58Khz
Common Platform
EAS Systems

Installation Manual

April 2008

Manual Part Number: WG-

(Ver. 05040801)

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CRITICAL NOTE

As specified by FCC Regulations 15.21, any changes or modifications not expressly approved by the party responsible for compliance of this equipment, will void the user's permission and authority to operate this equipment.

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OVERVIEW

System Overview

Note: Common Platform EAS Systems differ only in the antennas that are used. All systems use a universal transceiver printed circuit board that performs all the functions of transmitting, receiving and alarm notification. This manual applies to AdGuard, AdGuard XL, Lane Guard and Diamond Door Guard.

The common platform line of products consist of one or more pedestals (transceiver antenna and optional extender), and one external PSU unit (WG SPS24). The transceiver pedestal has one universal transceiver board which transmits and receives utilizing highly advanced signal process technology, offering unsurpassed stability and detection performance.

Transceiver Antenna and Extender (AdGuard)

Transceiver PCB

24vac Smart Power Supply Unit (SPS)

Detection Range on Both Sides of Antennas with Micro Pencil Tags

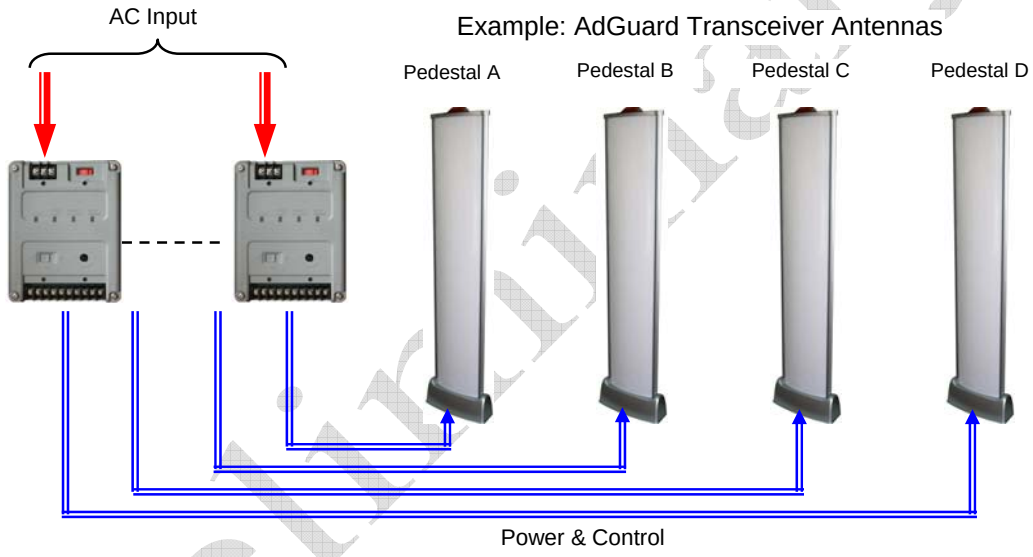
Antenna Type	Europe	USA
AdGuard	0.9 m	3 ft
AdGuard with Extender	TBD	TBD
AdGuard XL	1.4 m	4.5 ft
AdGuard XL with Extender	TBD	TBD
Lane Guard	0.9 m	3 ft
Diamond Door Guard	0.9 m	3 ft

System Configurations

Each transceiver pedestal is powered by its own dedicated SPS. The common platform SPS not only provides 24vac power to the transceiver pedestal, but it includes some very important features.

- Accepts a wide AC input voltage ranges
- Controls transmitter bursts for troubleshooting
- Adjusts pedestal alarm volume
- Provides alarm visual & audio indication and relay output
- Provides Jammer Detection alarm and relay output

24vac power and data/control is carried by a single TX cable from the SPS to the pedestal. Each SPS is individually powered. This picture depicts and example where 4 power supplies are integrated into a single industry standard rack with main power input and to which each SPS is then connected.



Caution! One SPS can only power only one transceiver pedestal.

The Common Platform Product Line includes any of the following antenna models.

AdGuard | AdGuard XL | Lane Guard | Diamond Door Guard

Product Names and Part Numbers

Accessories

	Accessory Name	Order Number
1.	Smart Power Supply (SPS unit)	WG SPS24
2.	Instruction Manual	TBD
3.	Power Line Connector (2 pins)	TBD
4.	Communication Connector (4 pins)	TBD
5.	Laptop Tuning Software (includes WG USB Cable)	TBD
6.	USB Tuning Cable	TBD
7.	WG IR Tuning Module	TBD

Systems

	Antenna Name	Order Number
1.	AdGuard Transceiver Pedestal	WG AGTR24
2.	AdGuard Extender Pedestal	WG AGTR-EX
3.	AdGuard XL Transceiver Pedestal	WG AGXTR24
4.	AdGuard XL Extender Pedestal	WG AGXTR-EX
5.	Lane Guard Transceiver Pedestal	WG LGTR24
6.	Diamond Door Guard Transceiver	WG DG2TR24

Common Platform Features & Benefits

- All-in-One platform design for the Acousto-Magnetic (AM) product line makes it a perfect AM detection core solution for various antenna forms and needs. There are visible advantages on short term and long term operation along with low cost maintenance.

- Unprecedented Digital Signal Processing Technology

  The common platform line brings an ever advancing DSP technology to an unprecedented level compared with traditional anti-theft solutions, eliminating false alarms and maintaining a considerable detection range.

- Universal Mobile PC Tuning Interface

  Benefiting from its highly performance-rich digital processing controller, the common platform can connect to laptop PC through the popular USB port.

- Anti-Jammer Alarm

  The Anti-Jammer alarm function addresses the modern high-tech theft actions that defeat the Acousto-Magnetic detection system with DIY jamming devices. WG's common platform design detects and alerts security personnel as soon as the jammer device attempts to defeat the transceiver pedestal.

- Local and Remote Audible and Visual Notification

  Alarm flexibility provides local alarming at the pedestal plus remote alarm notification through the SPS via convenient visual and external ports.

- Transceivers can be individually optimized for label or ferrite tag detection.

Specifications (common parameters)

Smart Power Supply (SPS) Electrical

Primary Input (Stepdown Transformer)	100vac ±10 % 110vac ±10 % 120vac ±10 % 220vac ±10 % 240vac ±10 %
Secondary Output	26Vac ±5 %
Rated Output Current	1.4A ±5 %
Maximum Secondary Output Current	1.9 A
Built-in Fuse (self recovery)	500mA

Smart Power Supply (SPS) Mechanical

Height	80mm (3.15”)
Width	110mm (4.33”)
Thickness	140mm (5.5”)
Weight	3 Kg (6.6 lbs)

Environmental (Pedestals and SPS)

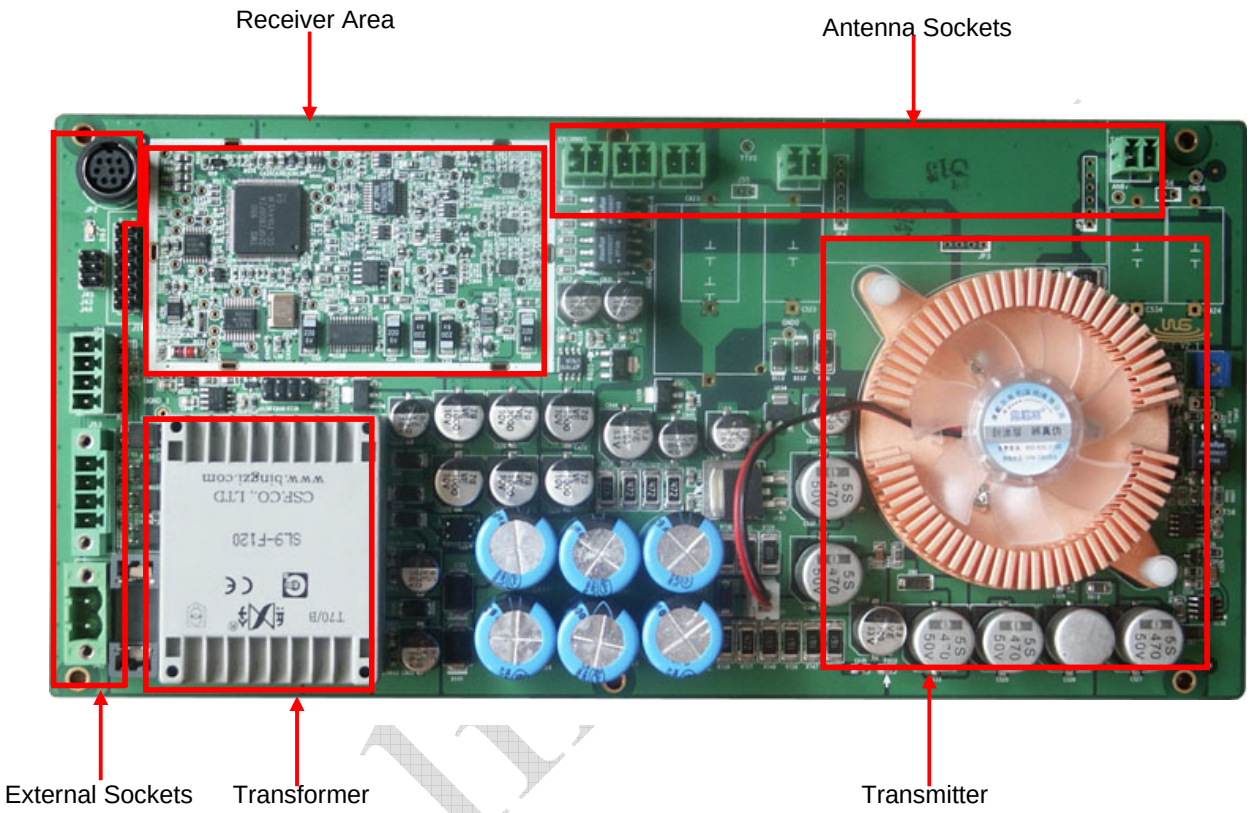
Operating Temperature	TBD °C (°F)
Relative Humidity	0 to 85% non-condensing

Mechanical (Pedestals)

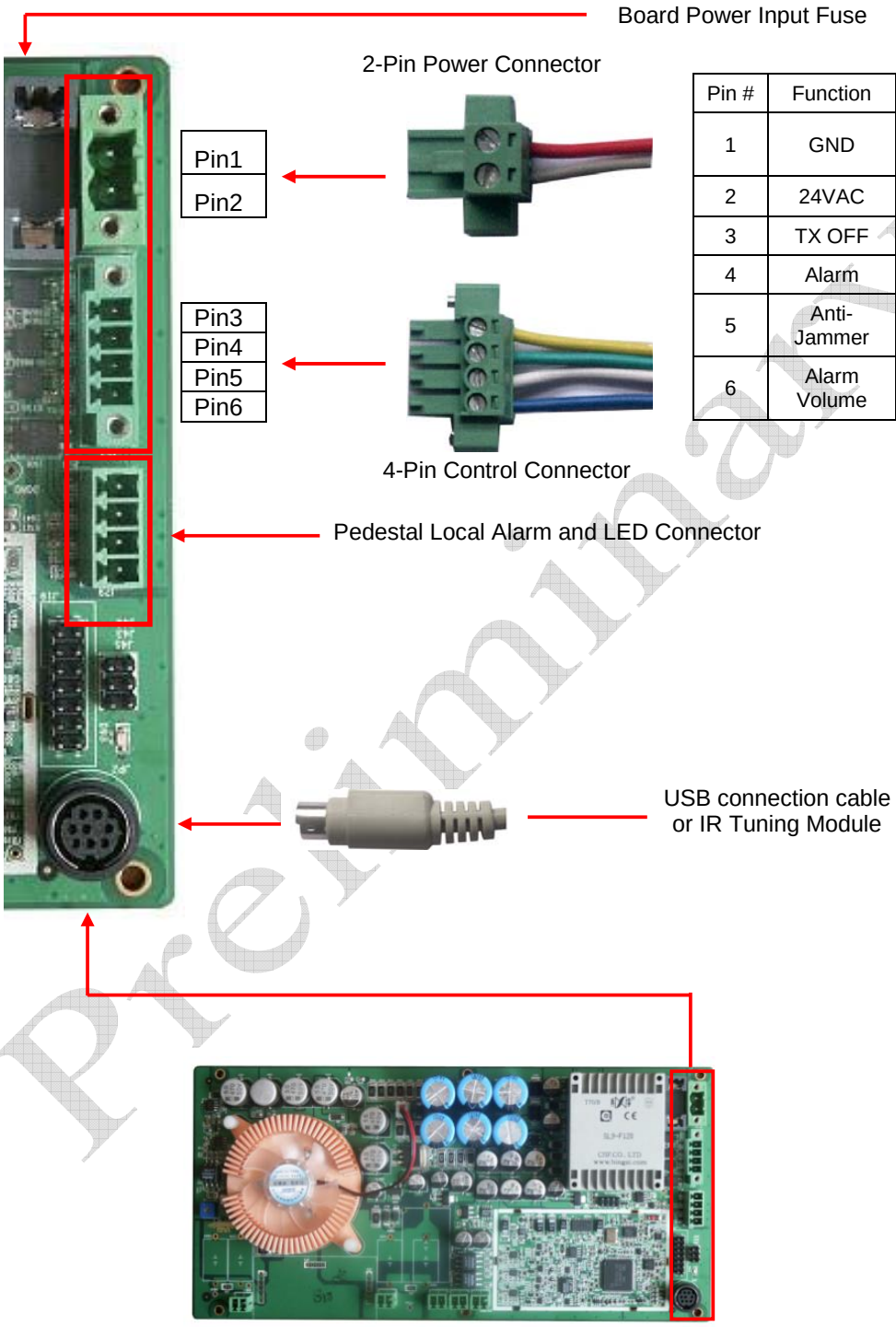
AdGuard Pedestal	66”H x 12.6”W x 3”D (166 x 33 x 7.6cm) Weight (TBD)
AdGuard XL Pedestal	66”L x 18.5”W x 3.54”H (166 x 48 x 8.6cm) Weight (TBD)
Lane Guard (w/o brackets)	52.8”L x 14.4”W x 1.5”H (134 x 36.7 x 3.8cm) Weight (TBD)
Diamond Door Guard	59”L x 12.2”W x 2”H(150 x 31 x 5cm) Weight (TBD)

COMMON PLATFORM ELECTRONICS

Board Functions Description



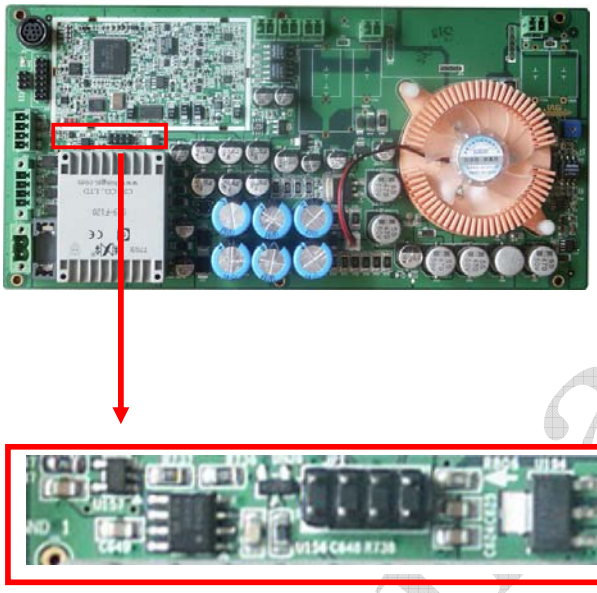
PCB Sockets & Connections



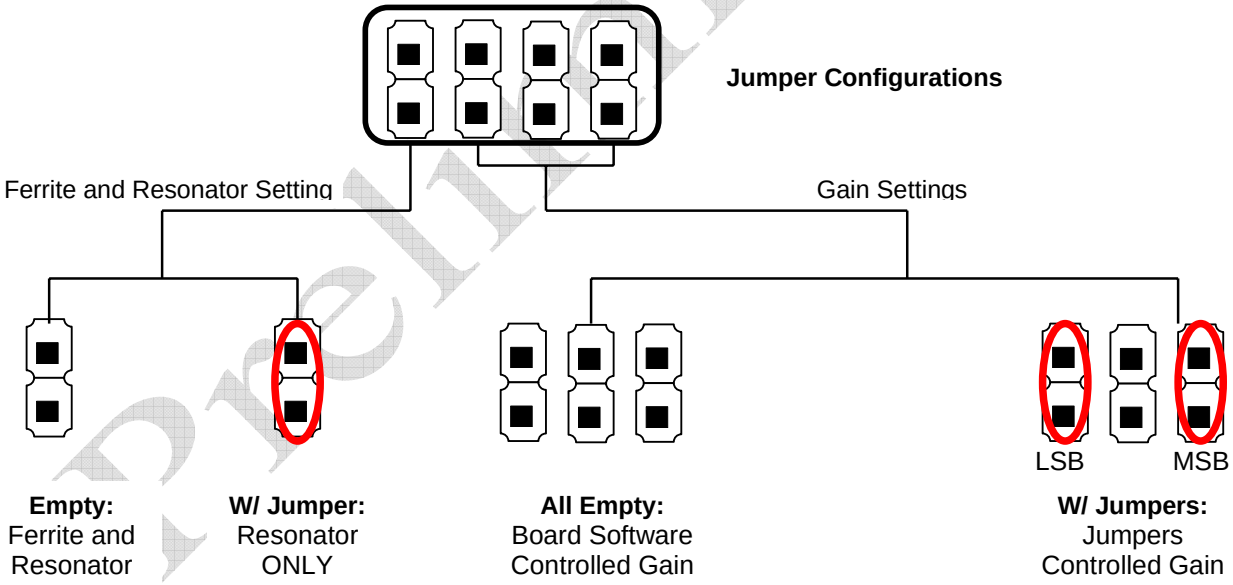
Pin #	Function	I/O
1	GND	Common GND
2	24VAC	26vac±5%
3	TX OFF	Output
4	Alarm	Input
5	Anti-Jammer	Input
6	Alarm Volume	Output

PCB Jumpers

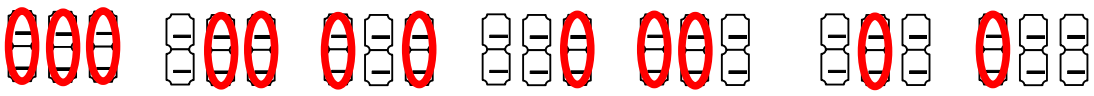
There is only one set of Jumper that is subject to User's configuration; all other jumpers please keep them as original as system is delivered.



Jumper Configurations



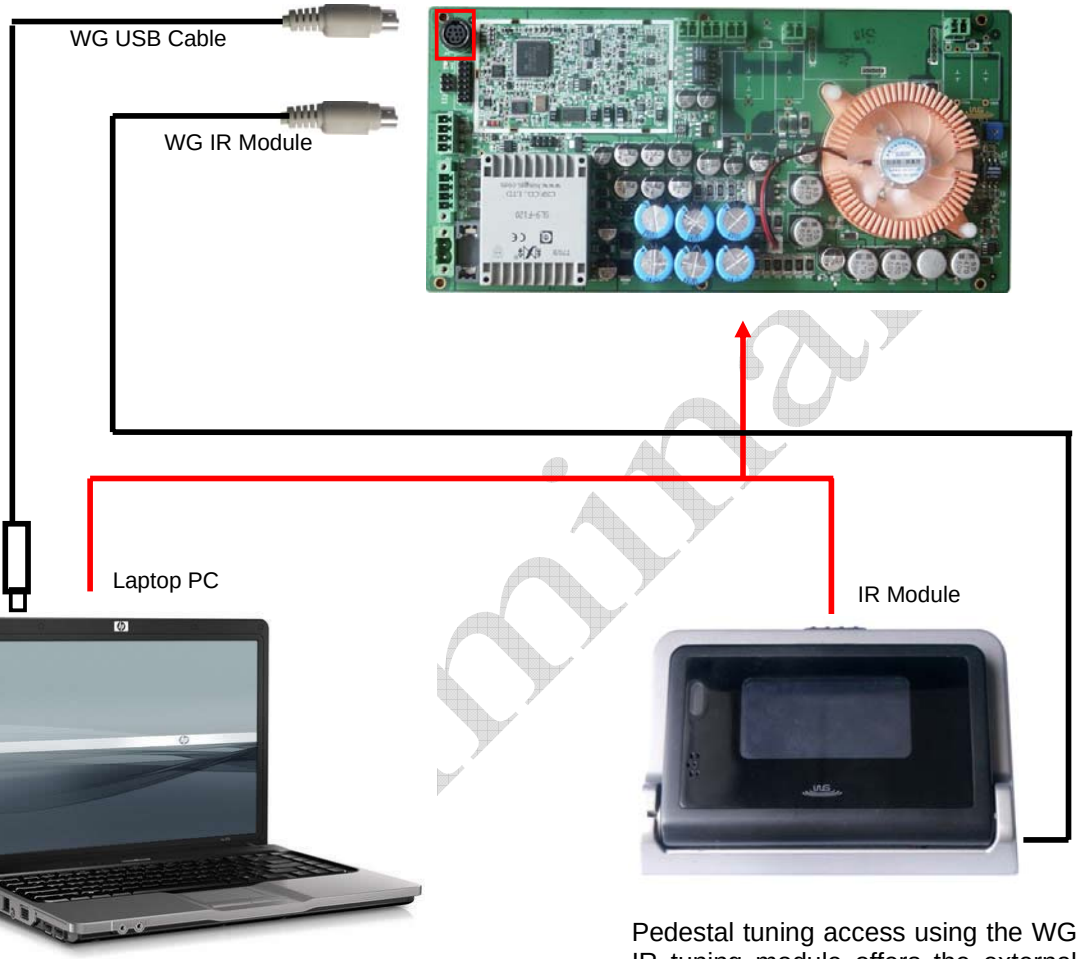
Gain Value Lookup Table



Binary	0 0 0	1 0 0	0 1 0	1 1 0	0 0 1	1 0 1	0 1 1
Decimal	0	1	2	3	4	5	6
Gain value							

Pedestal Tuning Access

Common Platform systems include advanced tuning features that offer the technician a choice of access. There is a connector on the Transceiver PCB for tuning access. The installer can connect to the pedestal using a laptop PC with a WG USB cable or attach an external IR tuning and display module. The same dedicated tuning connector on the transceiver board accepts both the WG USB cable and external IR tuning and display module.

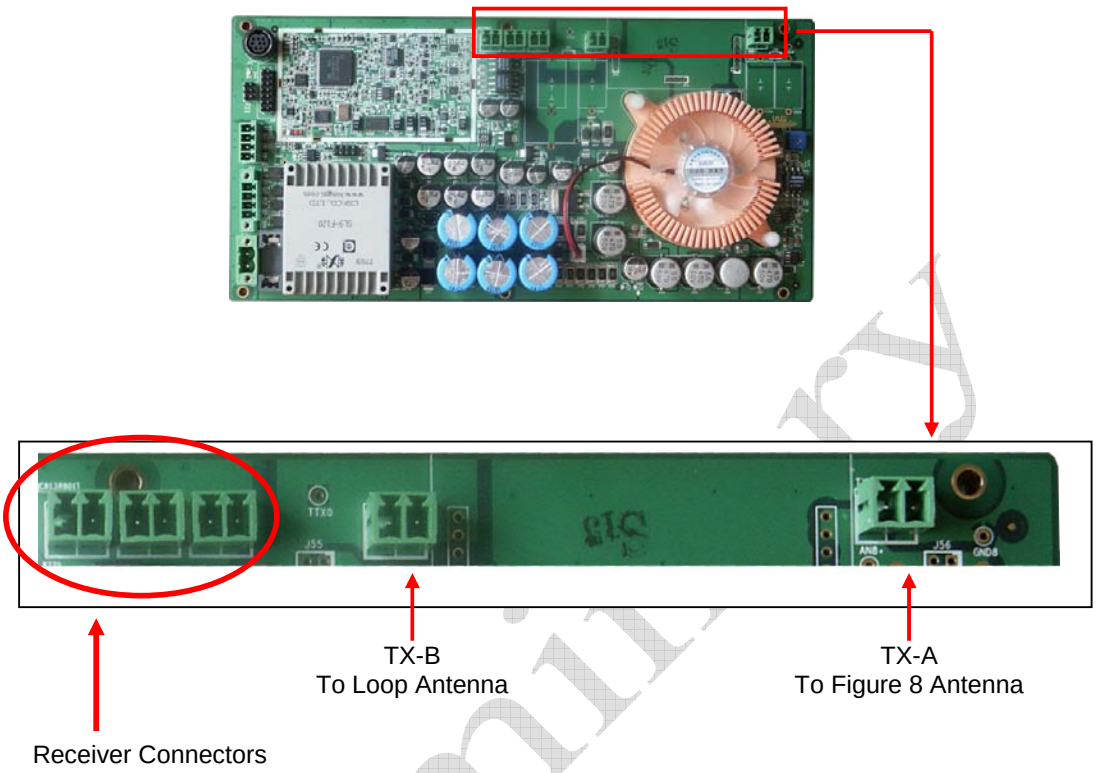


Pedestal tuning access using a laptop PC is through the WG USB cable.

Pedestal tuning access using the WG IR tuning module offers the external display interface and traditional remote control interface.

Laptop tuning software with WG USB cable and IR Tuning Module are optional and must be ordered separately from WG Security Products.

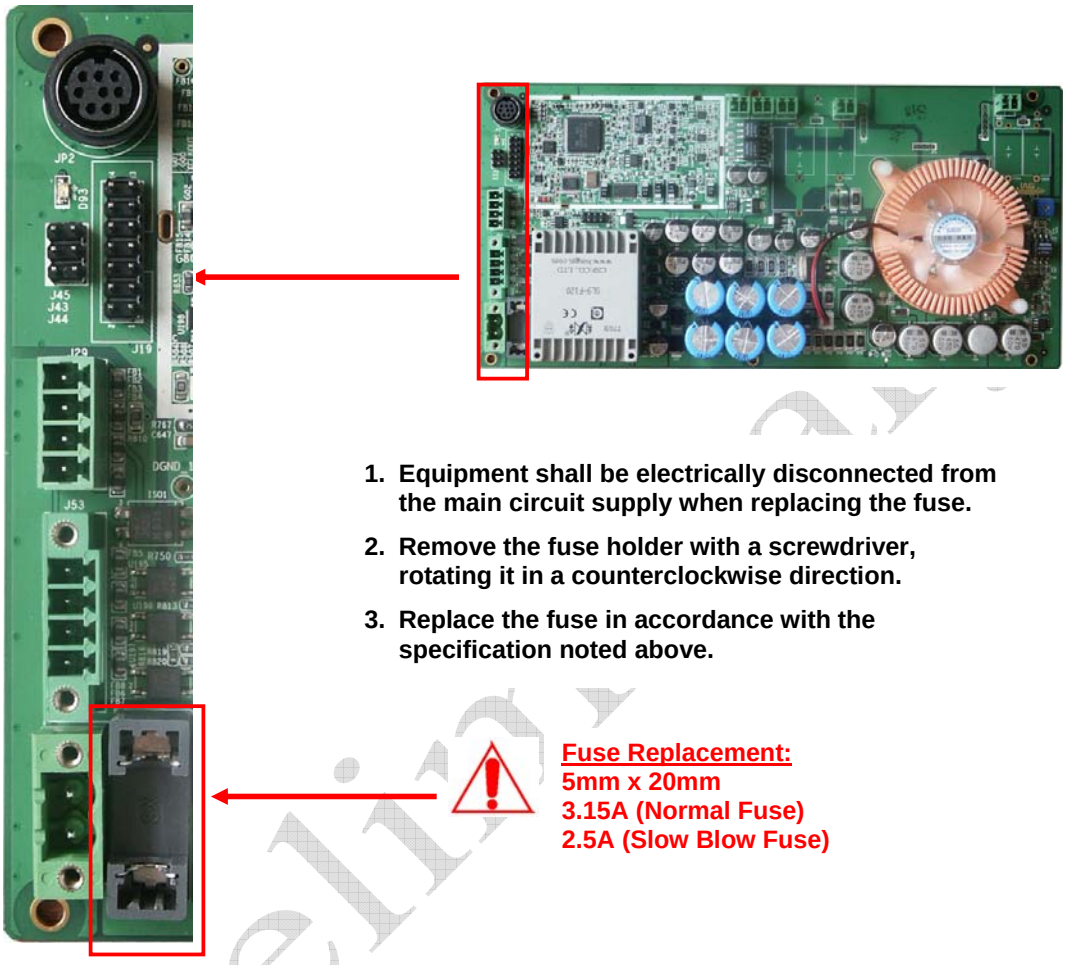
Antenna Channels on Transceiver Board



TX-A and TX-B sockets connect to the two types of coil antennas. They must not be transposed; strictly follow the illustration.

Fuse Replacement Information (Transceiver PCB)

The fuse holder is accessed through the pedestal side panel.



1. **Equipment shall be electrically disconnected from the main circuit supply when replacing the fuse.**
2. **Remove the fuse holder with a screwdriver, rotating it in a counterclockwise direction.**
3. **Replace the fuse in accordance with the specification noted above.**

Fuse Replacement:
5mm x 20mm
3.15A (Normal Fuse)
2.5A (Slow Blow Fuse)

WARNING – TO REDUCE THE RISK OF DAMAGE, REPLACE ONLY WITH THE SAME FUSE TYPE AND RATING.

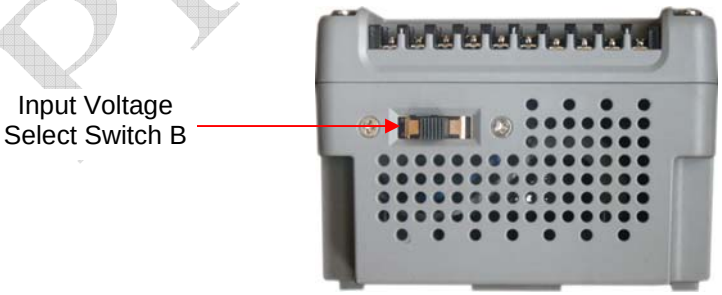
SMART POWER SUPPLY (SPS)

SPS Controls and Connections

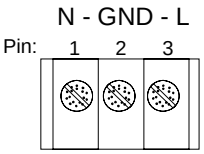
SPS Front View

SPS Top View

SPS Rear View

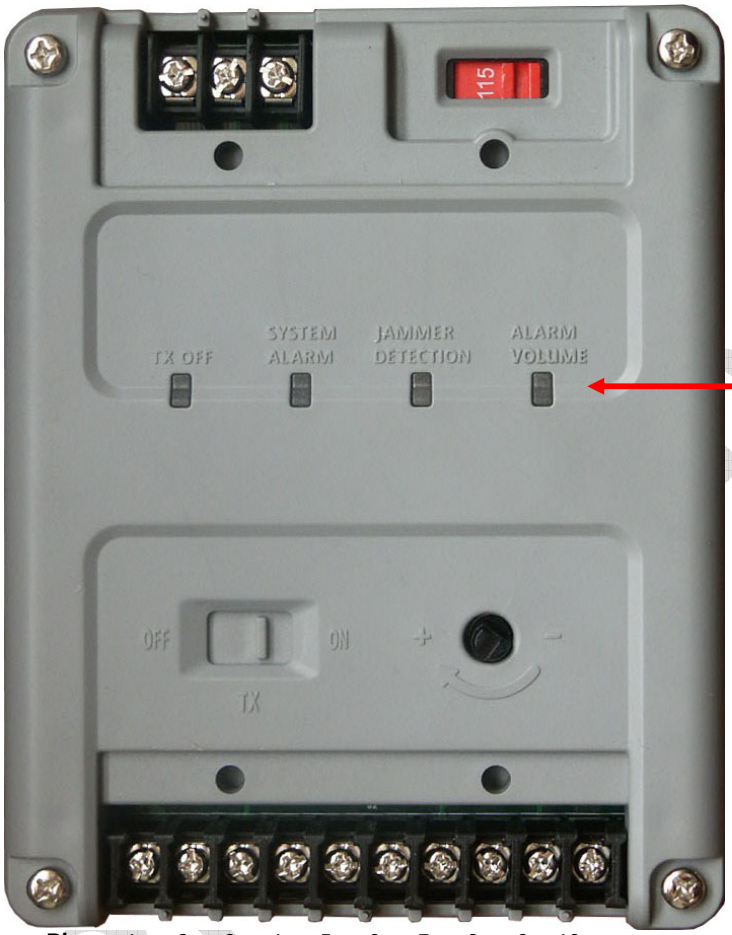


SPS Box Terminals Illustration



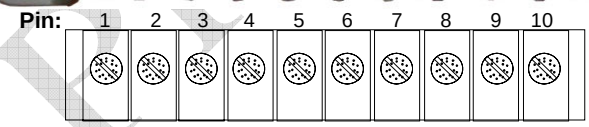
SPS Main AC Input Terminal Layout

Main AC Cable (3 wires)		
Pin	Function	Color
1	Neutral	Blue
2	Ground	Green w/Yellow Stripe
3	Live	Red(Brown)



LED Status

LED	On	Off
TX Off	TX is Off	TX is On
System Alarm	Alarm Enabled	Alarm Disabled
Jammer Detection	Detection Enabled	Detection Disabled
Alarm Volume	Dim Means Weaker	Bright Means Louder



SPS Output Terminal Layout (10 pins)

	SPS to Pedestal Cable (6 wires)						Alarm Relay		Jammer Relay	
Pin #	1	2	3	4	5	6	7	8	9	10
Function	GND	24VAC	TX OFF	Alarm	Anti-Jammer	Alarm Volume				
Electrical	Common GND	26 VAC	>4.0vdc	<2.5vdc	<2.5vdc	5-15vdc	1A Contact		1A Contact	
I/O	Output	Output	Output	Input	Input	Output	Output		Output	

SPS Box Main AC Input and Voltage Setup

The Smart Power Supply (SPS) box accepts 5 input voltages: 100vac 110vac and 120vac in North America and Japan, 220vac and 240vac in Europe and Australia.

Caution: Set the two Voltage Switches (A and B) o n the SPS at the specified combination based on the local incoming voltage value (see picture below).

<u>100vac</u>
Voltage Switch A - 115

Voltage Switch B - LOW

<u>220vac</u>
Voltage Switch A - 230

Voltage Switch B - MIDDLE

<u>110vac</u>
Voltage Switch A - 115

Voltage Switch B - MIDDLE

<u>240vac</u>
Voltage Switch A - 230

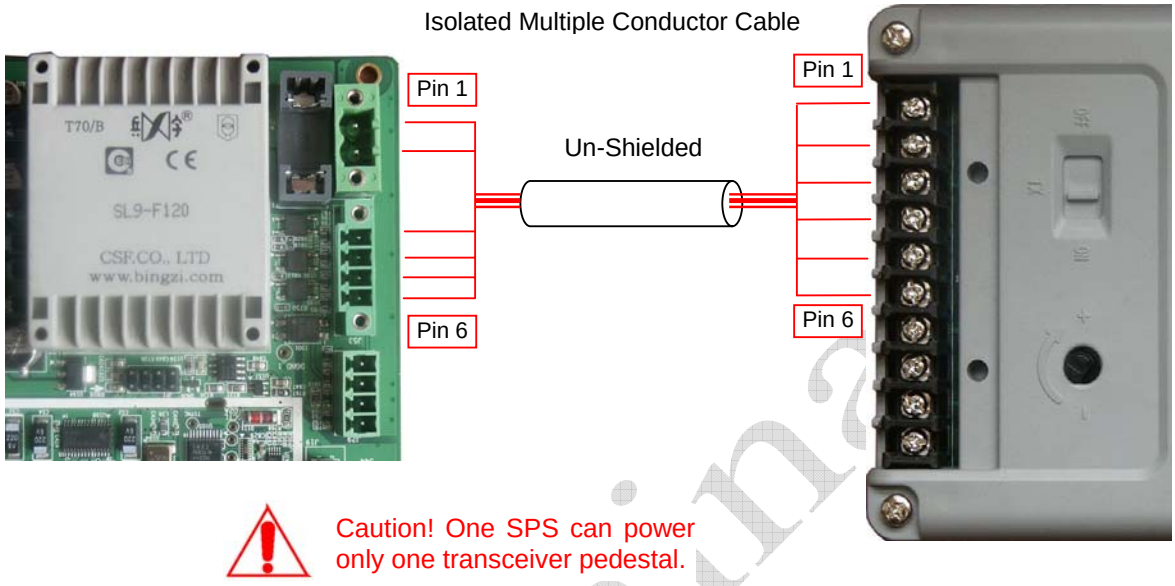
Voltage Switch B - HIGH

<u>120vac</u>
Voltage Switch A - 115

Voltage Switch B - HIGH

Interconnection between Smart Power Supply and Pedestal

The system transceiver board has two sockets (combined pins 1 to 6) that connect to SPS output terminal pins 1 to 6 (one-to-one pin connection). The reference diagram shows the pin mapping relation between transceiver board and PSU.



Caution! One SPS can power only one transceiver pedestal.

Cable Conductors Specifications

Note: Specifications are calculated at 30 meters (100 feet) length.

Pin	Conductors	Gauge	AWG	Description
1	Conductor 1	1 mm ^{2}	16	Power (Common Ground)
2	Conductor 2	1 mm ^{2}	16	Power (26 Vac)
3	Conductor 3	0.5 mm ^{2}	20	TX OFF
4	Conductor 4	0.5 mm ^{2}	20	Alarm
5	Conductor 5	0.5 mm ^{2}	20	Jammer-Detection
6	Conductor 6	0.5 mm ^{2}	20	Alarm Volume

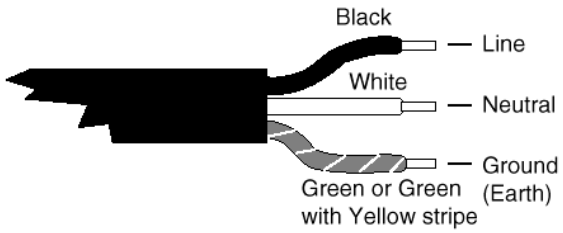
Power Cord Notices

The SPS delivered does not include AC cable for installation except a short testing cable; we recommend that you use a CE approved power cord H05 VV-F or H05 VVH2-F2 (Refer to the Electrical code which governs your country for installation of an Anti-Theft Unit to the Main power Supply) with the cable specification and gauge provided below.

North American Power Supply Cords

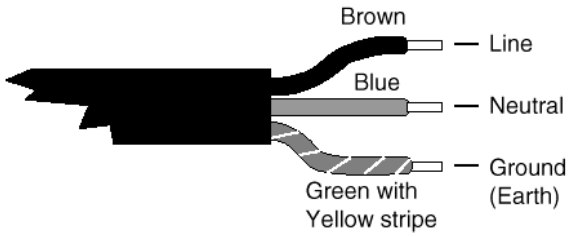
This equipment is supplied with an external power line at one end and a molded receptacle terminal block at the other end. Conductors are color coded white (neutral), black (line) and green or green/yellow (ground).

Operation of this equipment at voltages exceeding 130 VAC will require power supply cords which comply with NEMA configurations.



International Power Supply Cord

This equipment is supplied with an external power line at one end and a molded receptacle terminal block at the other end. Conductors are CEE color-coded—light blue (neutral), brown (line) and green/yellow (ground). Other IEC 320 C-13 type power supply cords can be used if they comply with the safety regulations of the country in which they are installed.

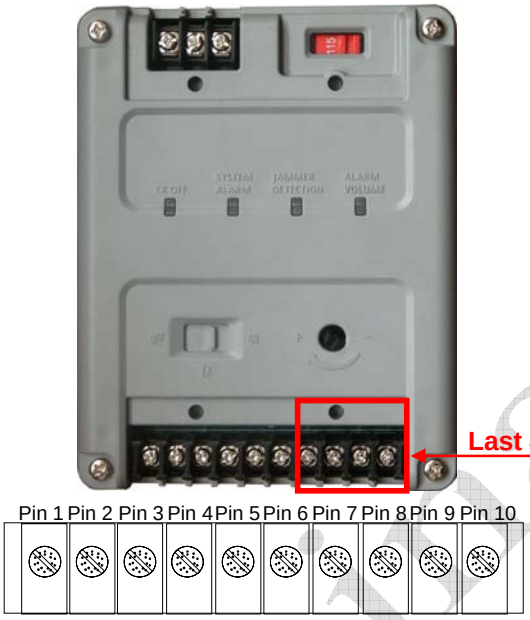


Main AC input Cable Specifications.

Pin	Conductors	Gauge	AWG	Description
1	Conductor L	0.75 mm ^{2}	18	Main AC Live
2	Conductor N	0.75 mm ^{2}	18	Main AC Neutral
3	Conductor GND	0.75 mm ^{2}	18	Main AC Gnd

SPS Box External Relay interface

The external relay interface is located at Output side of the SPS.



Suggested Relay Ratings
1A@ 24 VDC

Last 4 pins on this end.

SPS Output Terminal Layout (10 pins)

	SPS to Pedestal Cable (6 wires)						Alarm Relay		Jammer Relay	
Pin #	1	2	3	4	5	6	7	8	9	10
Function	GND	24VAC	TX OFF	Alarm	Anti-Jammer	Alarm Volume				
Electrical							1A Contact Rating		1A Contact Rating	

Notes:
1. **Wire length to the dry contact circuit is limited to 20 feet.**
2. **To prevent high voltage noise from being introduced into the transceiver and degrading the system's performance, it is highly recommended that you use a 24vdc output relay.**

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