



ASTRA Server 3U

Technical Reference Sheet



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Aveco

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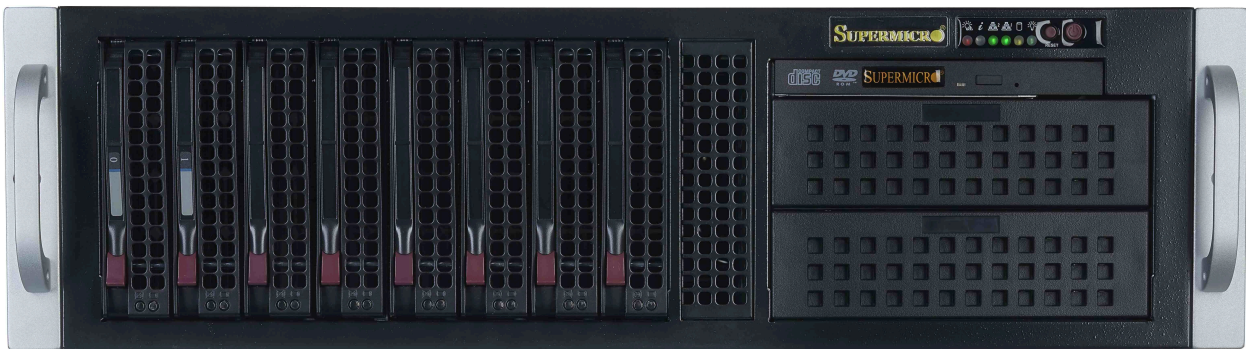
INTRODUCTION

OVERVIEW

Aveco's automation servers are industrial PC computers with a mission critical real-time operating system QNX. Automation software consists of a large set of dedicated software modules that can be used to build the required solution, from all-in-one automation server providing MCR and Studio automation together with the MAM, up to large networks of geographically distributed redundant automation servers, always acting as one automation system.

The role of our automation has always been to integrate the 3rd party products of our customers' choice to deliver optimum solutions for their business models; we make a working playout facility out of a pile of 3rd party boxes.

Figure 1. ASTRA Server 3U



DESCRIPTION

Designed to fully support small to large systems for ingest and playout, the ASTRA Server is the heart of the automation system. A fully featured piece of hardware which was built with the needs of a demanding studio in mind. With features including multi-site disaster recovery, multi-path architecture for flexible control and redundancy options, and hot-swappable modules for expansions, upgrades and repairs, you can be certain about your on air status.

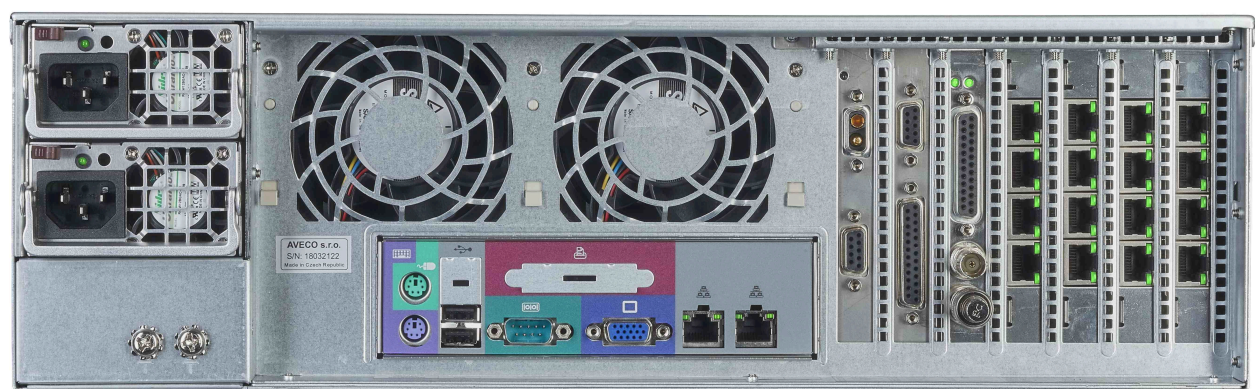
With up to 16 connectors, the ASTRA Server provides comprehensive support for centralized Hub & Spoke operations so your studio's equipment can be designed your way and will always be under your control.

Equipped with ASTRA MCR or ASTRA Studio, the ASTRA server can become the most powerful, reliable, and user friendly broadcast automation system on the market.

Assembly of the ASTRA Server 3U:

Unit	Control Ports for Devices
ASTRA Server 3U	16x RS232/422 serial ports

Figure 2. ASTRA Server 3U - Back Panel



PACKAGE CONTENTS

When delivering ASTRA Server 3U, Aveco will include the server unit and only the power cables necessary to supply power to the server.

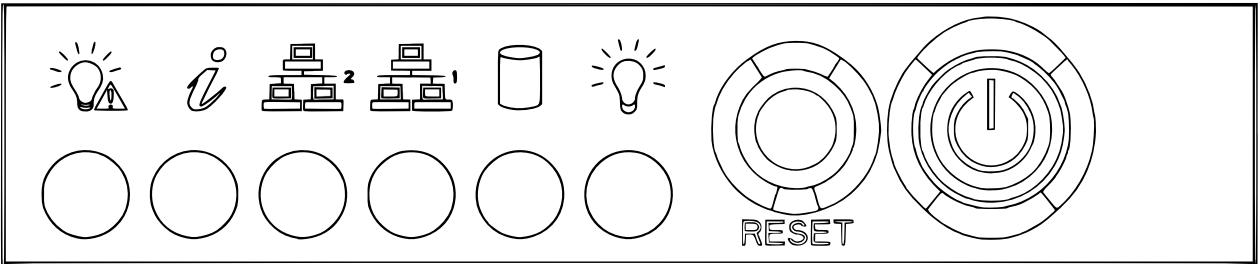
Qty	Content
1	ASTRA Server 3U
2	Power cable, 1m

OPERATION

CHASSIS CONTROL PANEL

The chassis control panel is found in the upper right corner of the front panel. The control panel contains a power button, reset button, and several LED indicators.

Figure 3. Chassis Control Panel



POWER ON THE SERVER

The server is switched on using the POWER button on the front panel of the server.

POWER OFF THE SERVER

To switch off the server, follow the instructions on the monitor.

- 1. Stop the system - press “S” and confirm with “Y”
- 2. Prepare for Power off - press “P”, after that, you will see a countdown from 10 to 0
- 3. When the countdown reaches 0, you will see a notice, “System may now be powered down”. Now, you can power off the server using the POWER button

LED INDICATORS



Power failure: This LED flashes to indicate a power failure in the power supply.

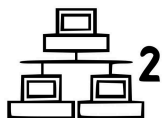


Information LED	
Status	Description
Solid Red	Overheating has occurred
Blinking Red (1Hz)	Fan failure, check for an inoperative fan

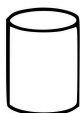
Information LED	
Blinking Red (0.25Hz)	Power failure, check for an inoperative PSU
Solid Blue	Local UID function has been activated
Blinking Blue (300ms)	Remote UID function has been activated



NIC1: Indicates network activity on GLAN1 when flashing.



NIC2: Indicates network activity on GLAN2 when flashing.



HDD: Indicates SAS/SATA activity when flashing.



Power: Indicates power is being supplied to the system's PSUs. This LED is normally illuminated when the system is powered on.

HARD DISK FAILURE AND DIAGNOSIS

The hard disks are hot-swappable so that any faulty hard disk can be removed and replaced without any interruptions to the system's operation, and they are optionally configured in a RAID setup.

Each SAS/SATA drive carrier is equipped with two LEDs.

Drive Carrier LEDs	
Color	Description
Blue	Indicates drive activity. This LED blinks on and off when that particular drive is being accessed.
Red	Indicates an SAS/SATA drive failure.

POWER SUPPLY FAILURE AND DIAGNOSIS

The power supplies are equipped with a status indicating LED to point out if overheating is present.

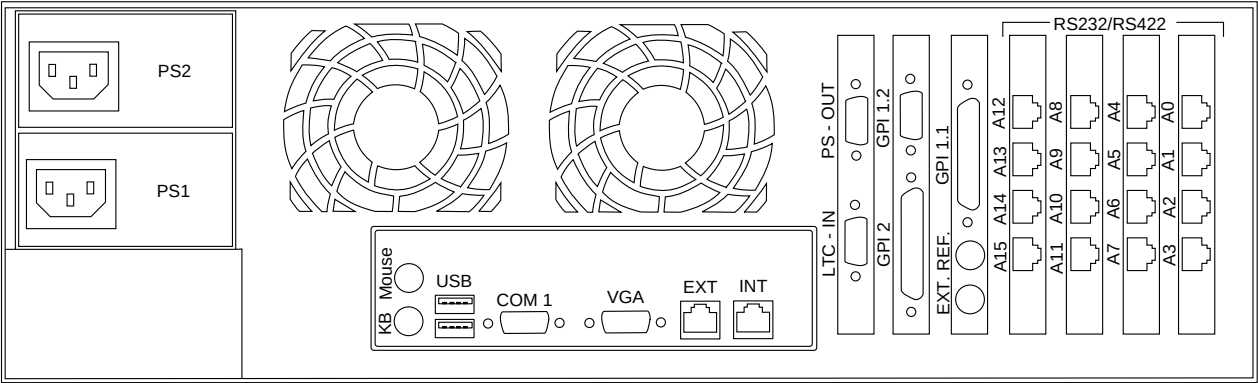
Drive Carrier LEDs	
Status	Description
Solid Green	System is powered on.
Solid Amber	System is powered off but plugged in
Blinking Amber	Internal temperature is at or above 63°C and will shut down if the temperature reaches 70°C

 The Information LED on the chassis control panel will also indicate a power failure.

TECHNICAL SPECIFICATIONS

ASTRA SERVER SPECIFICATIONS

Figure 4. ASTRA Server 3U - Back Panel Schematic



Connectivity	
Control Interface	16x RS232/422 serial ports

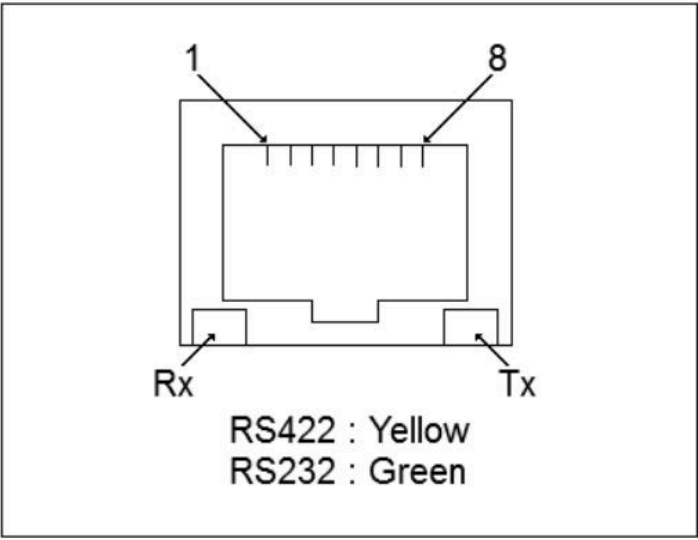
Physical	
Dimensions	3U (483mm x 135mm), depth 105mm
Weight	~25kg

Power	
Power Supply	Redundant, hot swappable/ 2 power cords
InputVoltage	110-240V, 50-60Hz
Power Consumption	280W

SERVER CONNECTORS

Figure 5. Pinout of RS422/RS232 Ports

Connectors A0-A15		
RJ45 8 pin female		
	RS442	RS232
1		CTS
2	Frame ground	Frame ground
3	Tx A(-)	TxD
4	Rx B(+)	
5	Rx A(-)	
6	Tx B(+)	RTS
7		RxD
8	Signal ground	Signal ground



RS422 : Yellow
RS232 : Green

Figure 6. Pinout of GPI Connectors - GPI 1.1 / GPI 2

Connector GPI 1.1			
D-SUB 25 pin female			
GPI OUT, GPI IN, LTC IN			
1	GPI IN 1	14	GPI OUT 1 a
2	GPI IN 2	15	GPI OUT 1 b
3	ground	16	GPI OUT 1 c
4	GPI IN 3	17	GPI OUT 2 a
5	GPI IN 4	18	GPI OUT 2 b
6	ground	19	GPI OUT 2 c
7	GPI IN 9	20	GPI OUT 3 a
8	GPI IN 10	21	GPI OUT 3 b
9	ground	22	GPI OUT 3 c
10	GPI IN 11	23	GPI OUT 4 a
11	GPI IN 12	24	GPI OUT 4 b
12	LTC IN a	25	GPI OUT 4 c
13	LTC IN b		

Connector GPI 2			
D-SUB 25 pin female			
GPI OUT, GPI IN			
1	GPI OUT 9 a	14	GPI OUT 13 a
2	GPI OUT 9 b	15	GPI OUT 13 b
3	GPI OUT 10 a	16	GPI OUT 14 a
4	GPI OUT 10 b	17	GPI OUT 14 b
5	GPI OUT 11 a	18	GPI OUT 15 a
6	GPI OUT 11 b	19	GPI OUT 15 b
7	GPI OUT 12 a	20	GPI OUT 16 a
8	GPI OUT 12 b	21	GPI OUT 16 b
9	GPI IN 5	22	nc
10	GPI IN 6	23	nc
11	GPI IN 7	24	ground
12	GPI IN 8	25	ground
13	nc		

Figure 7. Pinout of GPI Connectors - GPI 1.2

Connector GPI 1.2	
D-SUB 9 pin female	
GPI OUT	
1	GPI OUT 5 a
2	GPI OUT 5 b
3	GPI OUT 6 a
4	GPI OUT 6 b
5	GPI OUT 7 a
6	GPI OUT 7 b
7	GPI OUT 8 a
8	GPI OUT 8 b
9	ground

Figure 8. Schematic of GPI output and input - GPI 1.1 / GPI 1.2 / GPI 2

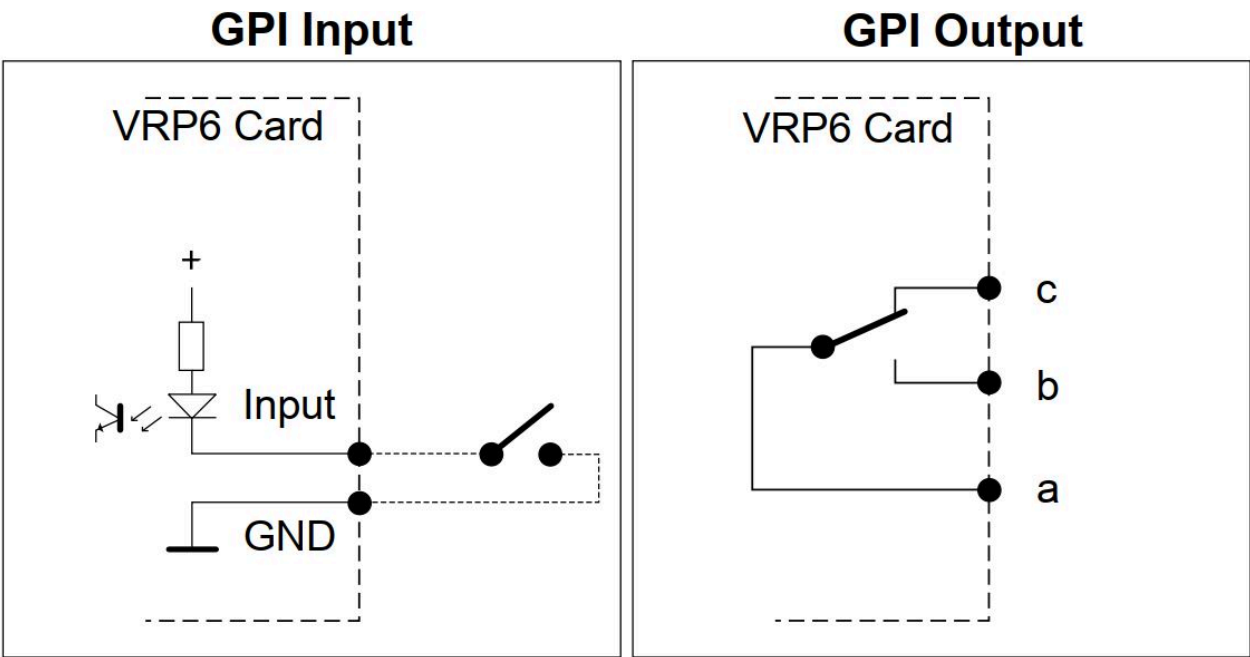


Figure 9. Pinout of LTC Connector

Connector LTC IN	
D-SUB 9 pin female	
LTC INPUT	
1	Input a
2	Input b
3	
4	
5	
6	ground
7	
8	
9	

Figure 10. Schematic of LTC input

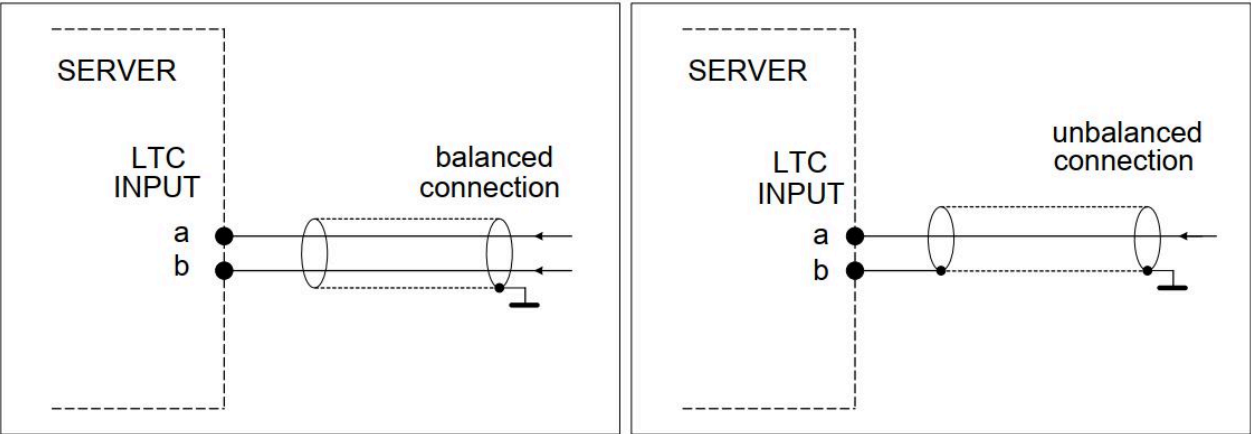
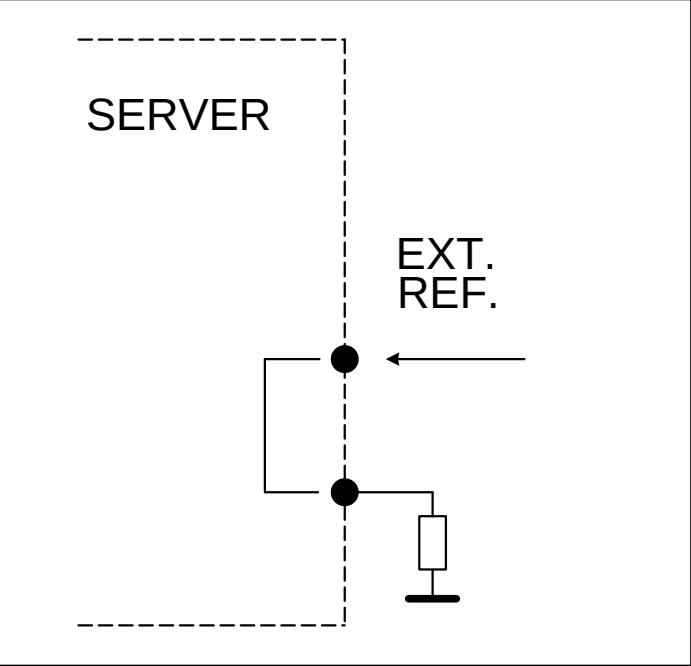


Figure 11. Pinout of COM Port

COM Port D-SUB 9 pin female RS 232	
1	DCD
2	RxD
3	TxD
4	DTR
5	signal ground
6	DSR
7	RTS
8	CTS
9	RI

Figure 12. Schematic of REF input



CABLING

ASTRA Server 4U ships with only two power cables used to provide power to the server. Cables to connect any other devices to the ASTRA server are not provided with the server unit and are to be supplied by the system integrator, the end customer, or may be bundled with other devices.

When supplying cables to connected devices, refer to the pinout of the RS422/RS232 ports, the pinout of GPI connectors GPI 1.1, GPI 1.2, and GPI 2, the pinout of LTC connectors, and the pinout of the COM port.