Command description	Syntax	Remarks
Take measurement	TM	Transmit one set of measurement data: Return format in **XY-mode**: X,Y,Z<CR> where X, Y and Z are CIE 1931 XYZ-values. Return format in **MB-mode**: RGB*XX.XX*YY.YY*ZZ.ZZ*<CR><LF> or RGB*XXXX *YYYY *ZZZZ *<CR><LF> or RGB* 0 * 0 * 0 *<CR><LF> where X, Y and Z are CIE 1931 XYZ-values. Return format in **MX-mode**: nX,nY,nZ,INT_TIME<CR> where nX, nY and nZ are measured values directly from the sensors, (compensated for errors in DC-offset etc.). INT_TIME is a value between 2.5 and 25.0 and specifies the integration time in units of 2.0ms, (this integration time can also be obtained by issuing the command "F?").
Measure continously	MC	Transmit data continously in present measuring mode. See command "TM" above for return format.
Measure stop	MS	Stops transmission of data immediately.
Select CIE XYZ mode	XY	Selects transmission of CIE 1931 XYZ-values.
Select CIE XYZ mode*	MB	Selects transmission of CIE 1931 XYZ-values in Barco/Thoma output format.
Select sensor mode	MX	Selects transmission of unmodified sensor output.
Set integration time	SI n	SI n specifies the number of measurements the Color Sensor handles per second. The parameter n is expressed in units of 0.2ms where n = 250 gives app. 3 measurements/second, while n = 25 gives app. 10 measurements/second, (25 <= n <= 250). Deafult value is 250, ie. app. 3 measurements/second. To calculate the number of measurements/second the equation below can be used as a guideline: measurements/second = $1000/(1.2*n+60))$
Get integration time	F?	Get integration time. Return format: n<CR> Get integration time gets the actual integration time in the Color Sensor. The integration time is a value between 2.5 and 25.0, ie. the return value is specified in units of 2.0ms. (Note that this is 10 times smaller than the value used to set the integration time with, see above).

Identity request	I?	The ID-string of the sensor: Return format: CP,NO,KU,SW<CR> where CP is the company, NO is the type number, KU is the serial number and SW is the sofware revision. eg. "PTV,400810979300,KU030001,02.1"
Memory address	MA n	Select address for read/write of seriel E^2PROM data.
Read memory	RM	Read E^2PROM-data, where address is specified by command MA. Address is auto incremented.
Store memory	SM n	Write E^2PROM-data, where address is specified by command MA. Address is auto incremented.
Read binary numbers	RN n	Reads n+1 bytes from E^2PROM, in binary form, where address is specified by MA. Address is auto incremented by n. The command is ended by sending a checksum-byte, (low byte of addition of n bytes). For n: $0 < n <= 255$.
Fix gain	FG n	Select gain, ie. one of 6 gain-areas to be used to "amplify" the signal from the sensors, (n: $0 <= n <= 5$). Setting n to 255 will release a fixed gain area.
Measure DC-offset	MO	Measure DC-offset in CRT Color Sensor. Values will always be calculated when this command is issued. The result however will only be stored if WRITE-protection is off. The 6 DCoffset values will also be transmitted to the software controlling the sensor.
Show DC-offset	SO	Shows the DC-offset count to be subtracted in present gain. To get back in normal mode use "NR".
Show true sensor count	ST	Shows the direct count from the A/D-converter. To get back in normal mode use "NR".
Normal mode	NR	Force the CRT Color Sensor in normal mode ie. MX-mode.
Calculate Checksum	CS	Calculate the program checksum .
Set Baudrate	SB n	Change baudrate to n: 48, (4800baud), 96, (9600baud) or 192, (19200baud). NOTE: This command does not apply to all available sensors.

2. D-Sub based PM 5639 devices

9 poled D-Sub female chassis part pin no's	PM 5639/92 Sensor PM5639/94			
1	NC			
2	RXD			
3	TXD			
4	NC			
5	GND (0V)			
6	NC			
7	NC			
8	NC			
9	+5V			

Power Supply for PM 5639, 4008 109 81030, Connections

Signal name	6 poled FCC-68 female chassis, XE pin no's	9 poled D-Sub male chassis, XF pin no's	9 poled D-Sub female chassis, XG pin no's	
+5V	1,2	9	NC	
Data 1	3	2	3	
Data 2	4	3	2	
GND (0V)	5,6	5	5	
NC		1,4,6,7,8	1,4,6,7,8,9	

3. PC RS 232 Connections, 9 og 25 polet D-Sub

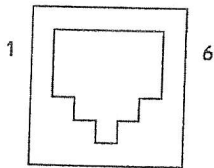| Signal name	9 poled D-Sub male chassis part pin no's	25 poled D-Sub male chassis part pin no's		
TXD	3	2		
RXD	2	3		
GND (0V)	5	7		

PM 5639 Connector terminals

1. FCC-68 based PM 5639 devices

Pin-numbering for 6 poled FCC-68 connectors:
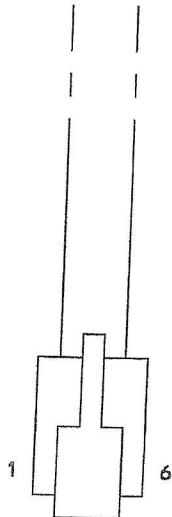
Cable part, male

Chassis part, female, outer view

6 poled FCC-68, female, chassis part pin no's	PM 5639/80 Display unit	PM 5639/ 90,91 Sensors	PM 5639/82 Generator	
1	+5V	GND (0V)	GND (0V)	
2	+5V	GND (0V)	GND (0V)	
3	TXD	TXD	TXD	
4	RXD	RXD	RXD	
5	GND (0V)	+5V	NC	
6	GND (0V)	+5V	NC	