



Master List For GPAC System™ Devices And Systems



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Last Updated:
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Table of Contents

Introduction	2
ETCorp connectivity policy	3
Digital Video.....	3
Analog Video	3
Digital Sensors	3
Analog Sensors.....	3
Digital Output Devices	3
Machine to Machine	4
Third Party System Connectivity.....	4
Recommended Computer specifications For Running The GPAC System™	5
Equipment Lists Used or Tested with the GPAC System™	6
Cameras	6
Digital Sensors	6
Analog Sensors.....	7
Digital Output Devices.....	8
Serial Devices	8
Systems	8

Introduction

The purpose of this document is to provide an outline of the current methods for getting data in and out of the GPAC System™. The following pages provide an ongoing detailed list of devices and third party systems that the GPAC System™ has either been connected to or tested with and the basic guidelines for standard PC equipment for use with the GPAC System™, as well as any considerations for custom interfaces.

It is important to remember that it is the ETCorp connectivity policy that shows the flexibility that has been inherently designed in to the GPAC System™ and provides a cost effective and realistic method for potentially interfacing to any device.

ETCorp continues to support open policy technology both in its licensing, connectivity and communications architecture. ETCorp aims to be able to talk to every useful device off the shelf without the pitfalls of custom integration.

As new GPAC Systems™ are installed and connected to new cameras and sensors, this document will be updated to provide the most comprehensive list available.

ETCorp connectivity policy

The GPAC System™ has been set up to talk to video and sensor equipment in the following ways:

Digital Video:	Via an IP address
Analog Video:	Via a video converter – changing the analog signal to digital IP video
Digital Sensors:	On/off, 1 or 0, true/false etc, this signal can be brought in to the GPAC System™ via the Adams 6000 Ethernet based series.
Analog Sensors:	Providing the sensor puts out a 4-20 mA current, or a voltage typically within the following range +- 100mV, +- 500mV, +- 1V, +- 5V and +- 10V, then the GPAC System can talk to it via the Adams 6000 Ethernet based series.
Digital Output Devices:	Digital output devices can be switched On/off, 1 or 0, true/false by connecting them via the Adams 6000 Ethernet based series and controlled through the GPAC System™.

If the data to be brought in to the GPAC System™ is serial then there are 2 options:

- 1). Firstly, and by far the easiest and cheapest option, is to look for a converter which will talk serially to the device and output the data in its raw format to come in to the GPAC System™ as for the above Analog sensors.
- 2). Secondly a driver may have to be written which typically involves the following process and necessary commercial agreements;
 - a. Obtaining a scope, to be written up independently or by ETCorp
 - b. Pricing of development work
 - c. Agreement of how the driver development is to be funded and the time frame required
 - d. Testing of driver
 - e. Release of driver for commercial use, noting that there is an ongoing requirement for future testing with every new version release of the GPAC System™

Machine to Machine

Negotiations are underway with a major vendor to develop an XML interface with Version 3 GPAC System™.

Using an earlier version of the GPAC System™ Machine to Machine was delivered as part of the original scope.

ETCorp is continually developing new features and functionality for its users of which inclusion of an API is a priority. Delivery and pricing available upon request, process and commercials as per “third party connectivity”, or “custom drivers”.

Third Party System Connectivity

Connectivity to other systems including software and hardware may require writing of a new driver / interface with the following steps;

- a. Obtaining a scope, to be written up independently or by ETCorp
- b. Pricing of development work
- c. Agreement of how the driver / interface development is to be funded and the time frame required
- d. Testing of driver / interface
- e. Release of driver / interface for commercial use, noting that there is an ongoing requirement for future testing with every new version release of the GPAC System™

Recommended Computer specifications For Running The GPAC System™

Outlined below are 3 levels of PC specifications, the first is for a vehicle installation, the second is for a basic fixed site and thirdly a server arrangement for a GPAC System™ that has more than 10 cameras and potentially may require data storage for long term video.

1). Vehicle PC:

- Processor
Intel® Core 2 Duo® processor T2300 (2.40GHz)
- Memory
2GB DDR2 Memory
- Hard Drive
250GB 3.5-inch 7.2K RPM SATA II Hard Drive, First Drive
- 1 GIG Ethernet interface
- Mounting Kit
- Delay start up and shut down

2). Basic fixed site PC:

- Processor
Intel® Pentium® processor E2220 (2.40GHz)
- Memory
2GB DDR2 Memory
- Hard Drive
250GB 3.5-inch 7.2K RPM SATA II Hard Drive,
1 x GIG Ethernet interface

3). High end server:

- Processor
2 x AMD Opteron™ Quad Core Processor 2376 2.30 GHz
- Standard Memory
4 GB (2 x 2 GB)
- Hard Drive
12 x 1 TB 3.5-inch 7.2K RPM SATA II Hard Drive,
2 x GIG Ethernet interface

Equipment Lists Used or Tested with the GPAC System™

Cameras that have been used with the GPAC System™

Axis	Cameras: 205, 206M, 206W, 207, 207W, 207MW, 210, 210A, 211, 211A, 213 PTZ, 223M, 225FD, 2100, 2110, 2130R PTZ, 2420, 214 PTZ, 232D, 231D, 240 Video Servers: 2400, 2401, 2411, 2120, 241Q, 241S, 221 Network DVR: 2460
Mobotix	Cameras: M10, M12, M22, M1, D12
Grandtec	Cameras: GrandTecIPCamera3
Orite	Cameras: OritelC301
Panasonic	Cameras: BLC30A, PTZ(Network IP), WJ-NT104, KX-HCM280
Pixord	Cameras: D205
Sony	Cameras: SNCP1, SNCP5, SNCCS10 / CS11, SNCRZ20 / 25, SNCRZ30, SNC-CS3N, SNT-V501
Convision	Cameras: V600

Digital Sensors that have been used with the GPAC System™

US military approved sensors:

Sensor: Balanced Magnetic Switch (Bms) With Remote Test

Model: Sentrol 2706ap

Sensor: Balanced Magnetic Switch (Bms) Without Remote Test

Model: Sentrol 2707a

Sensor: Balanced Magnetic Switch (Bms) Low Profile Without Remote Test

Model: Sentrol 2727a

Sensor: Passive Infrared Motion Sensor (Pims) Volumetric With Remote Test

Model: Sentrol 6187ctx-N6

Sensor: Passive Infrared Motion Sensor (Pims) Volumetric Without Remote Test

Model: Sentrol 6187ctx

Sensor: Passive Infrared Motion Sensor (Pims) Curtain With Remote Test

Model: Sentrol 6187ctx-N6

Sensor: Passive Infrared Motion Sensor (Pims) Curtain Without Remote Test

Model: Sentrol 6187ctx/6073
 Sensor: Passive Infrared Motion Sensor (Pims) Omnidirectional With Remote Test
 Model: Pulnix 7100-Et Or Sentrol Ap669rt
 Sensor: Passive Infrared Motion Sensor (Pims) Omnidirectional Without Remote Test
 Model: Pulnix (Takex) Pa7100-Et
 Sensor: Dual Technology High Security (Hs) – Microwave And Infrared With Remote Test
 Model: Protech Sdi-76m-Hs1
 Sensor: Vibration Sensor (Vs) With Remote Test
 Model: Sentrol Dv1200 Series Advisor X
 Sensor: Duress Switch
 Model: Ademco 269
 Sensor: Glass Break Sensor (Gbs) Without Remote Test
 Model: Sentrol Shatterpro-5810

Commercial sensors:

Av-Gad Eyespy II PIR with auto temp compensation
 Av-Gad Brako Glass breakage sensor
 Photo electric smoke sensor
 General motion sensors
 Magnetic read switch
 General switches
 Non contract infra red door exit switch
 Doorway beams
 Tamper switches
 Takex movement sensors
 Pressure mats
 General Pump – status
 Water overflow switches

Analog Sensors that have been used with the GPAC System™

Envirodata Meteorological sensors
 RH40 Electronic relative humidity sensor
 TA10 Air temperature sensor
 RG12H Tipping bucket rain gauge [0.2mm tip]
 SR10 Solar radiation sensor
 WD42 Wind direction sensor
 WS40 Wind speed sensor
 FA12 4-20mA Converter (5 @ 215 each)
 SC16 Signal Conditioner (to connect to 24V systems with a pulse input)

Gastech

Ammonia (NH3) 0 to 100 ppm in 1 ppm increments
 Carbon Monoxide (CO) 0 to 100 ppm in 1 ppm increments
 Chlorine (CL2) 0 to 10 ppm in 0.1 ppm increments
 Hydrogen (H2) 0 to 100 ppm in 0.5 ppm increments
 Hydrogen Cyanide (HCN) 0 to 50 ppm in 1 ppm increments

Hydrogen Sulfide (H₂S) 0 to 200 ppm in 1 ppm increments
 Hydrogen Chloride (HCL) 0 to 200 ppm in 1 ppm increments
 Nitric Oxide (NO) 0 to 100 ppm in 1 ppm increments
 Nitrogen Dioxide (NO₂) 0 to 10 ppm in 0.1 ppm increments
 Phosphine (PH₃) 0 to 1 ppm in 0.01 ppm increments
 Sulfur Dioxide (SO₂) 0 to 10 ppm in 0.1 ppm increments
 Ethylene Oxide (ETO) 0 to 20 ppm in 0.1 ppm increments
 Ozone (O₃) 0 to 2 ppm in 0.01 ppm increments
 Oxygen (O₂) 0 to 25% in 0.1 %Vol increments
 TVOC Fixed sensor

General temperature sensors

Anadex Labs - Aquameta 420 4-20mA level probe (4m 15m and 30m depth range)

Osiris: Portable, Direct Reading, Airborne Particle Sampler.

Flow rate sensors

PH Sensors

Salinity

Digital Output Devices that have been connected to using the GPAC

System™

Lights via a 240 v relay

Pumps via a 240 v relay

Solenoids

Sirens / Buzzers

Any device that can be turned on/off

Automatic gates and door latches

Serial Devices that have been connected to using the GPAC System™

GPS NMEA

Systems that have been connected to using the GPAC System™

HID (card access systems)

Tactronics – Command and control user interface

Osiris – We added the control and video functionality from the GPAC System™

Instra Industries: **Instratrack** - GPS Tracking and Workflow Solutions

Balfour – fourDscope simulation and visualization software

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