EA500

Security Systems

BOSCH

1.0 Overview

The EA500 Transponder is the Security Escort module that provides communications between the central console and the many receivers and alert units throughout the protected area. In addition to its communications functions, this transponder also supplies power to the receivers. Each transponder also includes drivers for a single strobe and siren.

2.0 Specifications

Table 1: Specifications	
Enclosure (AE3) (H x W x D)	52.7 cm x 38.1 cm x 10.8 cm (20.75 in. x 15 in. x 4.25 in.)
Temperature Range	-40°C to +65°C (-40°F to +149°F)
Power	18.0 VAC, 50 VA maximum plug-in transformer for 110 V, 60 Hz
Power Output	9 VDC used for SE485 or Proxim radio power
Driver Outputs	Strobe: 500 mA solid state sink, terminal switches to ground in an alarm condition.
	Siren: 500 mA solid state sink, terminal switches to ground in an alarm condition.
Battery Backup	12 VDC lead acid battery
Multiplex Buses	Eight multiplex drivers, each capable of driving eight receivers or alert units for a combined total of 64 receivers and alert units per transponder.
Communications Interface	Selectable SE485 or RS-232
Keyswitch Input	47k EOL resistor, supervised loop
Compatibility	ROM version 4.00 or greater (the version shipped with this unit) is compatible with "−304" equipment (such as EA102A-304). Version 4.00 or greater is **not** compatible with non "−304" equipment.
	ROM versions earlier than 4.00 are compatible with non "-304" equipment.
Tamper Switch (option)	P/N: CTS1-70, Normally Closed

3.0 Mounting

Normally, the enclosures are mounted first and all wiring is run. Then the electronics are mounted, wired, and tested.

The enclosures include hardware for mounting the enclosure to a wall and mounting the circuit board to the enclosure.

1. Mount the enclosure to the mounting surface.
2. Mount the circuit board to the enclosure. See *Figure 1.*

Figure 1: Enclosure
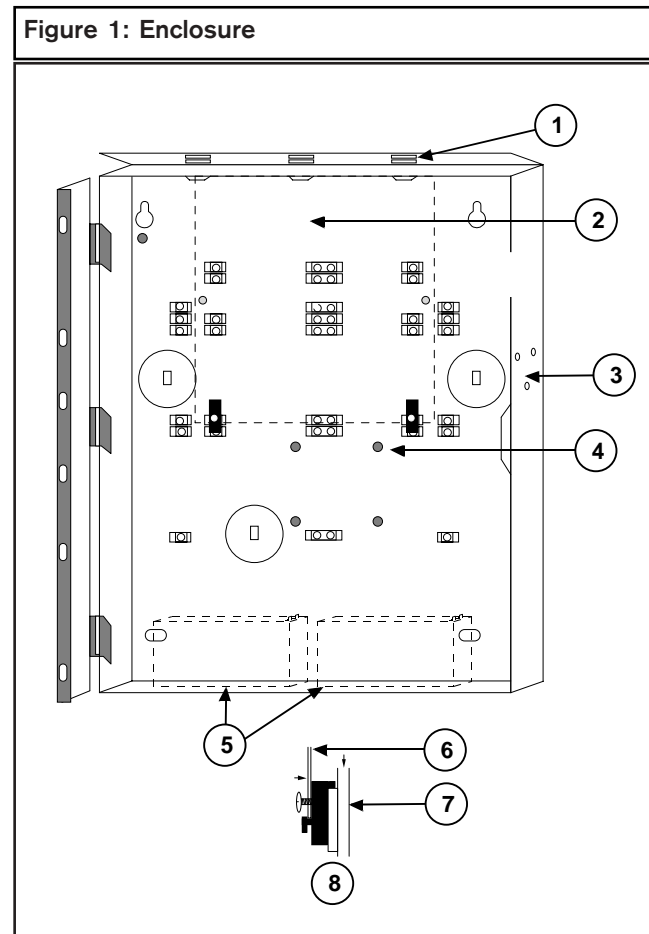
1 - View to show retainer tabs. Insert board between tabs to secure.

2 - Circuit location

3 - Tamper switch mounting location

4 - Support post

5 - Battery location

6 - Enclosure

7 - Circuit board

8 - Support post assembly

4.0   Wiring

Wire the transponder according to *Figure 2*.

The wiring to the receivers and alert units can be as home-run (individual), daisy-chain (device to device), or a combination of both. T-tapping is also acceptable. The recommended cable is 4-conductor, 18 AWG (1.2 mm [0.05 in.]) fire rated.

Wiring from SE485 to the transponders can be home-run (individual), daisy-chain (device to device), or a combination of both. T-Tapping is also acceptable. The recommended cable is 4-conductor, twisted pair, non-shielded, 22 AWG (0.8 mm [0.03 in.]).

Figure 2: Wiring
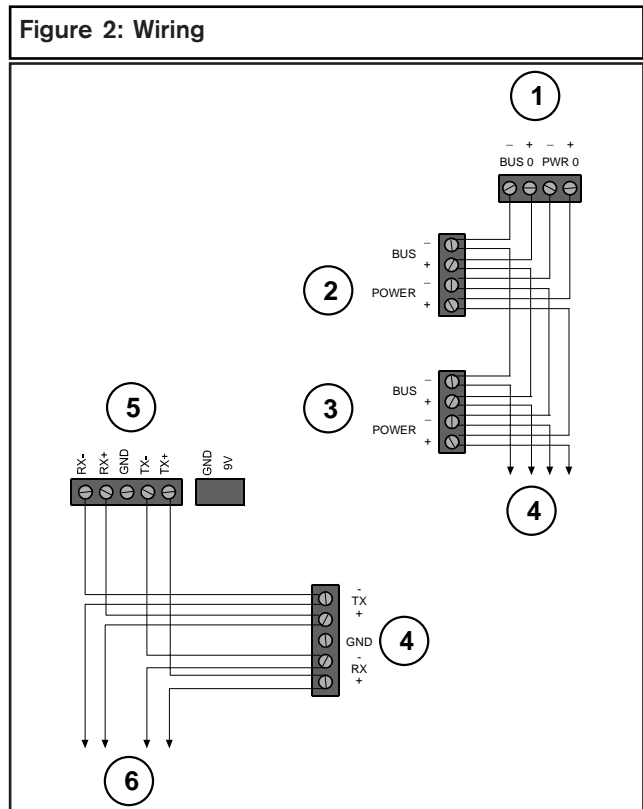
1 - Transponder
2 - Typical receiver
3 - Typical output module
4 - To next device
5 - SE485
6 - To next transponder

5.0 Setting the Address

Every transponder in the system must have its own address. Set the address on the transponder using the DIP switches located in the upper-right corner (see *Figure 3*).

Figure 4 shows to set the DIP switches for each possible address.

Figure 3: Transponder
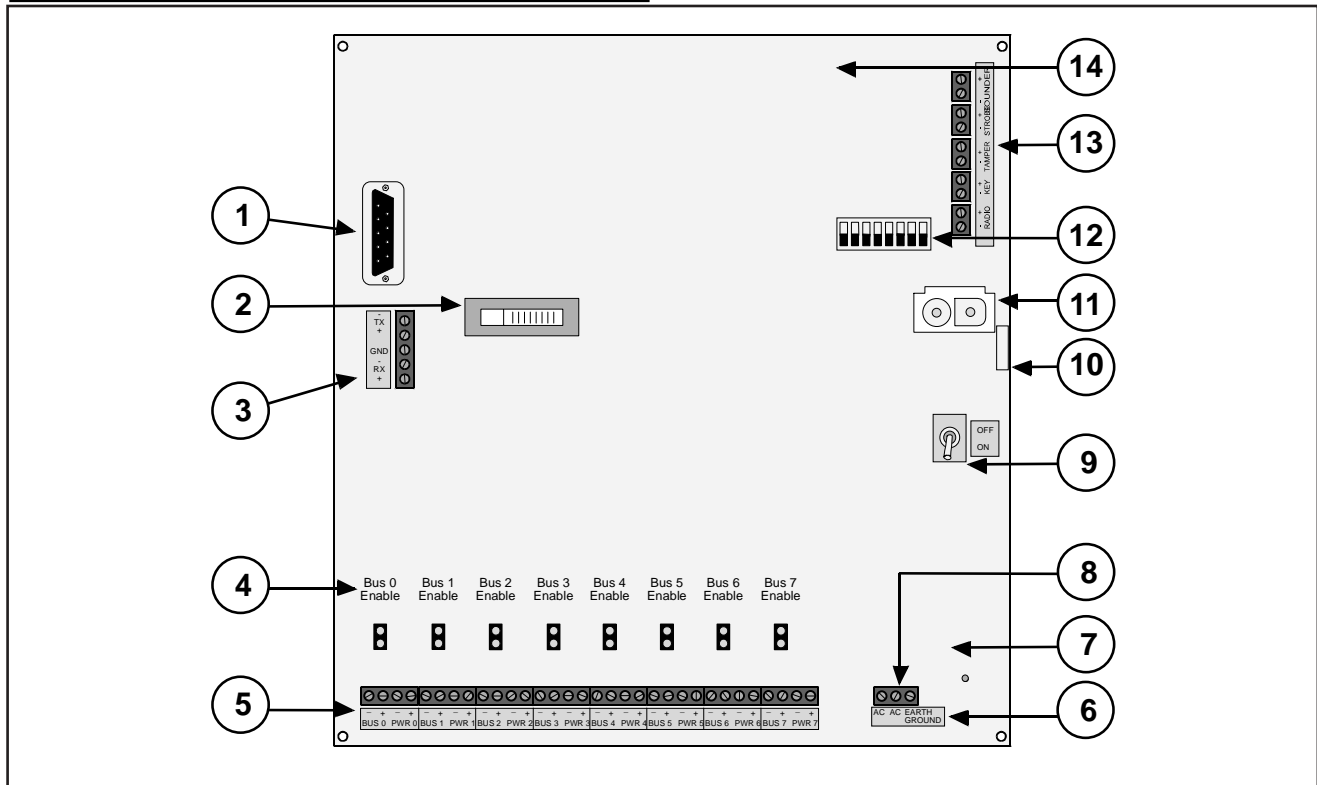
1 - RS-232 port

2 - Select RS-232/SE485

3 - SE485

4 - Bus enable (0 to 7)

5 - Bus power bar (0 to 7)

6 - Transformer

7 - AC power LED

8 - 18 VAC input power

9 - Power switch (Do **not** disconnect AC input power.)

10 - Battery

11 - 12 VDC battery connector

12 - Transponder address

13 - 9 V radio power; keyswitch; tamper; strobe (12 VDC, 0.5 A current sink); alert siren (12 VDC, 0.5 A current sink)

14 - Bus 0 = Comm fail; Bus 1 = Carrier detect; Bus 2 = Transmit data; Bus 3 = Receive data; Bus 4 = CRC error; Bus 5 = Test in progress; Bus 6 = Alarm in progress; Bus 7 = Heartbeat

Figure 4: DIP Switch Settings

Notes:

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