

CP220 DTE DCE

OUTPUT PROTOCOL



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CP220 DTE DCE OUTPUT PROTOCOL

The following information is a summary of the DTE and DCE serial ports which are located on the rear of the CP220. These ports are used to interface a computer system. Both ports output exactly the same data as explained below. The only difference between them is the pin configuration. The interfaced computers input port pin configuration dictates which CP220 port must be used.

<u>DTE PINS</u>	<u>DCE PINS</u>	<u>CONFIG.</u>	<u>MEANING</u>
1	1	EAR.GND	EARTH GROUND
2	3	TD	TRANSMIT DATA
3	2	RD	READ DATA
4	5	RTS	READY TO SEND
5	4	CTS	CLEAR TO SEND
6	20	DSR	DATA SET READY
7	7	DC(-)	SIGNAL GROUND
8		DCD	DATA CARRIER DETECT
20	6	DTR	DATA TERMINAL READY

The CP220 has several parameters which are associated with these ports. These parameters and their factory default settings are listed below. They are reprogrammable if necessary as dictated by the associated computer. Any hexadecimal value between 00 and FF (UNLESS OTHERWISE SPECIFIED IE:ON/OFF ETC.) can be programmed. A parameter setting of 00 is considered OFF.

<u>PARAM.#</u>	<u>NAME</u>	<u>DEFAULT</u>	<u>OPTIONAL SETTINGS</u>
00	COMP.I/O	OFF	ON/OFF
02	REC.TYPE	FBI	FBI/RAD/ADEMCO
09	BAUD RATE	1200	100/300/600/1200/19.2K
10	SER.STOP BITS	2	1 OR 2
11	SER.DATA BITS	7	8 OR 7 IF 7, PARITY IS 0,1, ODD, OR EVEN
16	ACK	00	00-FF
17	NAK	00	00-FF
18	BS	08	00-FF
19	CR	0D	00-FF
20	DTR	OFF	ON/OFF
21	RTS	OFF	ON/OFF
22	TERMINATOR	20	00-FF
24	LF	04	00-FF

The following information is true when the CP220 is set in parameter 02 for the F.B.I. MODE.

The information below is a summary of data which is sent out the DTE and DCE ports when the CP220 receives an incoming transmission in any of the following formats...3x1,4x1,4X2 standard or extended report at a speed of 10pps,20pps,40pps,or RADIONICS BFSK.

OUTPUT TO PORT:...RG A1A2 A3A4 FZ T.....

The line above "OUTPUT TO PORT" translates as follows:

R...RECEIVER NUMBER (0-F)

G...GROUP NUMBER (0-F)

A1-A4...SUBSCRIBER ACCOUNT NUMBER (0-F)

F..."A"/UNIVERSAL CODE (0-F)

Z... ZONE CODE (0-F)

T...TERMINATOR (PROGRAMMED PARAMETER 22)

R.....Receiver number that is programmed in parameter 03.

G.....Group number that is programmed in parameter 05 and is sent to indicate the line card which is reporting.

A1-A4..4 digit subscriber account code.If code is 3 digit, then A1 is a space.

F.....If the transmission into the receiver is a single digit alarm code (ie:3x1 or 4x1 standard format) and the alarm code is a number 0-9 then the letter "A" (for alarm) is sent out the port in this location.If the alarm code is B,C,D,E,or F then the receiver will output those literal characters B,C,D,E, and F in this location.

If the transmission is EXTENDED FORMAT then the receiver will output the UNIVERSAL CODE in this location.

If the transmission is a double digit alarm code (ie:4x2) then the receiver will output the first digit of that double digit code in this location.

The letters S...STATUS REPORT,P...POWER FAIL,and W..FORCE ARMING are additional characters which may be sent in this location ,associated with the RADIONICS BFSK format.

Z..... If the transmission into the receiver is a single digit alarm code (ie:3x1 4x1 standard format) and the alarm code is a number 0-9,that respective number 0-9 will be output to the port in this location.If the single digit alarm code is B,C,D,E,or F then a "SPACE" will be output in this location.

If the transmission into the receiver is EXTENDED FORMAT then the actual ZONE CODE will be output in this location.

If the transmission into the receiver is a double digit alarm code (ie:4x2) then the second digit of the double digit code will be output in this location.

T.....This spot is the TERMINATOR which is programmed in receiver parameter 22.

The following is an example of a standard 3x1 transmission received by the CP220 and the associated data which would be sent to the computer:

TRANSMISSION IN: 123 3 = subs code 123.....alarm code 3.

OUTPUT TO PORT : 11 123A3 TERMINATOR

1...RECEIVER NUMBER,1...GROUP NUMBER,SPACE,123...SUBS CODE, A...ALARM,3...ALARM CODE,FOLLOWED BY THE PROGRAMMED TERMINATOR CHARACTER.

The following is an example of a standard 3x1 transmission received and the associated data which would be sent to the computer.

TRANSMISSION IN: 123 B..... SUBS CODE 123... B=OPENING

OUTPUT TO PORT:1...RECEIVER NUMBER,1...GROUP NUMBER,SPACE,123...SUBS CODE,B..ALARM CODE,SPACE,TERMINATOR.

The following is an example of an extended format transmission received by the CP220.

TRANSMISSION IN: 123 3 333 1 = subs code 123....universal code 3....zone code 1.

OUTPUT TO PORT 11 12331 TERMINATOR

1...RECEIVER NUMBER,1...GROUP NUMBER,SPACE,123....SUBS CODE,3...UNIVERSAL CODE,1....ZONE CODE,FOLLOWED BY THE TERMINATOR.

FBI SUPERFAST

FIRE BURGLARY INSTRUMENTS has developed a new format which is transmitted exclusively by our new products. This format is more commonly known as 4x3x1. A total of 8 digits are sent in DTMF whenever the transmitter reports to the receiver. The first 4 digits sent are the SUBSCRIBER ACCOUNT CODE (0000-FFFF). The next 3 digits sent are the actual ZONE CODE (000-FFF). The last digit sent is the EVENT CODE (0-F). Therefore this format will produce a transmission in the following method:

A1 A2 A3 A4 Z1 Z2 Z3 E

A1-A4= SUBSCRIBER ACCOUNT NUMBER
Z1-Z3= ZONE CODE
E= EVENT CODE

The following line depicts an actual transmission into the receiver:

8888 512 3

8888= SUBSCRIBER ACCOUNT NUMBER
512= ZONE CODE
3= BURGLARY

The CP220 will output this data to the computer port exactly as it receives it. The following line depicts the actual data string which will be output.

R G A1 A2 A3 A4 Z1 Z2 Z3 E T

R = RECEIVER NUMBER
G = GROUP NUMBER
A1-A4 = SUBS ACCOUNT NUMBER
Z1-Z3 = ZONE CODE
E = EVENT CODE
T = TERMINATOR CHARACTER (as programmed in receiver)

Therefore the CP220 would output the following data string as a result of our example transmission above.

11 8888 512 3 T

1 = RECEIVER NUMBER
1 = GROUP NUMBER
8888 = SUBS ACCOUNT CODE
512 = ZONE CODE
3 = EVENT CODE
T = TERMINATOR CHARACTER (as programmed in receiver)

ADEMCO SUPERFAST

The CP220 can accept a format called ADEMCO SUPERFAST. The following is an example of data which will be sent out the receiver ports when this format is received.

LF R G SP A1 A2 A3 A4 SP C1 C2 C3 C4 SP C5 C6 C7 C8 SP C9 CR
LF....LINE FEED
R.....RECEIVER NUMBER
G.....GROUP NUMBER
A1-A4..SUBSCRIBER ACCOUNT NUMBER (4 DIGIT)
SP.....SPACE
C1-C8..CONDITON OF CHANNEL 1-8
C9.....CONDITION OF SYSTEM STATUS CHANNEL 9
CR.....CARRIAGE RETURN

This format is unique in that the total system status is reported every time any transmission to the central occurs. Channels 1-8 could actually be in any one of 6 different conditions at any given time. The chart below explains the numeric codes and corresponding meanings for these conditions.

<u>STATUS CODE</u>	<u>MEANING</u>
1	NEW ALARM
2	NEW OPENING
3	NEW RESTORE
4	NEW CLOSING
5	NORMAL (NO EVENT)
6	PREVIOUSLY REPORTED EVENT

Channel 9 has 3 different conditions it could be in as follows:

<u>STATUS CODE</u>	<u>MEANING</u>
7	NORMAL
8	LOW BATTERY
9	TEST

The following is an actual transmission received by the CP220 and the associated data which is sent to the computer.

ie: RG 1204 5215 5553 7
output to port: RG sp 1204 5215 sp 5553 sp 7

The example above indicates account 1204, opening zone 2, alarm zone 1, restore zone 8, all other zones normal.

This format has recently undergone some modification which allows such things as opening/closing by user, bypass/trouble by zone etc. to be reported. This is accomplished by expanding the status codes of the ninth channel as follows:

<u>NINTH CHANNEL</u>	<u>MEANINGS</u>
<u>MODIFIED STATUS CODES</u>	
2	OPEN
3	BYPASS
4	CLOSE
5	ZONE TROUBLE
6	SYSTEM TROUBLE

In the case of opening and closing by user channel 1 indicates the actual user number (1-F) and channels 2-9 will all contain the respective modified status code.

EXAMPLE 1:RG 1204 9222 SP 2222 SP 2

EXAMPLE 2:RG 1204 F444 SP 4444 SP 4

Example 1 indicates subs.account 1204 opening user 9.

Example 2 indicates subs account 1204 closing user 15

In the case of bypass,zone trouble,and system troubles by zone,channel 9 contains the modified status code and all channels which are reporting that same condition (bypass etc.) are indicated by code 1 in their respective channel location.Furthermore all channels reporting a restore of that same condition are indicated by code 3 in their respective location.

EXAMPLE 1:RG 1204 5551 SP 5551 SP 3

EXAMPLE 2:RG 1204 5155 SP 5555 SP 5

EXAMPLE 3:RG 1204 1535 SP 3555 SP 6

Example 1 indicates subs code 1204 ,bypass zones 4 and 8.

Example 2 indicates zone trouble on zone 2.

Example 3 indicates system trouble on zone 1 and restore of system trouble on zones 3 and 5.

NOTE:THE NUMBER 5 INDICATES THE OTHER ZONES ARE IN THEIR NORMAL CONDITION.

ACRON SUPERFAST

ACRON has a transmission format called their superfast which is a 12 digit DTMF transmission.The first 4 digits are the subscribers account number and the next 8 digits represent the condition of zones 1-8.

The following line depicts this format:

A1 A2 A3 A4 Z1 Z2 Z3 Z4 Z5 Z6 Z7 Z8

A1-A4= SUBS ACCOUNT NUMBER

Z1-Z8= ZONE 1-8 STATUS

The following line depicts an actual transmission in this format:

8888 1000 8000

8888= SUBS ACCOINT NUMBER

1000 8000=CODE 1 ON ZONE 1, CODE 8 ON ZONE 5 AND CODE 0 ON ALL OTHER ZONES.

NOTE 1> CODE 0 IN ANY OF ZONES 1-8 REPRESENT A NORMAL CONDITION.

NOTE 2> IF A THREE DIGIT ACCOUNT CODE IS REPORTED THE CP220 INSERTS A 0 IN THE A1 (FIRST) DIGIT OF THE ACCOUNT CODE.

The CP220 will display all data as LITERALLY received in this format.Furthermore,the CP220 will display several message associated with this format if received by the transmitter. The left side of the following example is the literal message which will be displayed assuming english is ON in the receiver.The right side indicates the the actual data transmitted into the reciver that generates these messages.

	A1	A2	A3	A4	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8
LOW BATTERY					B	B	B	B	B	B	B	B
24 HR TEST					0	0	0	0	0	0	0	0
CLOSING					A	A	A	A	A	A	A	A
FORCE ARM					1	1	1	1	1	1	1	1
OPENING					D	D	D	D	D	D	D	D

Therefore the CP220 would output the following data string as a result of our example transmission above.

11 8888 T000 8050

1 = RECEIVER NUMBER
 1 = GROUP NUMBER
 8888 = SUBS ACCOUNT CODE
 T = CODE 1 FOR ZONE 1
 0 = CODE 0 FOR ZONE 2
 0 = CODE 0 FOR ZONE 3
 0 = CODE 0 FOR ZONE 4
 8 = CODE 8 FOR ZONE 5
 0 = CODE 0 FOR ZONE 6
 5 = CODE 5 FOR ZONE 7
 0 = CODE 0 FOR ZONE 8
 t = TERMINATOR CHARACTER (as programmed in receiver)

NOTE:CODE 0 ON ANY ZONE INDICATES A NORMAL CONDITION ON THAT ZONE.

The CP220 will display all data as LITERALLY received in this format. Furthermore, the CP220 will display several message associated with this format if received by the transmitter. The left side of the following example is the literal message which will be displayed assuming english is ON in the receiver. The right side indicates the the actual data which will be sent to the computer port.

	R	G	A1	A2	A3	A4	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	t
LOW BATTERY							B	B	B	B	B	B	B	B	
24 HR TEST							0	0	0	0	0	0	0	0	
CLOSING							A	A	A	A	A	A	A	A	
FORCE ARM							T	T	T	T	T	T	T	T	
OPENING							D	D	D	D	D	D	D	D	

NOTE:ACRON MAY ALTER THE DATA IN THE FUTURE WHICH IS SENT FOR THESE MESSAGES AS EXPLAINED ABOVE. HOWEVER THE CP220 WILL ALWAYS OUTPUT DATA AS IT LITERALLY RECEIVES IT, THEREFORE FIRE BURGLARY INSTRUMENTS TAKES NO RESPONSIBILITY FOR ANY SOFTWARE CHANGES WHICH MAY HAVE TO BE DONE TO YOUR COMPUTER AS A RESULT OF THEIR CHANGE.

The following is a list of system messages which may be generated from the CP220 to the computer. The legend indicates variable information. All other characters are literal.

LEGEND

r...receiver number
 g...group number
 x...line number
 t...terminator (programmed)
 h...programmed character

MESSAGEOUTPUT TO PORT

NO TRANSMISSION	rgRCVB16t	
BAD DATA	rgRCVB26t	
BAD DATA ERROR	rgRCVB26t	
LINE FAULT	rgLINE1xt	
LINE RESTORE	rgLINE3xt	
OPERATOR LOG ON	rDhhhh17t	*
OPERATOR LOG OFF	rDhhhh27t	*
BATTERY TEST FAIL	rORCVB03t	#
BATTERY TEST RESTORE	rORCVB05t	#
BATTERY LOW FAIL	rORCVA16t	@
BATTERY RESTORE	rORCVA36t	@
MANUAL MODE ON	rORCVB02t	
AUTO MODE ON	rORCVB04t	
SYSTEM RESET	rORCVB01t	
AC POWER FAIL	rORCVA15t	
AC POWER RESTORE	rORCVA35t	
PRINTER FAIL	rORCVA14t	
PRINTER RESTORE	rORCVA34t	
COMPUTER FAIL	NONE	
COMPUTER RESTORE	rORCVA31t	

0....letter o

0....zero

* ...h is 4 character operator programmed.

...Battery test on power up and every 15 minutes while ac power is on.

@ ...when ac power is off and battery drops to 10.2vdc.

IF THERE ARE ANY QUESTIONS CONCERNING THE HOOKUP OR OUTPUT DATA OF THE CP220 TO THE INTERFACED COMPUTER WHICH HAS NOT BEEN COVERED IN THIS MANUAL, PLEASE FEEL FREE TO CONTACT THE TECHNICAL SERVICE DEPARTMENT AT 800-645-5430.