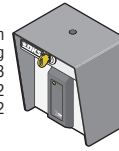**For COMPLETE installation instructions, please refer to the HARDwired Installation/Owner's manual P/N 2358-065.**
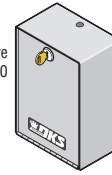
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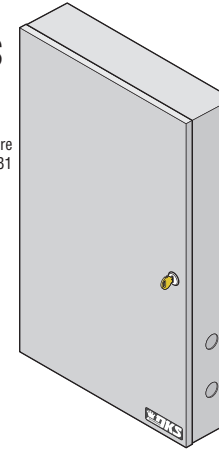U.S.A.

Tracker Expansion Board Enclosure Options

Single Board Enclosure with
Built-In Card Reader and Lighting
DK Prox Reader - P/N 1815-333
HID Reader - P/N 1815-392
AWID Reader - P/N 1815-292

Single Board Enclosure
P/N 2351-080

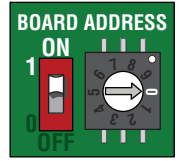Quad Board Enclosure
P/N 2351-081

Access Control
System Board

Auxiliary Terminal
Black #9-Com
White #8-Data 1
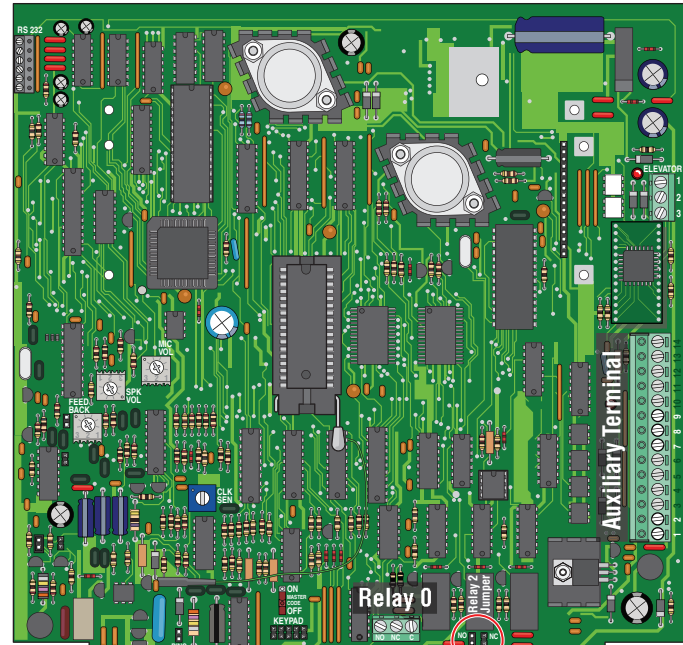Green #7-Data 0

Tracker Expansion Board Notes:

All tracker expansion boards can be wired with desired options for their access points like shown on tracker expansion board address 3.

Communication line will continue for each board like shown on tracker expansion board address 4.

Board addresses **MUST** start at 3 and continue thru board address 10 (up to 12 boards using Zone Addresses) if required.
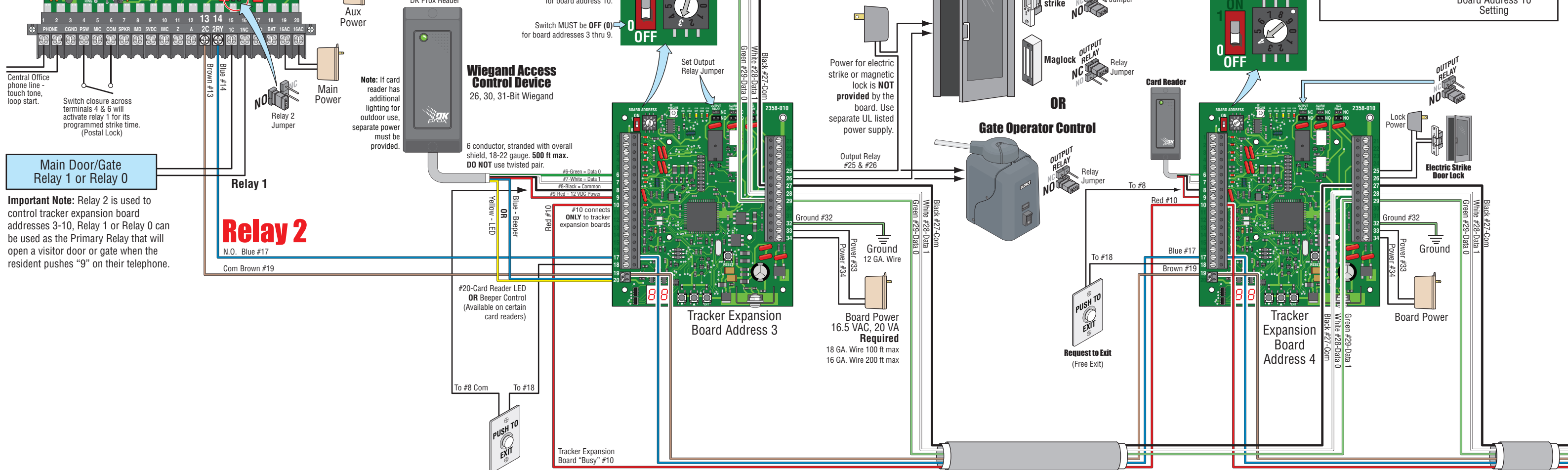
BOARD ADDRESS
ON
1
0
OFF
Board Address 10 Setting

Communication 2
Tracker expansion boards connected to Wiegand 2 will activate Relay 2 in the access control system.

Relay 0

Aux Power

Card Reader
DK Prox Reader

First Board Address Starts at 3
BOARD ADDRESS
ON
1
0
OFF

Switch MUST be **ON (1)** for board address 10.

Switch MUST be **OFF (0)** for board addresses 3 thru 9.

Set Output Relay Jumper

Door Lock Control
Electric strike
Maglock
OUTPUT RELAY
NC NO
Relay Jumper

Power for electric strike or magnetic lock is **NOT provided** by the board. Use separate UL listed power supply.

Output Relay #25 & #26

Second Board Address Set to 4
BOARD ADDRESS
ON
1
0
OFF

Card Reader

OUTPUT RELAY
NC NO
Relay Jumper

Lock Power

Electric Strike Door Lock

Wiegand Access Control Device
26, 30, 31-Bit Wiegand

Note: If card reader has additional lighting for outdoor use, separate power must be provided.

6 conductor, stranded with overall shield, 18-22 gauge. **500 ft max. DO NOT** use twisted pair.

#6-Green = Data 0
#7-White = Data 1
#8-Black = Common
#9-Red = 12 VDC Power

#10 connects **ONLY** to tracker expansion boards

Central Office phone line - touch tone, loop start.

Switch closure across terminals 4 & 6 will activate relay 1 for its programmed strike time: (Postal Lock)

Main Power

Main Door/Gate Relay 1 or Relay 0

Important Note: Relay 2 is used to control tracker expansion board addresses 3-10, Relay 1 or Relay 0 can be used as the Primary Relay that will open a visitor door or gate when the resident pushes "9" on their telephone.

Relay 1

Brown #13
Blue #14

NO NC
Relay 2 Jumper

Relay 2

N.O. Blue #17
Com Brown #19

Yellow - LED
OR
Blue - Beeper
Red #10

#20-Card Reader LED **OR** Beeper Control (Available on certain card readers)

To #8 Com
To #18

Request to Exit
(Free Exit)

Tracker Expansion Board "Busy" #10

Gate Operator Control

OUTPUT RELAY
NC NO
Relay Jumper

Ground #32
Power #33
Power #34

Ground 12 GA. Wire

Board Power 16.5 VAC, 20 VA Required
18 GA. Wire 100 ft max
16 GA. Wire 200 ft max

Tracker Expansion Board Address 3

Black #27-Com
White #28-Data 1
Green #29-Data 0

Request to Exit
(Free Exit)

To #8
To #18

Red #10
Blue #17
Brown #19

2358-010

Black #27-Com
White #28-Data 1
Green #29-Data 0

Ground #32
Power #33
Power #34

Ground

Board Power

Tracker Expansion Board Address 4

Typical BASIC Tracker Expansion Board Wiring Options for Access Point

NO "optional" tracker features or battery back-up wiring shown, see manual for details.

Use 6 conductor stranded with overall shield. 18 - 22 gauge.
ONLY use 18 gauge when wiring more than 8 boards.
DO NOT connect shield to 2358-010 board common.
DO NOT use twisted pair.

To Board Addresses 5 thru 10

Communication Line
Up to 12 tracker expansion boards can be HARDwired to relay 2/wiegand 2 at the access control system.

IMPORTANT: The maximum distance for a tracker expansion board HARDwire run is 4000 feet TOTAL (1 to 12 boards can be in a HARDwire run). **The farthest board can be NO more than 2000 feet away from the access control system. See manual for multiple tracker expansion boards layout limitations.**

For COMPLETE programming instructions, please refer to the HARDwired Installation/Owner's manual P/N 2358-065.

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Board addresses **MUST** be set for each board used.

Relay jumpers **MUST** be set for each relay used.

2358-010

- 21 — Aux Relay
- 22
- 23 — Alarm Relay
- 24
- 25 — Output Relay
- 26
- 27 Com
- 28 Data 1 — Tracker Communication Line
- 29 Data 0
- 30 (-) 12VDC — Battery
- 31 (+) 12VDC — Back-Up
- 32 Ground - Required

Access Control Device 26, 30, 31-Bit Wiegand
- Data 0
- Data 1
- Com
- 12 VDC

Tracker Expansion Board Busy

Relay Communication Line (NO)
Request to Exit
Relay Communication Line (Com)
Card Reader LED/Beeper Control

LED Display

Programming Buttons

RESET

Board Power 16.5 VAC, 20 VA **Required**

Basic Programming Sequence on EACH Tracker Expansion Board

Follow these basic steps to perform desired programming, See programming options table for **PROGRAM STEPS**.

1. Press ▼▲ arrow buttons or **ENT** button to **ACTIVATE** LED display.

2. Press ▼▲ arrow buttons again to **CHOOSE** desired **PROGRAM STEP**.

3. Press **ENT** button to **ENTER** desired **PROGRAM STEP**.
(LED display number will blink after **ENT** button has been pressed).

4. Press ▼▲ arrow buttons to choose **SELECTION NUMBER** for desired function of program step.

5. Press **ENT** button to program **SELECTION NUMBER** for desired function of program step.
(Function has now been programmed into board).

6. Press **ENT** button again to exit programming **OR** after 10 seconds, board will automatically exit programming.

Note: Repeat these steps for all other desired programming functions.
Each tracker expansion board will have to be **INDIVIDUALLY** programmed with desired functions.
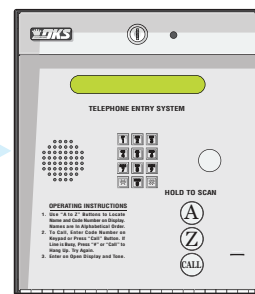
After all tracker expansion boards have been programmed.....

IMPORTANT Display Decimal Point Note

When decimal point is displayed: Indicates that you are **SELECTING** a program step.

When decimal point is **NOT** displayed: Indicates that you are **IN** a program step.

Manage the Complete Access Control System from Your PC

Refer to the **DKS Remote Account Manager Software** to program and manage the complete system.

Your PC connected to the access control system. Either IM Server **OR** TCP/IP **OR** RS-232 **OR** Modem to Modem Connection. See **PC Programmable Telephone Entry and Access Control Systems Installation/Owner's manual** for more information about connection options.

Programming Options on EACH Tracker Expansion Board

Rev-E 1-13-14

Program Step	Description	Options	Selection Number	Function	Factory Default
1	Door Strike Timer	00 - 99		**Sets Strike Time for output relay (term 25 & 26)**	01 - 1 second
			00	0.25 second strike time	
			01 - 99	Strike time in 1-second increments	
2	Free Exit Timer, Strike Time	00 - 99		**Set Strike Time for RX (Request to Exit) of output relay (input at term 18)**	01 - 1 second
			00	0.25 second Egress Strike time	
			01 - 99	Egress Strike time in 1-second increments	
3	Door Ajar Timer	00 - 99		**Timer starts when valid access has been granted.**	12 - 60 secs
			00	1 second Door Ajar Timer	
			01 - 99	Timer set in 5-second increments: 01 = 5 seconds, 10 = 50 seconds	
4	Aux Relay Timer	00 - 99		**Timer setting for Aux Relay activation in 5-second increments**	12 - 60 secs
			00	1 second Door Ajar Timer	
			01 - 99	Timer set in 5-second increments: 01 = 5 seconds, 10 = 50 seconds	
5	Free Exit Timer, Aux Relay	00 - 99		**Set Strike Time for RX (Request to Exit) of Aux relay (ONLY available if Dual Door Mode step 12 is ON)**	01 - 1 second
			00	0.25 second Egress Strike time	
			01 - 99	Egress Strike time in 1-second increments	
6	Free Exit, No Strike	0 or 1		**Set RX (Request to Exit) function. Activate Output Relay or do not Activate Output Relay**	1 - Activate
			0	Do Not Activate Output Relay or Reader Beeper/LED when RX input is received	
			1	Activate Output Relay and Reader Beeper/LED for Free Exit Strike Time when RX received	
7	Not Used				
8	Door Contact Switch Logic	0 or 1		**Sets type of Door Switch contacts**	0 - N.O.
			0	N.O. contact from door switch with Door Closed (Circuit Open - CO)	
			1	N.C. contact from door switch with Door Closed (Circuit Close - CC)	
9	Auto Relock	0 or 1		**Turns on Auto Relock function (not available if Dual Door Mode, step 12 is ON)**	0 - Disabled
			0	Output Relay is activated for Strike Time	
			1	Door Contact Switch required. If door returns to closed position during Strike Time door will "relock" after 1 second, even if strike time has not expired.	
10	Beeper / LED Hold Open	0 or 1		**Sets how BEEPER or LED will function during Hold Open**	0
			0	When Hold Open occurs, Beeper or LED is active only during Strike Timer	
			1	When Hold Open occurs, Beeper or LED will remain active during Hold Open	
11	Hold Open or Hold Egress functions	0 or 1		**Sets how Aux & Alarm Relay responds during Hold Open or Hold Egress situation**	0 - No relay functions
			0	No Aux Relay functions. Alarm will be in "Reset". If Alarm Relay is set for "integral" mode, Alarm relay will not activate. If Alarm Relay set for "Bypass" mode, Alarm Relay will activate for Hold Open period or Extended Egress Hold.	
			1	Aux Relay will function for all settings. If Alarm Relay is set for "integral" mode, Alarm relay will not activate. If Alarm Relay set for "Bypass" mode, Alarm Relay will activate for Hold Open period or Extended Egress Hold.	
12	Dual Door Mode	0 or 1		**Sets Tracker to function as 2 Access Points (2 tracker addresses)**	0 - Disabled
			0	Disabled, Tracker functions as single access point	
			1	Dual Mode: Tracker functions as set board address and next sequential address. Card Read will be sent to controller as set board address, access is granted or denied Card then sent as set address +1, access granted or denied. Aux Relay becomes 2nd output relay. All other Aux Relay functions disabled. Door Contact switch becomes RX (Request to Exit) for 2nd address.	
13	Not Used				
14	Not Used				
15	Aux Relay Functions	0 - 12		**Sets function for Aux Relay**	0 - Disabled
			0	Aux Relay Disabled	
			1	No Door Ajar Timer: Requires Door Contact Switch. Aux Relay activates when Door Not Closed.	
			2	No Door Ajar Timer, Pulse: Requires Door Contact Switch. Aux Relay "pulses" when Door Not Closed.	
			3	Door Ajar Timer: Requires Door Contact Switch. When door opens, start Door Ajar Timer. When timer expires Aux Relay activates for Aux Relay timer or until door closes, whichever occurs first.	
			4	Door Ajar Timer, Pulse: Requires Door Contact Switch. When door opens, start Door Ajar Timer. When timer expires Aux Relay Pulses for Aux Relay timer or until door closes, whichever occurs first.	
			5	Door Ajar, Pulse warning the ON: Requires Door Contact Switch. When door opens, Pulse Aux Relay and start Door Ajar Timer. When timer expires Aux Relay ON for Aux Relay timer or until door closes, whichever occurs first.	
			6	Door opens for any reason, Start Door Ajar timer and pulse Aux Relay. When Door Ajar timer expires, start Aux Timer and continue Pulsing Aux Relay. When Door Closes or both timers expire, turn off Aux Relay	
			7	Aux Relay as 2nd Alarm Relay. Aux Relay will mirror Alarm Relay functions.	
			8	Aux Relay as 2nd Alarm Relay, PULSE. Aux relay will Pulse during any Alarm Relay activation.	
			9	Good Card: Aux Relay will activate for Aux Relay timer for any Access Granted Card	
			10	Any Card: Aux Relay will activate for Aux Relay Timer when any card has been presented.	
			11	Bad Card: Aux Relay will activate for Aux Relay timer when a card has been denied	
			12	Warn before Hold Open or Release of Hold Open: Aux relay will activate for Aux Relay timer when scheduled Hold Open begins or ends. Output Relay will be delayed until Aux Timer expires. **DO NOT** set Aux Timer above 60 seconds in this mode.	
16	**Alarm Relay Functions** **Door Operation Note:** **PROPER Condition:** The access control system OR request to exit device **HAS** activated the **OUTPUT RELAY** on the tracker expansion board and the door contact switch is **CLOSED** (Door is OPEN). This indicates that the door has been **PROPERLY OPENED.** **FORCED Condition:** The access control system OR request to exit device has **NOT** activated the **OUTPUT RELAY** on the tracker expansion board and the door contact switch is **CLOSED** (Door is OPEN). This indicates that the door has been **FORCED OPENED.**	0 - 4		**Sets function for Alarm Relay**	0 - Disabled
			0	Aux Relay Disabled	
			1	**Bypass Mode:** Alarm Relay provides "Bypass" to Alarm Door Switch. With proper door input (access or egress) activate Alarm Relay, start Strike timer and Door Ajar timer. When Door Ajar timer expires, deactivate Alarm Relay. If second Door Contact Switch is provided, generate transaction for Door Ajar and Door Closed following Door Forced condition. Also generate transaction for Door Forced condition.	
			2	**Integral Mode, Door Ajar Timer:** Door Contact Switch connected to Tracker, Alarm Relay provides connection directly to Alarm System. When door is opened for any reason, start Door Ajar timer. When Door Ajar timer expires and Door is still OPEN, activate Alarm Relay. Reset when door closes. Send Door Ajar and Door Close transactions.	
			3	**Integral Mode, Proper and Forced condition:** Door Contact Switch connected to Tracker, Alarm Relay provides connection directly to Alarm System. With proper door input (access or egress) start Strike timer and Door Ajar timer. When Door Ajar timer expires and Door is still OPEN, activate Alarm Relay. Reset when door closes. If door is opened without proper condition, activate alarm relay. When door closes deactivate Alarm Relay. Send Door Ajar, Door Close and Door Forced transactions.	
			4	**Gate Alarm Function:** Alarm Relay will activate for 1 second when tracker board receives a "Gate Forced" or "Gate Obstructed" transaction from the operator control board.	
17	Not Used				
18	Not Used				
19	Reset to Factory Defaults	5	5	**Sets all parameters to Factory Default**	
20	View RF POT Setting	Adjustable Setting		Sets maximum amount of allowable signal strength loss	
21	View RF Signal Loss	Displays on LED		Displays current signal loss between Base and Tracker.	
22	Card Code Forwarding	0 or 1		**Sets Wireless Tracker to act as Repeater** ONLY USE AS DIRECTED BY DOORKING TECH SUPPORT 0=Repeater Mode OFF 1=Repeater Mode ON	0 - Off

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