

ENHANCED iDOME COMMUNICATIONS PROTOCOL



COHU, INC
ELECTRONICS DIVISION

1.1 GENERAL

This documents defines the Asynchronous communication protocol between the Host Computer and the enhanced iDome. Figure 1. illustrates the handshake protocol. The communication is a full duplex. Typical or default communication parameters will be 9600 baud, 8 data bits, 1 stop bit and no parity.

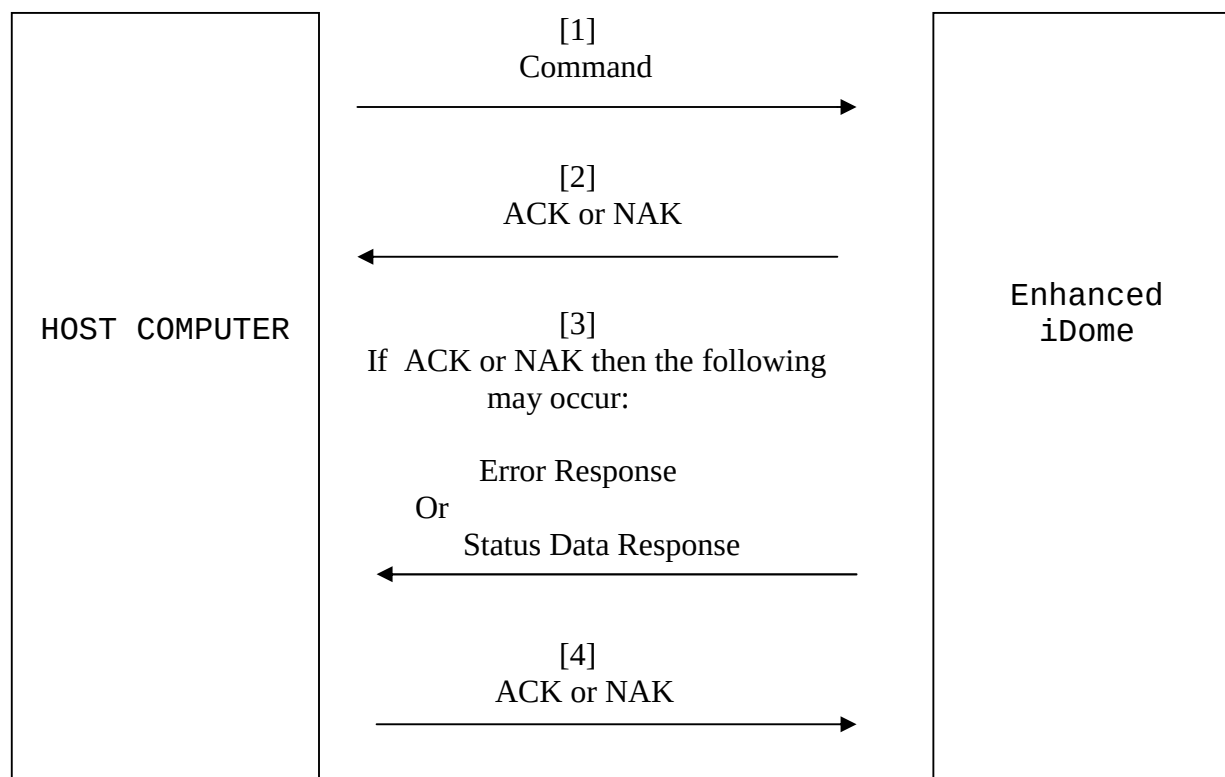


FIGURE 1. TYPICAL COMMUNICATION HANDSHAKE PROTOCOL

1.2 MESSAGE FORMAT

Anytime a command message is sent to the Camera, the camera will respond with an ACK or NAK. The commands are sent using the command message format shown in Tables 1, 2, 4, 6, 7. The response message from the camera is shown in Tables 3, and 5.

If the command message contains only a momentary function, no further response beyond the ACK or NAK will occur .

-The control characters to be used are:-

F8	Start Character (in HEX)
ACK	Acknowledge proper receipt of transmission
NAK	Bad transmission
CS	Checksum (End of Message)
ID	Camera address in HEX
##	One byte in Hex
'#'	Number in ASCII
CamID	Camera Adress (3 ASCII Bytes from 000 to 999)

All transmissions will be in formats:

	<F8> <CamID> < cDATA> <CS>	Table 2.
or:	<F8> <CamID> < DATA > <CS>	Table 4.
or:	<F8> <CamID> < dDATA> <CS>	Table 6.
or:	<F8> <CamID> < *DATA> <CS>	Table 7.

TABLE 1. COMMAND MESSAGE FORMAT

BYTE	DATA	DESCRIPTION
0	0xF8	Start of message
1 to 3	Camera Address 1 to 223	3 bytes in ASCII (1 to 223) <u>Note:</u> 0xFF (Broadcast Address) used to access a camera regardless the camera address
4+n	cDATA DATA dDATA *DATA	Message type - See Table 2 See Table 4 See Table 6 See Table 7
n+4	CHECKSUM	End of message 80H-8FH Least significant nibble is XOR of all previous bytes (LS NIBBLES only) except F8h

TABLE 2. COMMAND/RESPONSE DATA

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
As'###' ### = '001' – 999'	Assign Camera Address <u>NOTE:</u> This command is valid if Camera Address is the Broadcast Address, or is the same as the current camera address.		
DSP COMMANDS			
cD#	Digital Zoom Range # = '0' (OFF) = '1' (2X) = '2' (5X) = '3' (10X)		
cDS	Request for current DSP Status	See Table 3 for response format	Return the current DSP Statuses
cS#	Shutter # = 30h (1/4) = 31h (1/8) = 32h (1/15) = 33h (1/30) = 34h (Auto) = 35h (1/60) = 36h (1/100) = 37h (1/250) = 39h (1/1000) = 3Ah (1/2000) = 3Bh (1/4000) = 3Ch (1/10000)		
cW#	White Balance # = '0' (Auto) = '1' (Manual)		
cWR	Increase RED (in Manual mode only)		
cWr	Decrease RED		
cWB	Increase BLUE		
cWb	Decrease BLUE		
cWQ	Stop Increase/Decrease color		
cY1	Wide Dynamic Range ON		
cY0	Wide Dynamic Range OFF		

TABLE 2. COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>DSP COMMANDS</u> (cont.)			
cM0	Camera in Day/Night Auto Mode		
cM1	Camera in Day Mode (Color)		
cM2	Camera in Night Mode (Monochrome)		
cIA	Iris Auto		
cIM	Iris Manual		
cIO	Iris Open		
cIC	Iris Close		
cIS	Iris Stop		
cI# (For ER8011B only)	Iris Level (16 levels) # : 0x30 to 0x3F 0x30: closed all the way 0x3F: opened all the way		
cz#	Zoom Wide # = '0' (Low Speed) = '1' (Medium Speed) = '2' (Fast Speed)		
cZ#	Zoom Tele # = '0' (Low Speed) = '1' (Medium Speed) = '2' (Fast Speed)		
cZs	Zoom Stop		
cFA	Set Auto Focus		
cFM	Set Manual Focus		
cF#	Focus Far/Video Mode # = '0' (Low Speed) = '1' (Medium Speed) = '2' (Fast Speed) = 'O' (Video Freezed) = 'o' (Video Lived) = 'F' (Toggle Video Lived/Freezed)		
cN#	Focus Near # = '0' (Low Speed) = '1' (Medium Speed) = '2' (Fast Speed)		
cFs	Focus Stop		

TABLE 2. COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>DSP COMMANDS</u> (cont.)			
cG##	Set Max AGC Gain ## = 0x10h to 0x38		28dB is normal camera setup. For example, if a need for setting 6 dB less than normal AGC gain, the data should send to the camera is 22 decimal when using WinMPC V4.29 and later, or 0x26 when customers use their own software.
cGS	Request for Max AGC Gain Status	cG##	Current Max AGC Gain Status ## = 0x10h to 0x38
ccS	Request for Camera Module Type	cc'#'	'#' = '0' : 23X = '1' : 35X
cb	Enable Boot Loader to update new firmware in the 8051 firmware		
cA#	Set Aperture Mode # = '0' : Auto = '1' : Manual		
cAH##	Set Horizontal Aperture ## = 0x11 – 0x2F		
cAV##	Set Vertical Aperture ## = 0x11 – 0x2F		
cAS	Inquiry Aperture Mode	cA#H##V##	## = 0x11 – 0x2F (H/V level) # = '0' : Auto = '1' : Manual
cE#	Set Electronic Image Stabilizer Mode # = '0' : OFF = '1' : ON		
cES	Inquiry Electronic Image Stabilizer	cE#	# = '0' : OFF = '1' : ON
cEF#	Set Electronic Image Stabilizer Frequency Level # = '0' : 16 Hz (default) = '1' : 5 Hz		
cEFS	Inquiry Electronic Image Stabilizer Frequency Level	cEF#	.# = '0' : 16 Hz (default) = '1' : 5 Hz

TABLE 2. COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>DSP COMMANDS</u> (cont.)			
cs'0'	Set Progressive Scan - Even Field		
cs'1'	Set Progressive Scan - Odd Field		

TABLE 3. DSP RESPONSE MESSAGE FORMAT

BYTE	DATA	DESCRIPTION
0	F8h	Start of message
1	CamID 1 to 223	0x01 to 0xDF
2	c	Message type
3	W	White Balance Status
4	30 hex – 31 hex	30 = Auto 31 = Manual
5	S	Shutter Status
6	30 hex – 3F hex	30 = Auto 31 = 1/2 32 = 1/4 33 = 1/8 34 = 1/15 35 = 1/30 36 = 1/60 37 = 1/120 38 = 1/180 39 = 1/250 3A = 1/500 3B = 1/1000 3C = 1/2000 3D = 1/4000 3E = 1/10000 3F = 1/30000
7	Y	Wide Dynamic Range Status
8	30 hex – 31 hex	30 = Off 31 = On
9	M	Day Night Mode
10	30 hex – 32 hex	30 = Day/Night in Auto mode 31 = in Day mode 32 = in Night mode
11	D	Digital Zoom Mode
12	30 hex – 33 hex	30 = Off 31 = 2X 32 = 5X 33 = 10X

TABLE 3. DSP RESPONSE MESSAGE FORMAT (cont.)

BYTE	DATA	DESCRIPTION
13	L	Latch status
14	30hex – 37hex	LS nibble is four bits of status Bit Value 0/1 B0 = Manual Iris/Auto Iris (1/0) B1 = Camera Power On/Off (1/0) B2 = Lens Speed Fast/Slow (1/0) B3 = Not Used
15	A	Aux status
16	30hex – 37hex	LS nibble is four bits of status Bit Value 0/1 B0 = Auto/Manual Focus (1/0) B1 = Auto Integration/Manual Integration (1/0) B2 = Not used B3 = Not Used
17	X	Misc. statuses
18	30hex – 37hex	LS nibble is four bits of status Bit Value 0/1 B0 = Not Used B1 = Low Pressure (1) B2 = Video Loss (1) B3 = Not Used
19	H	Home status
20	10 hex – 3E hex 60 hex – 70 hex I	Home Position Preset is inactive (camera is not at a preset position)
21	P	Camera Communication Protocol
22	30hex – 37hex	0x30 (Cohu) 0x31 (American Dynamics) 0x32 (Pelco D) 0x33 (Javelin) 0x34 (Philips) 0x35 (Vicon)
23	v	Video Type
24	30hex – 31hex	0x30 (NTSC) 0x31 (PAL)

TABLE 3. DSP RESPONSE MESSAGE FORMAT (cont.)

BYTE	DATA	DESCRIPTION
25	p	Line Lock Phase Status
26	30hex – 36hex	'0' (Camera is in Crystal mode) '1' (Line Lock - Phase 0 mode – 0 degree) '2' (Line Lock - Phase 1 mode – 30 degree) '3' (Line Lock - Phase 2 mode – 60 degree) '4' (Line Lock - Phase 3 mode – 90 degree) '5' (Line Lock - Phase 4 mode –120 degree) '6' (Line Lock - Phase 5 mode –150 degree)
27	F	Video Status
28	o or O	'o' (Video Live mode) 'O' (Video Freeze mode)
29	C	Camera Head Comm. Baud Rate
30	0 to 3	'0' 4800 '1' 9600 '2' 19.2K '3' 38.4K
31	n	Poll Camera Head ON/OFF Status
32	0 to 1	'0' No Poll '1' Poll
	's'	Progressive Scan
	'o' / 'O'	'o' Off 'O' On
	'0' or '1'	'0' Set On Even Field '1' Set On Odd Field
n+32	CHECKSUM	End of message

NOTE: n is the number of command data bytes in the message

TABLE 3A. ENHANCED P/T/Z POSITION AND CAMERA STATUS FORMAT

BYTE	DATA	DESCRIPTION
0	F8h	Start of message
1	CamID 1 to 223	0x01 to 0xDF
2	c	
3	P	
4 to 11	pppp tttt	Current Pan Position pppp = Pan data (0000 to 3599 in ASCII) tttt = Tilt data (1250 to 0105 in ASCII)
12 to 14	zzz	Current Zoom Position zzz = 12 bit data of Zoom (000 to FFF) Format: 303030 to 3F3F3F
n+14	CHECKSUM	End of message

NOTE: n is the number of command data bytes in the message

TABLE 4. COMMAND/RESPONSE DATA

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>STANDARD. COMMANDS</u>			
PR	Std. Pan Right Note: All std. P/T commands will generate variable speed pan/tilt based on the Camera Zoom position.		
PL	Std. Pan Left		
r##	Variable Speed Pan Right ##: 16 speeds (from 30h to 3Fh)		
l##	Variable Speed Pan Left ##: 16 speeds (from 30h to 3Fh)		
PS	Pan Stop		
TU	Std. Tilt Up		
TD	Std. Tilt Down		
u##	Variable Speed Tilt Up ##: 16 speeds (from 30h to 3Fh)		
d##	Variable Speed Tilt Down ##: 16 speeds (from 30h to 3Fh)		
TS	Tilt Stop		
rn	Pan Right – Nudge		
ln	Pan Left – Nudge		
un	Tilt Up – Nudge		
dn	Tilt Down - Nudge		

TABLE 4. COMMAND/RESPONSE DATA (cont.)

COMMAND <u>STANDARD. COMMANDS</u> (cont.)	DESCRIPTION	RESPONSE	DESCRIPTION
ZI	Zoom In		
ZO	Zoom Out		
ZS	Zoom Stop		
FN	Focus Near		
FF	Focus Far		
FS	Focus Stop		
IO	Iris Open		
IC	Iris Close		
IS	Iris Stop		
P##	Program Preset Position ## = 10h to 3Eh (first 47 positions) = 60h to 70h (last 16 positions)		
H##	Goto a Preset Position ## = 10h to 3Eh (first 47 positions) = 60h to 70h (last 16 positions)		

TABLE 4. COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>LATCH COMMANDS</u>	<i>Notes:</i> All latch commands will return the status as the L? command described below.		
LP	Camera Power toggle (ON/OFF)		
LM	Manual/Auto Iris Mode toggle		
LL	Lens Speed FAST/SLOW toggle		
L1	Manual/Auto Focus Mode toggle		
<u>STATUS REQUEST</u>	<i>Note:</i> See Table 5 for response status		
L?	Latch Status Request		
H?	Home Position Request		
<u>MISC. COMMANDS</u>			
E'#####'	Set Elevation Level where the camera is mounted This is used to calibrate the Low Pressure indicator in the camera. '#####' = 0 to 10000 in ASCII (in feet)		
RS	Firmware Revision Query		Return Firmware Revision(Maximum 24 Characters) <u>For example:</u> 'RIDome Firmware Ver. 1.0.'
Bs'#####'	Set Cam Host Baud Rate '#####' = 0300, 0600, 1200, 2400, 4800, 9600,192K		
rs	Camera software reset		
ZL	Set Zoom Limit (ER-8623A)		
ZI	Clear Zoom Limit (ER-8623A)		

TABLE 4. COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>MISC. COMMANDS (cont.)</u>			
Lp#	Line Lock Phase Adjust # = '0' (Camera is in Crystal mode) = '1' (Line Lock - Phase 0 mode – 0 degree) = '2' (Line Lock - Phase 1 mode – 30 degree) = '3' (Line Lock - Phase 2 mode – 60 degree) = '4' (Line Lock - Phase 3 mode – 90 degree) = '5' (Line Lock - Phase 4 mode –120 degree) = '6' (Line Lock - Phase 5 mode –150 degree)		
DT##	Dwell Time (in 3 mSec) for the Auto Response of the Enhanced P/T/Z Position and Camera Status ## = 1 to 10 (Max is 30 mSec)		See Table 3A for response format of Enable the Auto Response of the Enhanced P/T/Z Position and Camera Status
DTS	Request for Dwell Time Data of Auto Response of the Enhanced P/T/Z Position and Camera Status	DT##	## = 1 to 10 of (3 mSec/ea)

TABLE 4. COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>QUERY POSITION STANDARD</u>			
P?	Pan/Tilt Position request	Ppppttt	ppp = 12 bit data of Pan (000-FFF) Format: 303030-3F3F3F ttt = 12 bit data of Tilt (000-FFF) Format: 303030-3F3F3F
V?	Zoom/Focus Position request	Vzzzfff	zzz = 12 bit data of Zoom (000 to FFF) Format: 303030 to 3F3F3F fff = 12 bit data of Focus (always 000) Format: 303030
<u>GOTO A POSITION STANDARD</u>			
paaabbb	Goto a Pan/Tilt Position aaa = 12 bit data of Pan (000 to FFF) Format: 303030-3F3F3F bbb = 12 bit data of Tilt (000-FFF) Format: 303030-3F3F3F		
vcccd	Goto Zoom/Focus Position ccc = 12 bit data of Zoom (000 to FFF) Format: 303030 - 3F3F3F ddd = 12 bit data of Focus (always 000) Format: 303030		
<u>QUERY POSITION ACTUAL</u>			
cPS	Pan/Tilt Position request	cPpppppttt	ppppp = Pan data (0000 to 3599 in ASCII) ttttt = Tilt data (0150 to 1200 in ASCII)

TABLE 4. COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
GOTO A POSITION <u>ACTUAL</u>			
cpaaaabbbb	Goto a Pan/Tilt Position aaaaa = Pan data (0000 to 3599 in ASCII) bbbbbb = Tilt data 0150 to 1200 in ASCII)		
GET PRESET POSITION DATA <u>ACTUAL</u>			
*pp##	Get Preset Data stored in the camera ## = 0x10 to 0x3E (first 48 positions) = 0x60 to 0x70 (last 16 positions)	PP##ppppptttzzzfff	pppp = Pan Position tttt = Tilt Position zzz = Zoom Position (not implemented) fff = Focus Position (not implemented)
AUTO RESPONSE <u>ACTUAL P/T/Z POSITION</u>			
		cPppppptttzzzzE#	pppp = Pan data (0000 to 3599 in ASCII) tttt = Tilt data (0150 to 1200 in ASCII) zzzz = Zoom Position (30303030 to 3F3F3F3F) that corresponded with one word of data (0000 to FFFF hex) # = '0' : EIS OFF = '1' : EIS ON

TABLE 4. COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
MAINTENANCE SETUP			
mNs	Set True North Offset		
mNc	Clear True North Offset		
mNE	Enable NTCIP Mode		
mND	Disable NTCIP Mode		
s0	Set Fixed Medium P/T speed (MPCD-11)		
s1	Set Variable P/T Speed		
s2	Set Variable Proportional P/T Speed based on Zoom Position		
mtS	Query the trigger temperature setting for the heater	'mtxx'	xx: 2 digits-ASCII data in degree C from 20 to 45 in degree C
mt'xx'	Set the trigger temperature for the heater xx: 2 digits-ASCII data in degree from 20 to 45 in degree C		
mS'xxxxxxx'	Set Camera Serial Number x' = '0' to '9'		
mSs	Query Camera Serial Number data	mS'xxxxxxx' 'x' = '0' to '9'	
mf'x'	Video Mode Preset (Freeze/Live) when go to a preset '#' = '0' (OFF - Live) = '1' (ON - Frozen)		
mfS	Query Video Mode Preset	mf'x'	

TABLE 5. STANDARD LATCH/HOME RESPONSE MESSAGE FORMAT

FORMAT LATCH STATUS RESPONSE

BYTE	DATA	DESCRIPTION
0	F8h	Start of message
1-3	CamID 000 to 999	3 Bytes in ASCII ('000' to '999')
4	L	Latch status
5	30h – 37h	LS nibble is four bits of status Bit Value 0/1 B0 = Manual Iris/Auto Iris (1/0) B1 = Camera Power On/Off (1/0) B2 = Lens Speed Fast/Slow (1/0) B3 = Not Used
6	A	Aux status
7	30h – 37h	LS nibble is four bits of status Bit Value 0/1 B0 = Auto/Manual Focus (1/0) B1 = Not Used B2 = Not Used B3 = Not Used
7	X	Misc. statuses
9	30h – 37h	LS nibble is four bits of status Bit Value 0/1 B0 = Not Used B1 = Low Pressure (1) B2 = Video Loss (1) B3 = Not Used
10	CHECKSUM	End of message 80H-8FH Least significant nibble is XOR of all previous bytes (LS NIBBLES only) except F8h

FORMAT HOME STATUS RESPONSE

BYTE	DATA	DESCRIPTION
0	F8h	Start of message
1-3	CamID 000 to 999	3 Bytes in ASCII ('000' to '999')
4	H	Home status
5	10h – 3Eh 60h – 70h 'I'	Home Position Home is inactive (camera is not at a preset position)
6	CHECKSUM	End of message 80H-8FH Least significant nibble is XOR of all previous bytes (LS NIBBLES only) except F8h

TABLE 6. ID COMMAND/RESPONSE DATA

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>ID. COMMANDS</u>			
dIE	Enable ID display		
dIe'x'	Enable ID Line # x = '1' Line 1 = '2' Line 2		
dID	Disable ID display		
dId'x'	Disable ID Line # x = '1' Line 1 = '2' Line 2		
dIT	Display ID on top of screen		
dIB	Display ID on bottom of screen		
dAE	Enable Alarm display		
dAe'x'	Enable Alarm Line # x = '1' Line 1 = '2' Line 2 = '3' Line 3		
dAD	Disable Alarm # display		
dAd'x'	Disable Alarm Line # x = '1' Line 1 = '2' Line 2 = '3' Line 3		
dAB	Enable Alarm Blinking		
dAb	Disable Alarm Blinking		
dL#DATA	Set content of ID messages # = '1' : line 1 (ID line 1) # = '2' : line 2 (ID line 2) # = '3' : line 3 (Alarm ID 1 – not programmable - <i>reserved to display LOW PRESSURE ALARM</i>) # = '4' : line 4 (Alarm ID 2) # = '5' : line 5 (Alarm ID 3) DATA = 24 ASCII characters		
dP##DATA	Store Preset ID display in the receiver <u>Note:</u> Preset ID will be displayed when a preset is executed, and disappears when a P/T/Z/F command is executed. ## = 10h to 3Eh (first 48 positions) = 60h to 70h (last 16 positions) DATA = 24 ASCII characters		

TABLE 6. ID COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>ID. COMMANDS</u> <u>(cont.)</u>			
dM#	Maintenance Mode Display # = 'E' Enable 'D' Disable		
dp#	Pan Tilt Position Display # = 'E' Enable 'D' Disable 'T' Use TimeOut to clear the display 't' Displayed always		
dN#	North Position Display # = 'E' Enable 'D' Disable 'T' Use TimeOut to clear the display 't' Displayed always '0' Displayed 8 Zones equally '1' Displayed 16 Zones equally 'I' Displayed A/Z/N with IDs group 'i' Displayed A/Z/N not with IDs group		

TABLE 6. ID COMMAND/RESPONSE DATA (Cont.)

COMMAND	DESCRIPTION	RESPONSE	DESCRIPTION
<u>ID. COMMANDS</u> (cont.)			
cdS##	Get Preset## ID stored in camera ## = 10hto 3Eh (first 48 positions) = 60hto 70h (last 16 positions)	dP##DATA	Return Preset ID of the requested Preset
dME	Maintenance Display Enable -Temperature data and Pressure data		
dMD	Maintenance Display Disable		
dIC	Clear All ID data, including Preset IDs		
dST#s	Set Sector ID Text # = Sector Number (31H to 40H) s = 24 ASCII characters		
dSS#s	Set Sector ID State # = Sector Number (31H to 40H) s = State ('1'=On; '0'=Off)		
cdSc	Get ID Control Data, i.e Enable, Top, Alarm Blink ...	dC# # = Control Byte(11111)	
cdSl#	Get ID messages # = '1', '2', '3', '4', '5'	dL#DATA	
cdSS##	Get Sector ## ID stored in camera ## = 31hex to 40hex (16 sectors)	dST##DATA	
cdSs##	Get Sector ID State ## = Sector Number (31hex to 40hex)	dSS#s s = State ('1'=On; '0'=Off)	

TABLE 7. SECTOR MESSAGE FORMAT

COMMAND SECTOR	DESCRIPTION	RESPONSE	DESCRIPTION
*SC#	Clear Sector Limits # = Sector Number (30H to 40H) If 30H clear all, otherwise clear sector only		
*SL#s	Set Sector Limit # = Sector Number (31H to 40H) s = 'L' -Left Limit or 'R' -Right Limit		
*Sl#	Get Sector Limits # = Sector Number (31H to 40H)	*SS#llllrrrr	llll and rrrr = ASCII 0000 to 3599

TABLE 9. TOURING MESSAGE FORMAT

COMMAND TOUR	DESCRIPTION	RESPONSE	DESCRIPTION
*TC#	Clear all preset/dwell data for Tour # # = Tour Number (31H to 38H)		
*TP#<data>	Set tour Presets # = Tour Number (31H to 38H) <data> = 32 preset values in the range 10H to 50H (i.e. 0 to 64) <u>Note:</u> 10h indicates No Preset		
*Tp#	Get tour Presets # = Tour Number (31H to 38H)	*TP#<data>	<data> = 32 preset values in the range of 10H to 50H (0 to 64)
*TD#<data>	Set tour Dwell times # = Tour Number (31H to 38H) <data> = 32 dwell times in the range 10H to 4DH (0 to 60 sec)		
*Td#	Get tour Dwell times # = Tour Number (31H to 38H)	*TD#<data>	<data> = 32 dwell times in the range of 10H to 4DH (0 to 60 sec)
*TS#s	Set Tour State # = Tour Number (31H to 38H) s = State ('0'=Stop; '1'=Start)		
*Ts#	Get Tour State # = Sector Number (31H to 38H)	*TS#s	s = State ('0'=Stop; '1'=Start)

TABLE 8. MISC. UPLOAD CAMERA CONFIGURATION TO CAMERA

COMMAND	DESCRIPTION
dC#	Upload ID Control Data i.e Enable, Top, Alarm Blink ... to camera # = Control Byte(xxx11111)
dL#<DATA>	Upload ID messages # = '1', '2', '3', '4', '5' DATA = 24 ASCII characters
dP##<DATA>	Upload Preset## ID to camera ## = 10hex to 3Ehex (first 48 positions) = 60hex to 70hex (last 16 positions)
dST##<DATA>	Upload Sector ## ID to camera ## = 31hex to 40hex (16 sectors)
dSS##s	Upload Sector ID State to camera ## = Sector Number (31hex to 40hex) s = State ('1'=On; '0'=Off)
*SS#llllrrrr	Upload Sector Limits to camera # = Sector Number (31H to 40H) llll and rrrr = ASCII 0000 to 3599
*Pp#llllrrrr	Upload Privacy Zone Limits to camera # = Sector Number (31H to 38H) llll and rrrr = ASCII 0000 to 3599
*PS#s	Upload Privacy Zone State to camera # = Sector Number (31H to 38H) s = State ('1'=On; '0'=Off)
*TP#<data>	Upload Tour Presets to camera # = Tour Number (31H to 38H) <data> = 32 preset values in the
*TD#<data>	Upload Tour Dwell times to camera # = Tour Number (31H to 38H) <data> = 32 dwell times in the range of 10H to 4DH (0 to 60 sec)
*TS#s	Upload Tour State to camera # = Sector Number (31H to 38H) s = State ('0'=Stop; '1'=Start)
*pP##pppppttttzzzzffff	Upload Presets data to camera ## = 10hex to 3Ehex (first 48 positions) = 60hex to 70hex (last 16 positions) ppppp = Pan Preset Position data ttttt = Tilt Preset Position data zzzzz = Zoom Preset Position data ffff = Focus Preset Position data