x86	
Left-Up	0xC0 0x81 0xC0 0x84 0x83 0x86	
Up-Right	0xC0 0x84 0xC0 0x82 0x83 0x86	
WIDE	0x8B 0x8C	

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[5] $Header: d:/sears/RCS/cmndseq.inc,v 1.4 2001-12-12 14:38:27-08 Hamilton Exp Hamilton $

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Command	Hex	Comments
TELE	0x8A 0x8C	
NEAR	0x87 0x89	
FAR	0x88 0x89	
CLOSE	0x91 0x92	
OPEN	0x90 0x92	
WIDE-TELE	0x8B 0x8C 0x8A	
TELE-WIDE	0x8A	
NEAR-FAR	0x87	
FAR-NEAR	0x88 0x8C 0x87	
CLOSE-OPEN	0x91 0x92 0x90	
OPEN-CLOSE	0x90	
WIDE-NEAR	0x8B 0x87	
NEAR-WIDE	0x87 0x8B	
TELE-FAR	0x8A 0x88	
FAR-TELE	0x88 0x8A	
NEAR-CLOSE	0x87 0x91	

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Command	Hex	Comments
CLOSE-NEAR	0x91 0x87	
FAR-OPEN	0x88 0x90	
OPEN-FAR	0x90 0x88	
WIDE-CLOSE	0x8B 0x94	
CLOSE-WIDE	0x91 0x8B	
TELE-OPEN	0x8A 0x90	
OPEN-TELE	0x90 0x8A	
CLOSE-NEAR-WIDE	0x91 0x87 0x8B	
WIDE-NEAR-CLOSE	0x8B 0x87 0x91	
OPEN-FAR-TELE	0x90 0x88 0x8A	
TELE-FAR-OPEN	0x8A 0x88 0x90	
CLOSE-WIDE-NEAR	0x91 0x88 0x87	
WIDE-CLOSE-NEAR	0x8B 0x91 0x87	

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Command	Hex	Comments
OPEN-TELE-FAR	0x90 0x8A 0x88	
TELE-OPEN-FAR	0x8A 0x90 0x88	

AUXes are bit encoded in the lower part of an 0xEx command.

1. 0xE1 is used to turn on AUX #1 **and off AUXes #2, #3 and #4**.
2. To turn on AUX #1, #2 and #3 use 0xE7 which also turns off AUX #4.
3. To turn off AUX #2, when AUX #1, #2 and #3 are on and AUX #4 is off, use 0xE5 which keeps AUX #4 off too.

Note that to get this to work, the controller **must** remember the status of what is on and off, or the wrong things may get turned on/off.

With this testing configuration it is only possible to access 4 AUXes.

4 Results of examining the RC58 at Sears, Fresno

Note

1. In the following tables, I have made an attempt to indicate what was generated when each key was hit.
   A. The format of "3-byte" commands is: CAM ID, OP CODE, CKSUM.
   B. The format of the "1 byte" response is: CAM ID.
   C. There are other formats of data with the largest messages coming from the camera and being either 104 or 204 bytes in length. The internal format and importance of these commands is unknown.
2. In describing the commands send by the RC58, I have used a short hand description of the commands generated. Since all commands start with a CAM ID and end with a CKSUM, I have not indicated their presence. Then because many commands are sent three times, I indicate this with the phrase "($3\times_D$)" for when the key(s) are depressed (down) and "($3\times_U$)"for when the key(s) are released (up) just after the repeated OP CODE.
3. "Boxed" numbers, (79), refer to pages in the "Training Manual, SensorVision™ Programmable, Video Management Systems, (RC20, RC32, and RC58)". This particular page reference is to the "RC58 Rack Box Connectors" in appendix B.

4.1 Control Keypad generated commands

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ZOOM OUT	0x8B ($3\times_D$) ZOOM OUT	0x8C ($3\times_U$) ZOOM STOP
ZOOM IN	0x8A ($3\times_D$) ZOOM IN	0x8C ($3\times_U$) ZOOM STOP
FOCUS FAR	0x88 ($3\times_D$) FOCUS FAR	0x89 ($3\times_U$) FOCUS STOP
FOCUS NEAR	0x87 ($3\times_D$) FOCUS NEAR	0x89 ($3\times_U$) FOCUS STOP
IRIS OPEN	0x90 ($3\times_D$) IRIS OPEN	0x92 ($3\times_U$) IRIS STOP
		Continued on the next page.

[6] `$Header: d:/sears/RCS/rc58tabl.inc,v 1.8 2001-12-26 15:51:40-08 Hamilton Exp Hamilton $`

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IRIS CLOSE	0x91 $(3\times_D)$ IRIS CLOSE	0x92 $(3\times_U)$ IRIS STOP		
UP	0x84 $(3\times_D)$ TILT UP	0x86 $(3\times_U)$ TILT STOP		
UP/RIGHT	0x84 $(3\times_D)$ TILT UP	0x82 $(3\times_D)$ PAN RIGHT	0x83 $(3\times_U)$ PAN STOP	0x86 $(3\times_U)$ TILT STOP
RIGHT	0x82 $(3\times_D)$ PAN RIGHT	0x83 $(3\times_U)$ PAN STOP		
RIGHT/DOWN	0x82 $(3\times_D)$ PAN RIGHT	0x85 $(3\times_D)$ TILT DOWN	0x83 $(3\times_U)$ PAN STOP	0x86 $(3\times_U)$ TILT STOP
DOWN	0x85 $(3\times_D)$ TILT DOWN	0x86 $(3\times_U)$ TILT STOP		
DOWN/LEFT	0x81 $(3\times_D)$ PAN LEFT	0x85 $(3\times_D)$ TILT DOWN	0x83 $(3\times_U)$ PAN STOP	0x86 $(3\times_U)$ TILT STOP
LEFT	0x81 $(3\times_D)$ PAN LEFT	0x83 $(3\times_U)$ PAN STOP		
LEFT + FAST	0x81 $(3\times_D)$ PAN LEFT	0x9A $(3\times_D)$ FASTER	0x83 $(3\times_U)$ PAN STOP	
LEFT/UP	0x81 $(3\times_D)$ PAN LEFT	0x84 $(3\times_D)$ TILT UP	0x83 $(3\times_U)$ PAN STOP	0x86 $(3\times_U)$ TILT STOP
RAIL LEFT	0x8D $(3\times_D)$ FAST	0x8F $(3\times_U)$ FAST STOP		
FAST	0x9A $(3\times_D)$ FASTER	0x9B $(3\times_U)$ FASTER STOP		
RAIL RIGHT	0x8E $(3\times_D)$ FASTEST	0x8F $(3\times_U)$ FAST STOP		

4.2 Initial screen

```
HH:MM:SS PM DOW DD MMM 2001

SENSORVISION POWER UP SEQUENCE STARTED

(C) SENSORMATIC ELECTRONICS CORP.
       RF002 System 58D
            1997

   COLD START IN PROGRESS

 DOME CONFIGURATION IN PROGRESS
```

5

5 Sears Clovis CCTV configuration

5.1 Observed camera IDs from Sears Clovis 30MAY01 and 08JUN01

Sears Clovis currently has 42 cameras, some of which are fixed and others have motion. The controller can have up to 96 cameras attached. The controller has two control outputs, the monitoring of 30MAY01 only involved using the upper connector and had cameras $2 \rightarrow 19$ connected to it, all other cameras $1, 20 \rightarrow 42$ are on the lower connector.

The first hex number in the comments section is the response to the controller when the dome receives a "query" (or "poll") message.

[7] `$Header: d:/sears/RCS/scconfig.inc,v 1.10 2001-11-30 15:12:05-08 Hamilton Exp Hamilton $`

Hex	Camera	Port	Status	Comments
0x01	1	Lower	??	—
0x02	2	Upper	Pan/Tilt	0xF5
0x03	3	Upper	Pan/Tilt	0xF5
0x04	4	Upper	Pan/Tilt	0xF5
0x05	5	Upper	Pan/Tilt	0xF5
0x06	6	Upper	Pan/Tilt	0xF5
0x07	7	Upper	Pan/Tilt	0xF5
0x08	8	Upper	Pan/Tilt	0xF5
0x09	9	Upper	Pan/Tilt	0xF5
0x0A	10	Upper	Pan/Tilt	0xF5
0x0B	11	Upper	Pan/Tilt	0xF5
0x0C	12	Upper	Pan/Tilt	0xF5
0x0D	13	Upper	Pan/Tilt	0xF5
0x0E	14	Upper	Pan/Tilt	0xF5
0x0F	15	Upper	Pan/Tilt	0xF5
0x10	16	Upper	Pan/Tilt	0xF5
0x11	17	Upper	Pan/Tilt	0xF5
0x12	18	Upper	Pan/Tilt	0xF5
0x13	19	Upper	Pan/Tilt	0xF5
0x14	20	Lower	??	—
0x15	21	Lower	No Camera	—
0x16	22	Lower	??	—
0x17	23	Lower	??	—
0x18	24	Lower	??	—
0x19	25	Lower	??	—
0x1A	26	Lower	??	—
0x1B	27	Lower	??	—
0x1C	28	Lower	??	—
0x1D	29	Lower	??	—
0x1E	30	Lower	??	—
0x1F	31	Lower	??	—

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Hex	Camera	Port	Status	Comments
0x20	32	Lower	??	—
0x21	33	Lower	??	—
0x22	34	Lower	??	—
0x23	35	Lower	??	—
0x24	36	Lower	??	—
0x25	37	Lower	??	—
0x26	38	Lower	??	—
0x27	39	Lower	??	—
0x28	40	Lower	Working, not on screen	—
0x29	41	Lower	No power until store opens	—
0x2A	42	Lower	??	—
0x2B	43	—	No Camera	
0x2C	44	—	No Camera	
0x2D	45	—	No Camera	
0x2E	46	—	No Camera	
0x2F	47	—	No Camera	
0x30	48	—	No Camera	
0x31	49	—	No Camera	
0x32	50	—	No Camera	

5.2 Status display information

5.2.1 Input Status

20-2

None

5.2.2 Output Status

20-4

None

5.2.3 I/O Unit Status

20-6

Only one item.

Num	Name	Status	Last Soft Input Recv
1		Off	

5.2.4 Camera Status

20-8

Cam #	Cam Name	Type	Status	Video
1		U	On	Y
2		U	On	Y
3		U	On	Y
4		U	On	Y
5		U	On	Y
6		U	On	Y
7		U	On	Y
8		U	On	Y
9		U	On	Y
10		U	On	Y
11		U	On	Y
12		U	On	Y
13		U	On	Y
14		U	On	Y
15		U	On	Y
16		U	On	Y

Continued on the next page.

Continued from the previous page.				
Cam #	Cam Name	Type	Status	Video
17		U	On	Y
18		U	On	Y
19		U	On	Y
20		SN	Off	Y
21		SN	Off	N
22		SN	Off	Y
23		SN	Off	Y
24		SN	Off	Y
25		SN	Off	Y
26		SN	Off	Y
27		SN	Off	Y
28		SN	Off	Y
29		SN	Off	Y
30		SN	Off	Y
31		SN	Off	Y
32		SN	Off	Y
33		SN	Off	Y
34		SN	Off	Y
35		SN	Off	Y
36		SN	Off	Y
37		SN	Off	Y
38		SN	Off	Y
39		SN	Off	Y
40		SN	Off	N
41		SN	Off	N
42		SN	Off	Y
43	**Camera 42 is the last installed camera.**			

In the camera status display the following type abbreviations are used:

F Fixed

LT SpeedDome LT

NP Non-programmable Camera

P MiniDome

SN Non-programmable SpeedDome

SP Programmable SpeedDome

U UltraDome

While in the camera status display the following status abbreviations are used:

Dnld Download

Off Off

On On

Trbl Trouble

Updt Update

5.2.5 Network Status

21-10

Sensornet Network Statistics		422 Network Statistics	
Crc Errors	0	Checksum Errors	0
Underrun Error	290	Overrun Errors	0
Number of Naks	0	Parity Errors	0
Average Poll	69	Framing Errors	1,315
Msgs Last 15 Min	34	Average Poll	2
Errors Last 15 Min	290	Chars Last 15 Min	2,114
Last 15 Min Error Percent	852?	Errors Last 15 Min	22
Total Msg Received	77,809	Last 15 Min Error Percent	1
Total Errors	290	Total Chars Recvd	481,208
Cumulative Error Percent	0	Total Errors	1,315
Diagnostic Codes	0	Cumulative Error Percent	0
Station Address	0	Diagnostic Codes	0
Version Number	534		

Note

The entry for "`Last 15 Min Error Percent`" might be a transcription error.

6 Sears Fresno CCTV configuration

6.1 Observed camera IDs from Fresno Sears 22MAR01

The first hex number in the comments section is the response to the controller when the dome receives a "query" (or "poll") message.

Hex	Camera	Port	Status	Comments
0x01	1	5	Pan/Tilt	0xF5
0x02	2	2	Pan/Tilt	0xF5, Slow
0x03	3	2	Pan/Tilt	0xF5, Slow
0x04	4	2	Pan/Tilt	0xF5
0x05	5	5	Pan/Tilt	0xF5
0x06	6	5	Pan/Tilt	0xE5 0xF5
0x07	7	2	Pan/Tilt	0xF5
0x08	8	2	Pan/Tilt	0xF5
0x09	9	—	Blue Screen	
0x0A	10	—	Blue Screen	
0x0B	11	2	Pan/Tilt	0xF5, Some bad responses
0x0C	12	3	Pan/Tilt	0xF5
0x0D	13	3	Pan/Tilt	0xF5
0x0E	14	3	Pan/Tilt	0xF5
0x0F	15	3	Pan/Tilt	0xF5
0x10	16	3	Pan/Tilt	0xF5
0x11	17	3	Pan/Tilt	0xF5
0x12	18	3	Pan/Tilt	0xF5
0x13	19	3	Pan/Tilt, Color	0xF5
0x14	20	—	Blue Screen	
0x15	21	—	Blue Screen	
0x16	22	4	Pan/Tilt	0xF5
0x17	23	—	Blue Screen	
0x18	24	—	Pan/Tilt, Color	
0x19	25	1	Pan/Tilt	0xF5
0x1A	26	3	Pan/Tilt, Color	0xF5
0x1B	27	5	Pan/Tilt	0xF5

Continued on the next page.

[8] `$Header: d:/sears/RCS/sfconfig.inc,v 1.7 2001-11-30 15:12:06-08 Hamilton Exp Hamilton $`

Continued from the previous page.

Hex	Camera	Port	Status	Comments
`0x1C`	28	2	Pan/Tilt	`0xF5`
`0x1D`	29	2	Pan/Tilt, Color	`0xF5`
`0x1E`	30	2	Pan/Tilt	`0xF5`
`0x1F`	31	2	Pan/Tilt	`0xF5`
`0x20`	32	2	Pan/Tilt	`0xF5`, Slow
`0x21`	33	1	Pan/Tilt	`0xF5`
`0x22`	34	1	Pan/Tilt	`0xF5`
`0x23`	35	2	Pan/Tilt	`0xF5`
`0x24`	36	2	Pan/Tilt	`0xF5`, Slow
`0x25`	37	—	No Camera	
`0x26`	38	—	No Camera	
`0x27`	39	—	No Camera	
`0x28`	40	—	Robot Multiplexer	
`0x29`	41	—	No Camera	
`0x2A`	42	1	Pan/Tilt	`0xF5`
`0x2B`	43	1	Pan/Tilt	`0xF5`
`0x2C`	44	—	No Camera	
`0x2D`	45	—	No Camera	
`0x2E`	46	—	No Motion	
`0x2F`	47	—	Blue Screen	
`0x30`	48	2	Pan/Tilt	`0xF8`
`0x31`	49	—	Blue Screen	
`0x32`	50	—	No Motion, Color	
`0x33`	51	—	Blue Screen	
`0x34`	52	—	Blue Screen	
`0x35`	53	—	Blue Screen	
`0x36`	54	—	Blue Screen	
`0x37`	55	—	Blue Screen	
`0x38`	56	5	Pan/Tilt	`0xF5`
`0x39`	57	—	Blue Screen	
`0x3A`	58	—	Blue Screen	

6.2 Cameras that the controller knows about

Camera	Type	Motion	Variable speed	Status
1	INDOOR	CONTinuous	PROGrammable	OFFLINE
2	INDOOR	CONTinuous	PROGrammable	OFFLINE
3	INDOOR	CONTinuous	PROGrammable	OFFLINE
4	INDOOR	CONTinuous	PROGrammable	OFFLINE
5	INDOOR	CONTinuous	PROGrammable	OFFLINE
6	INDOOR	CONTinuous	PROGrammable	OFFLINE
7	INDOOR	CONTinuous	PROGrammable	OFFLINE
8	INDOOR	CONTinuous	PROGrammable	OFFLINE
9				
10				
11	INDOOR	CONTinuous	PROGrammable	OFFLINE
12	INDOOR	CONTinuous	PROGrammable	OFFLINE
13	INDOOR	CONTinuous	PROGrammable	OFFLINE
14	INDOOR	CONTinuous	PROGrammable	OFFLINE
15	INDOOR	CONTinuous	PROGrammable	OFFLINE
16	INDOOR	CONTinuous	PROGrammable	OFFLINE
17	INDOOR	CONTinuous	PROGrammable	OFFLINE
18	INDOOR	CONTinuous	PROGrammable	OFFLINE
19	INDOOR	CONTinuous	PROGrammable	OFFLINE
20				
21				
22	INDOOR	FIXED		ONLINE
23				
24	INDOOR	FIXED		ONLINE
25	INDOOR	CONTinuous	PROGrammable	OFFLINE
26	INDOOR	CONTinuous	PROGrammable	OFFLINE
27	INDOOR	CONTinuous	PROGrammable	OFFLINE
28	INDOOR	CONTinuous	PROGrammable	OFFLINE
29	INDOOR	CONTinuous	PROGrammable	OFFLINE
30	INDOOR	CONTinuous	PROGrammable	OFFLINE
31	INDOOR	CONTinuous	PROGrammable	OFFLINE
32	INDOOR	CONTinuous	PROGrammable	OFFLINE
33	INDOOR	CONTinuous	PROGrammable	OFFLINE
34	INDOOR	CONTinuous	PROGrammable	OFFLINE

Continued on the next page.

Continued from the previous page.				
Camera	Type	Motion	Variable speed	Status
35	INDOOR	CONTinuous	PROGrammable	OFFLINE
36	INDOOR	CONTinuous	PROGrammable	OFFLINE
37				
38				
39				
40	INDOOR	FIXED		ONLINE
41				
42	INDOOR	CONTinuous	PROGrammable	OFFLINE
43	INDOOR	CONTinuous	PROGrammable	OFFLINE
44				
45				
46	INDOOR	FIXED		ONLINE
47				
48	OUTDOOR	CONTinouus	PROGrammable	OFFLINE
49				
50	INDOOR	CONTinuous	PROGrammable	OFFLINE
51				
52				
53				
54				
55				
56	INDOOR	CONTinuous	PROGrammable	OFFLINE
57				
58				

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