CM6700 ASCII Protocol Command Summary

INTRODUCTION

This document describes the ASCII commands used to control the CM6700 through its ASCII port (COM2)

OVERVIEW

The protocol uses the basic ASCII character set to transmit and receive commands that control: pan and tilt mechanisms (both fixed and variable speed), camera functions, auxiliary relays, and alarms. These commands are readable but are not English.

The physical layer of this protocol is variable and the user is responsible for making sure that an appropriate standard (RS-232, RS-422, RS-485, etc.) is used. Conversion devices to interface to these standards are readily available.

PHYSICAL LAYER

The ASCII protocol communicates in a standard asynchronous, byte oriented protocol that includes: 1 start bit, 8 data bits, 1 parity bit (ODD parity), and 1 stop bit. The communications rate is 9600 baud.

PROTOCOL DESCRIPTION

The commands have a relatively simple format. Each command is identified by an ASCII character. Commands that require a numeric value will transmit the ASCII representation of that value in front of the command identifier. Last of all, each command is followed by a lower case “a”.

If, for example, we want to tell the equipment to pan left we could send the following string: 27La. This indicates that the currently selected pan and tilt mechanism should pan left at speed 27. Legal values for speeds are in the range 1 to 63 where 1 is the slowest and 63 is the fastest. An exception to this is the “turbo” mode for the Pan axis, **ONLY.** Turbo mode is activated by sending speed 64.

The ASCII translator will send an acknowledgment to commands. The acknowledgment is the letters “AK” followed by a lower case “a”.

If the command is rejected by the ASCII translator, then a negative acknowledgment will be sent back to the host. The negative acknowledgment consists of the letters “NA” followed by the Command being rejected and followed by a lower case “a”.

If the command is not recognized, the ASCII translator sends a negative acknowledgment without the Command. That is, it will send “NA” followed immediately by a lower case “a”.

COMMAND SUMMARY

Select Monitor	[1-9999]Ma	Requests a monitor resource to be used for camera operation.

Select Camera	[1-9999]#a	Select a camera to be displayed on the current operating monitor. The advance "+" and previous "-" commands go to the next numbered camera in the system, forward or reverse.
Next Camera	+a	
Previous Camera	-a	
Pan Left	[1-64]La	Causes currently selected pan and tilt device to move horizontally to the viewer's left or right at the speed indicated. If the speed is omitted, some devices will operate at a default speed, others will move at the slowest speed possible for the device. Speed information has no effect on fixed speed devices.
Pan Right [1-64]	[1-64]Ra	
Stop Pan Left	~La	
Stop Pan Right	~Ra	

Tilt Up	[1-63]Ua	Causes the currently selected pan and tilt device to move vertically in the direction indicated at the speed indicated. If the speed is omitted, some devices will operate at a default speed, others will move at the slowest speed possible for the device. The speed information has no effect on fixed speed devices.
Tilt Down	[1-63]Da	
Stop Tilt Up	~Ua	
Stop Tilt Down	~Da	

Zoom Telephoto	Ta	Causes the currently selected camera to either zoom telephoto (narrow the field of view or make objects appear larger) or zoom wide (widen the field of view or make objects appear smaller).
Zoom Wide	Wa	
Stop Zoom Telephoto	~Ta	
Stop Zoom Wide	~Wa	

Focus Near	Na	Causes the currently selected camera to change the good focus range nearer to or further from the camera.
Focus Far	Fa	
Stop Focus Near	~Na	
Stop Focus Far	~Fa	

Iris Open	Oa	Causes the currently selected camera to either open (brighten the image), or close (make the image darker) the iris.
Iris Close	Ca	
Stop Iris Open	~Oa	
Stop Iris Close	~Ca	

Stop ALL PTZ Motion	sa	Stops all image motion… stops pan, tilt, zoom, focus and iris. Will not stop a pattern

Record Pattern	[1-99]/a	On receiver/drivers that do patterns, these commands allow you to record whatever a user does, for a limited time, and play those motions and operations back. Please consult the receiver/driver manual for specific information regarding implementation.
Execute Pattern	[1-99]pa	
End Pattern	[1-99]na	

Go To Preset Position	[1-99]\a	Recall a stored preset position.
Set Preset with a Label: la[string]!a[1-9999]^a		Sets a Preset location with an embedded label, where the **ASCII** string **MUST BE UPPERCASE CHARACTERS.** Where **[string]** is an alphanumeric label limited to 20 characters and **[1-9999]** is the associated Preset number. **NOTE:** All transmitted characters **MUST BE ASCII**

Auxiliary On Auxiliary Off - or -	[1-9999]Aa [1-9999]Ba [1-9999]~Aa	Auxiliaries are relay outputs that can be controlled through the protocol.

Acknowledge Alarm	[1-9999]Ia	Acknowledge an existing alarm

Send Camera Title: Ya[string1/… /string16]!a	Send a series of camera titles (**up to 16**) to a matrix switching system. The first string ***always*** corresponds to Camera #1, then each following string (separated by the **"/"** character) corresponds to the next higher camera number (ending with Camera #16). The user may choose to send fewer than 16 camera titles being certain to terminate with **"] ! a".** Valid characters in the strings are **A-Z, a-z, [a space],** and **0-9** in ASCII representation. Strings are limited to 20 characters.

Revision	va	Asks a device to report its version information.

Set time and date: ZaMM/DD/YY/HH:MM:SSa	This command is a "mode" of operation. Since the time and date string might be confused with other commands, the command string "Za" comes first. This puts the receiving device into a mode that can accept the specialized string. **NOTE:** All transmitted characters **MUST BE ASCII**

Examples:

COMMAND DESCRIPTION	STRING TO SEND
Switch camera 3 to monitor 1	1Ma3#a
Go to camera 2, preset 3, on monitor 5	5Ma2#a3\a
Pan Right at Speed 47, Tilt down at speed 33	47Ra33Da
Stop Tilt down only	~Da

Notes:

1. The default communication parameters for the CM6700 ASCII (COM2) Port is set as follows: "9600, N, 8, 1". If you wish to have the communication parameters to be identical to the keyboard port then set CM6700 COM2 to: "9600, O, 8, 1". Refer to the CM6700 Installation and Operation manual C523M-C for details.

2. Configure the CM6700 COM 2 Port hardware for either RS232 or RS422. RS422 is the factory default. It is not necessary to recycle power to the system after changing this setting. Refer to the CM6700 Installation and Operation manual C523M-C for details.

3. For testing purposes, the CM6700 ASCII Port (COM 2) can be connected to a PC running terminal software. The CM6700 will respond to most commands keyed in manually but only if system keyboards are disconnected from the standard keyboard port. If a system keyboard is connected to the standard keyboard port, set your terminal software to send COMPLETE ASCII command strings (i.e. 1Ma2#a – NOT: 1, M, a, etc.) either by sending them in ASCII Text files or defining Macro keys within your PC software application. Please be certain that your PC COM Port is configured with the same communication parameters selected for the CM6700 ASCII port in the steps above.