

APPENDIX IV -MISCELLANEOUS

CONNECTOR DESCRIPTION:

PIN NUMBER	SIGNAL NAME
pin 2	transmit data (monitor output)
pin 3	receive data (monitor input)
pin 7	signal ground

PROTOCOL DESCRIPTION:

The protocol consists of printable ASCII alphanumeric characters. The characters are transmitted/received at 9600 bits/sec, 8 bits per char, no parity, 1 stop bit.

The monitor will send vital sign information to the host every 10 seconds. The message contains the current vital sign parameters and their corresponding flag indicating if an alarm is outside the programmed area.

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
0	ASCII 'P'	response type
1	ASCII 'T'	response type
2	ASCII '0' - '9' or BLANK	systolic (hundreds)
3	ASCII '0' - '9' or BLANK	systolic (tens)
4	ASCII '0' - '9' or BLANK	systolic (units)
5	ASCII '0' - '1'	systolic alarm flag (0->no, 1->yes)
6	ASCII '0' - '9' or BLANK	diastolic (hundreds)
7	ASCII '0' - '9' or BLANK	diastolic (tens)
8	ASCII '0' - '9' or BLANK	diastolic (units)
9	ASCII '0' - '1'	diastolic alarm flag (0->no, 1->yes)
10	ASCII '0' - '9' or BLANK	mean (hundreds)
11	ASCII '0' - '9' or BLANK	mean (tens)
12	ASCII '0' - '9' or BLANK	mean (units)
13	ASCII '0' - '1'	mean alarm flag (0->no, 1->yes)
14	ASCII '0' - '9' or BLANK	pulse (hundreds)
15	ASCII '0' - '9' or BLANK	pulse (tens)
16	ASCII '0' - '9' or BLANK	pulse (units)
17	ASCII '0' - '1'	pulse alarm flag (0->no, 1->yes)
18	ASCII '0' - '9' or BLANK	SpO2 (hundreds)
19	ASCII '0' - '9' or BLANK	SpO2 (tens)
20	ASCII '0' - '9' or BLANK	SpO2 (units)
21	ASCII '0' - '1'	SpO2 alarm flag (0->no, 1->yes)
22	ASCII '0' - '9' or BLANK	inCO2 (hundreds)
23	ASCII '0' - '9' or BLANK	inCO2 (tens)
24	ASCII '0' - '9' or BLANK	inCO2 (units)
25	ASCII '0' - '1'	inCO2 alarm flag (0->no, 1->yes)
26	ASCII '0' - '9' or BLANK	inAgent (hundreds)
27	ASCII '0' - '9' or BLANK	inAgent (tens)
28	ASCII '0' - '9' or BLANK	inAgent (units)

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29	ASCII '0' - '1'	inAgent alarm flag (0->no, 1->yes)
30	ASCII '0' - '9' or BLANK	FIO2 (hundreds)
31	ASCII '0' - '9' or BLANK	FIO2 (tens)
32	ASCII '0' - '9' or BLANK	FIO2 (units)
33	ASCII '0' - '1'	FIO2 alarm flag (0->no, 1->yes)
34	ASCII '0' - '9' or BLANK	etCO2 (hundreds)
35	ASCII '0' - '9' or BLANK	etCO2 (tens)
36	ASCII '0' - '9' or BLANK	etCO2 (units)
37	ASCII '0' - '1'	etCO2 alarm flag (0->no, 1->yes)
38	ASCII '0' - '9' or BLANK	etAgent (hundreds)
39	ASCII '0' - '9' or BLANK	etAgent (tens)
40	ASCII '0' - '9' or BLANK	etAgent (units)
41	ASCII '0' - '1'	etAgent alarm flag (0->no, 1->yes)
42	ASCII '0' - '9' or BLANK	N2O (hundreds)
43	ASCII '0' - '9' or BLANK	N2O (tens)
44	ASCII '0' - '9' or BLANK	N2O (units)
45	ASCII '0' - '1'	N2O alarm flag (0->no, 1->yes)
46	ASCII '0' - '9' or BLANK	temperature (hundreds)
47	ASCII '0' - '9' or BLANK	temperature (tens)
48	ASCII '0' - '9' or BLANK	temperature (units)
49	ASCII '0' - '9' or BLANK	temperature (1/10 units)
50	ASCII '0' - '1'	temperature alarm flag (0->no, 1->yes)
51	ASCII '0' - '9' or BLANK	respiration (hundreds)
52	ASCII '0' - '9' or BLANK	respiration (tens)
53	ASCII '0' - '9' or BLANK	respiration (units)
54	ASCII '0' - '1'	respiration alarm flag (0->no, 1->yes)
55	ASCII 'X'	ending flag

Following is a list of commands and responses.

COMMAND	ACTION / RESPONSE
A - auto start command	unit enters AUTO MODE/starts measurement/no response
H - hold/resume command	measurement or time count down toggles between pause or resume
L - alarm poll command	unit responds with alarm true or false condition
M - manual start command	unit resets to HANDS OFF MODE/begins measurement/no response
Q - alarm silence command	silence alarm for pre-programmed amount of time/no response
S - stat start command	unit enters STAT MODE/starts measurement/no response

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T - time set command	set unit time and date/no response
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COMMAND DETAILS:

A - AUTO START

The auto start command puts the unit into AUTO MODE with a interval time established by the included time. Measurement starts immediately. There is no response from the unit.

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
0	ASCII 'A'	command type
1	'ASCII '0' - '9'	auto interval minutes (tens)
2	'ASCII '0' - '9'	auto interval minutes (units)
3	ASCII 'X'	ending flag

H - HOLD/RESUME

The hold/resume command toggles between hold or resume. There is no response from the unit.

hold -> stop measurement if currently measuring or stop the count down if in AUTO / STAT MODE

resume -> resume measurement if stopped during measurement or resume time count down if in AUTO / STAT MODE

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
0	ASCII 'H'	command type

L - ALARM POLL

The unit responds to the alarm poll command with a true or false condition to active alarm

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
0	ASCII 'L'	command type

Response

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
0	ASCII 'L'	response type
1	ASCII '0', '1'	unit in alarm 0 -> FALSE 1 -> TRUE
2	ASCII 'X'	ending flag

M - MANUAL START

The manual start command resets the unit to HANDS OFF MODE, clears the cycle memory and begins measurement. There is no response from the unit.

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
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0	ASCII 'M'	command type
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Q - ALARM SILENCE

The alarm silence command silences the alarm for the pre-programmed amount of time. There is no response from the unit.

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
0	ASCII 'Q'	command type

S - STAT START

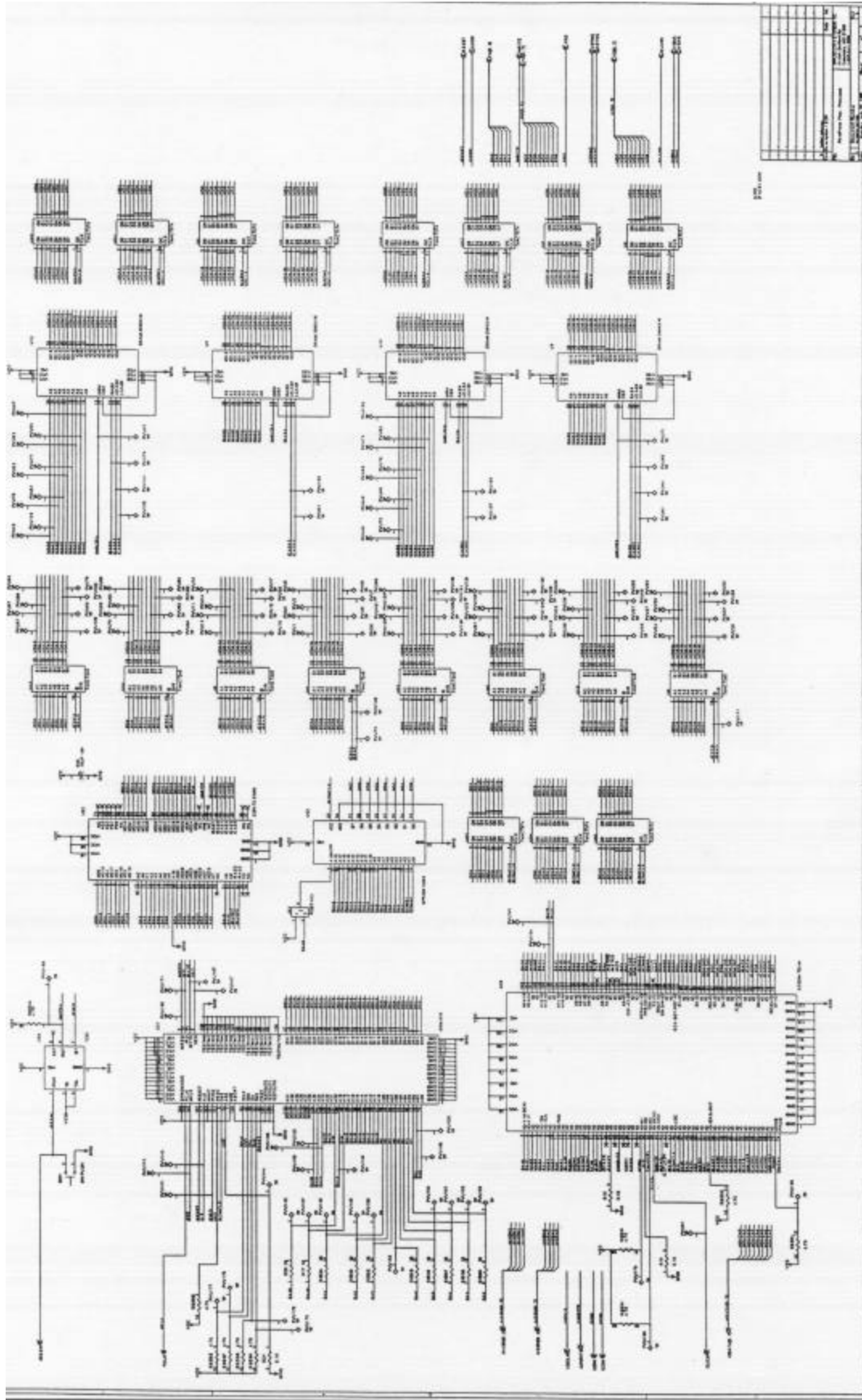
The stat start command puts the unit into STAT MODE with a interval time established by the included time. Measurement starts immediately. There is no response from the unit.

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
0	ASCII 'S'	command type
1	'ASCII '0' - '9'	stat duration minutes (units)
2	ASCII 'X'	ending flag

T - TIME SET

The time set command sets the unit time and date to the new time and date. There is no response from the unit.

STRING POSITION	POSSIBLE CHARACTERS	DESCRIPTION
0	ASCII '0' - '2'	time hour (tens)
1	ASCII '0' - '9'	time hour (units)
2	ASCII '0' - '6'	time minutes (tens)
3	ASCII '0' - '9'	time minutes (units)
4	ASCII '0', '1', '2', '3'	date (tens)
5	ASCII '0' - '9'	date (units)
6	ASCII '0', '1'	month (tens)
7	ASCII '0' - '9'	month (units)
8	ASCII '0' - '9'	year (tens)
9	ASCII '0' - '9'	year (units)
10	ASCII 'X'	ending flag
11	ASCII 'X'	ending flag



SCHEMATIC 1: PIXEL PRESS PLUS VIDEO DRIVER BOARD