

## EMS TCP Protocol Specification

All commands in the form {[Type][Control][Address][Data]}\n

All responses in the form {[ACK][Control][Address][Data]}\n

Delimiter \n (hex \x0A)

Commands and responses may be comma separated lists in {} ex:

{[Paging][Clear][2][0],[Paging][Route][2][1,2,3,4,5]],[Message][Play][2][4]}\n

System flow TCP Client: Open connection, send command, wait for ACK(s) 5s timeout, close connection or re-send

TCP Client: If client connection is already open, use that instead of opening another, reset timeout

System flow TCP Server: Get command, process, send ACK with correct values

ERR Incomplete returned if command missing {}, [], delimiter or commas correctly with fields

ERR Bad returned if command not recognized as receivable. ie. [Cam] instead of [Camera]

Scheduler Can Send, Scheduler can receive, Scheduler can send or receive.

Type	Control	Address	Data	Response
Camera	Pan	IP or ID	Speed# (+X,-X,0)	{[ACK][Pan][IP][Speed(+X,-X,0)]}\n
Camera	Tilt	IP or ID	Speed# (+X,-X,0)	{[ACK][Tilt][IP][Speed(+X,-X,0)]}\n
Camera	Zoom	IP or ID	Speed# (+X,-X,0)	{[ACK][Zoom][IP][Speed(+X,-X,0)]}\n
Camera	Position	IP or ID	Comma separated Position#s X,Y,Z	{[ACK][Position][IP][X,Y,Z]}\n
Camera	Recall	IP or ID	Preset#	{[ACK][Recall][IP][Preset#]}\n
Camera	Save	IP or ID	Preset#	{[ACK][Save][IP][Preset#]}\n
Room	Status	Comma separated RoomID's list, 0 for all	Status# (1 start,2 stop,3 pause)	{[ACK][Status][RoomID][Status(1 start,2 stop,3 pause,4 error,5 privacy)],,,}\n per room
Room	Privacy	Comma separated RoomID's list, 0 for all	Status# (1 on,0 off)	{[ACK][Privacy][RoomID][Status(1 on,0 off)],,,}\n per room
Room	Mute	Comma separated RoomID's list, 0 for all	Status# (1 on,0 off)	{[ACK][Mute][RoomID][Status(1 on,0 off)],,,}\n per room
Paging	Route	Input#	Comma separated Output# list, 0 for all	{[ACK][Route][Input#][Outputs#],,,}\n
Paging	Zone	Input#	ZoneName string	{[ACK][Zone][Input#][ZoneName]}\n
Paging	Clear	Input#	Comma separated Output# list, 0 for all	{[ACK][Clear][Input#][Outputs#],,,}\n
Message	Play	Player#	Message#	{[ACK][Play][Player#][Message#]}\n
Message	Record	Player#	Message#	{[ACK][Record] [Player#][Message#]}\n
Message	Delete	Player#	Message#	{[ACK][Delete] [Player#][Message#]}\n
Message	Stop	Player#		{[ACK] [Stop][Player#]}\n
Request	Status	Comma separated RoomID's list, 0 for all		{[ACK][Status][RoomID][Status(1 start,2 stop,3 pause,4 error,5 privacy)] ,,,}\n per room
Request	Privacy	Comma separated RoomID's list, 0 for all		{[ACK][Privacy][RoomID][Status(1 on,0 off)] ,,,}\n per room
Request	Mute	Comma separated RoomID's list, 0 for all		{[ACK][Mute][RoomID][Status(1 on,0 off)] ,,,}\n per room
Request	Route	Input#		{[ACK][Route][Input#][Outputs#],,,}\n
Request	Position	IP		{[ACK][Position][IP][X,Y,Z]}\n
Request	Ping			{[ACK][PING]}\n
Request	Header			{[ACK][Header][Header JSON data]}\n
				{[ERR][Incomplet][“full string that got passed”]}\n
				{[ERR][Bad][“full string that got passed”]}\n

Ex. Camera {[Camera][Tilt][10.10.10.10:13][-3]}

Header JSON:

```
{
  "site_name": "NAME",
  "dsp_ip": "IP ADDRESS",
  "video_switcher_ip": "IP ADDRESS",
  "message_delay": "MILLISECONDS",
  "page_all_keyword": "KEYWORD",
  "message_players": [
    {
      "player_name": "NAME",
      "player_number": "PLAYER_NUMBER",
      "input_port": "PORT_NUMBER",
      "output_port": "PORT_NUMBER"
    },
    {
      ...
    }
  ],
  "paging_microphones": [
    {
      "microphone_name": "NAME",
      "input_port": "PORT_NUMBER"
    },
    {
      ...
    }
  ],
  "paging_zones": [
    {
      "zone_name": "NAME",
      "room_names": ["NAME", "NAME", ...]
    },
    {
      ...
    }
  ],
  "control_stations": [
    {
      "station_name": "NAME",
      "switcher_port": "PORT_NUMBER",
      "paging_microphone": "NAME",
      "message_players": ["NAME", "NAME", ...],
      "paging_zones": ["NAME", "NAME", ...]
    },
    {
      ...
    }
  ]
}
```

```
],
"cameras": [
  {
    "camera_name": "NAME",
    "camera_type": "PTZ or FIXED or ETC",
    "camera_ip": "IP ADDRESS",
    "recorder_ip": "IP ADDRESS",
    "recorder_port": PORT_NUMBER,
    "switcher_port": PORT_NUMBER
  },
  {
    ...
  }
],
"room_data": [
  {
    "room_name": "NAME",
    "room_id": "ROOM ID",
    "paging_port": PORT_NUMBER,
    "switcher_port": PORT_NUMBER,
    "camera_list": ["NAME", "NAME", ...]
  },
  {
    ...
  }
],
"ip_device": [
  {
    "device_name": "NAME",
    "device_type": "TV or PROJECTOR or ETC",
    "device_ip": "IP ADDRESS",
    "switcher_port": PORT_NUMBER
  },
  {
    ...
  }
]
}
```