

# Challenger Version 8 Programming Relays.

# AN6

This document provides details of the programming requirements for activating relays on the Challenger system.

The following are some of the applications that Challenger Relays may be used for:

- Sirens (timed or untimed) and strobes.
- Warning beepers and lamps.
- Mimic LEDs or lamps for i/p, area & system status; & system fault indication.
- Automatic testing of input devices. (e.g. seismic detectors)
- Interface to building management systems (lighting, heating, airconditioning etc)
- Activate backup communicators (e.g. backup cellular dialler)
- Link functions together within the system (programming facility - physical relay not required)
- Door locks.
- Activating cameras.

If Open Collector outputs are required for any of these applications (e.g. Mimic LED panels), a 16 Way Open Collector Card is available.

For programming purposes each Open Collector output is treated as a Relay.

Details of Relay mapping defaults in the Version 8 System are found on page 5.

An example of relay programming is found on page 4 and a programming flow chart on page 6.

Note that the on-board Strobe output and Siren speaker drivers are treated as relays in the Version 8 system. This allows much greater flexibility in programming these outputs.

**1. Note the type of relay card/s used and which unit (Panel or DGP), the relay card is connected to.**

## RELAY CARD TYPES:

Type:		Max cards per product	
		Panel	DGP
TS0840	4 Way Relay Card	1	2
TS0841	8 Way Relay Card	32	2
TS0842	16 Way Open Coll. Card	16	1

Note that the TS0840 cannot be used together with the TS0841 or TS0842 on the same product.

**2. For each unit that relay cards are connected to, specify the type and number of relay card/s connected.**

TS0840 connected to Challenger Panel.

Installer Menu Option 7: - System Options  
Relay Controllers = 0

TS0840 connected to Standard DGP.

DIPSwitch 6 on DGP set to OFF.

TS0841 or TS0842 connected to Challenger Panel

Installer Menu Option 7: - System Options  
Relay Controllers = Value of 1 for every 8 relays.  
e.g. 3 x TS0841 fitted, Relay Controllers = 3  
2 x TS0842 fitted, Relay Controllers = 4

TS0841 or TS0842 connected to Standard DGP

DIPSwitch 6 on DGP set to ON

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**3. Work out the "Relay Number/s" of the relay/s you wish to program.**  
The relay numbers allocated for the panel and each DGP address are listed in the table opposite.

## RELAY NUMBERING

Challenger Panel	1 to 255		
DGP 1	17-32	DGP 9	145-160
DGP 2	33-48	DGP 10	161-176
DGP 3	49-64	DGP 11	177-192
DGP 4	65-80	DGP 12	193-208
DGP 5	81-96	DGP 13	209-224
DGP 6	97-112	DGP 14	225-240
DGP 7	113-128	DGP 15	241-255
DGP 8	129-144		

**4. Determine or Program the Event Flags in the system that will be required to activate your relays.**

## EVENT FLAGS:

Event Flags may be assigned to many functions in the Challenger and are listed opposite:

- Installer Menu Option 1: - Input Database
  - Secure Alarm Event/s
  - Access Alarm Event/s
  - 24Hr Alarm Event/s
  - Programmable Event
- Installer Menu Option 2: - Area Database
  - Area Accessed
  - Inputs Unsealed
  - Secure Alarm
  - Local Alarm
  - Entry Event
  - Warning Timer
  - Siren
  - Inputs Isolated
  - Access Alarm
  - Pre Alarm
  - Exit Event
  - Camera
- Installer Menu Option 3: - Arming Stations
  - Door Event
- Installer Menu Option 21: - Input Shunts
  - Shunt Event
  - Shunt Warning Event
- Installer Menu Option 34: - Summary Event Flags
  - Mains Fail
  - Fuse Fail
  - Siren Fail
  - DGP Offline
  - Keyboard Duress
  - Report Fail
  - All Secured
  - Low Battery
  - Tamper
  - DGP Isolate
  - RAS Offline
  - Film Out
  - Testmode
  - Console Trigger
- Installer Menu Option 35: - Program Macro Logic
  - Events generated by Macro Logic Programs

**5. Determine or Program any Timezones that may be required to control your relays.**  
(A relay can be programmed to be held active or inactive during a Timezone)

## TIMEZONES 1 to 24

There are 24 "Real-time" timezones in the system, based on the built-in real-time clock.

TIMEZONES 1 to 24 are programmed in Installer Menu Option 13.

Each Timezone may have up to 4 segments, each programmed with a start time, end time and days.

## TIMEZONES 26 TO 41

There are also 16 "Soft" Timezones, or "Timezone to follow relay". These timezones are used to specify a timezone that is valid when any of the "Events" as listed in the Event Flags above is active. e.g. When an area is in access or when an exit timer is running.

TIMEZONES 26 TO 41 are programmed in Installer Menu Option 22.

A relay is assigned to each timezone. The timezone is valid when the relay assigned to it is active. If programming timezones 26 to 41 you may need to map a relay to an event flag first. Refer to steps 6 to 11.

6. To program the details for each of the relays in your system, access the Installer Menu Option, "Relay Mapping"

RELAYS are programmed in Installer Menu Option 16: - Relay Mapping.

From the Install Menu select Option 16.

1 6 (Menu Option) <ENTER>

7. Select a relay number to program.

?? (Relay Number) <ENTER>

8. Program the Event Flag that will activate the relay. (if required)

?? (Event Flag number) <ENTER>

Check details on LCD then <ENTER>

9. Program the Timezone that will control the relay. (if required)

?? (Timezone number) <ENTER>

Check details on LCD then <ENTER>

10. If a Timezone has been assigned, select whether the relay is to be held ACTIVE or INACTIVE during the timezone.

<\*> (Toggle "Active/Inactive") <ENTER>

11. If the relay is required to operate in INVERTED mode.

<\*> (Toggle "NON-Inverted/Inverted") <ENTER>

12. Select another relay number to program

?? (Relay Number) <ENTER> Go to step 8.

OR

OR

Exit to the Installer Menu.

<ENTER>

# Programming Relays.

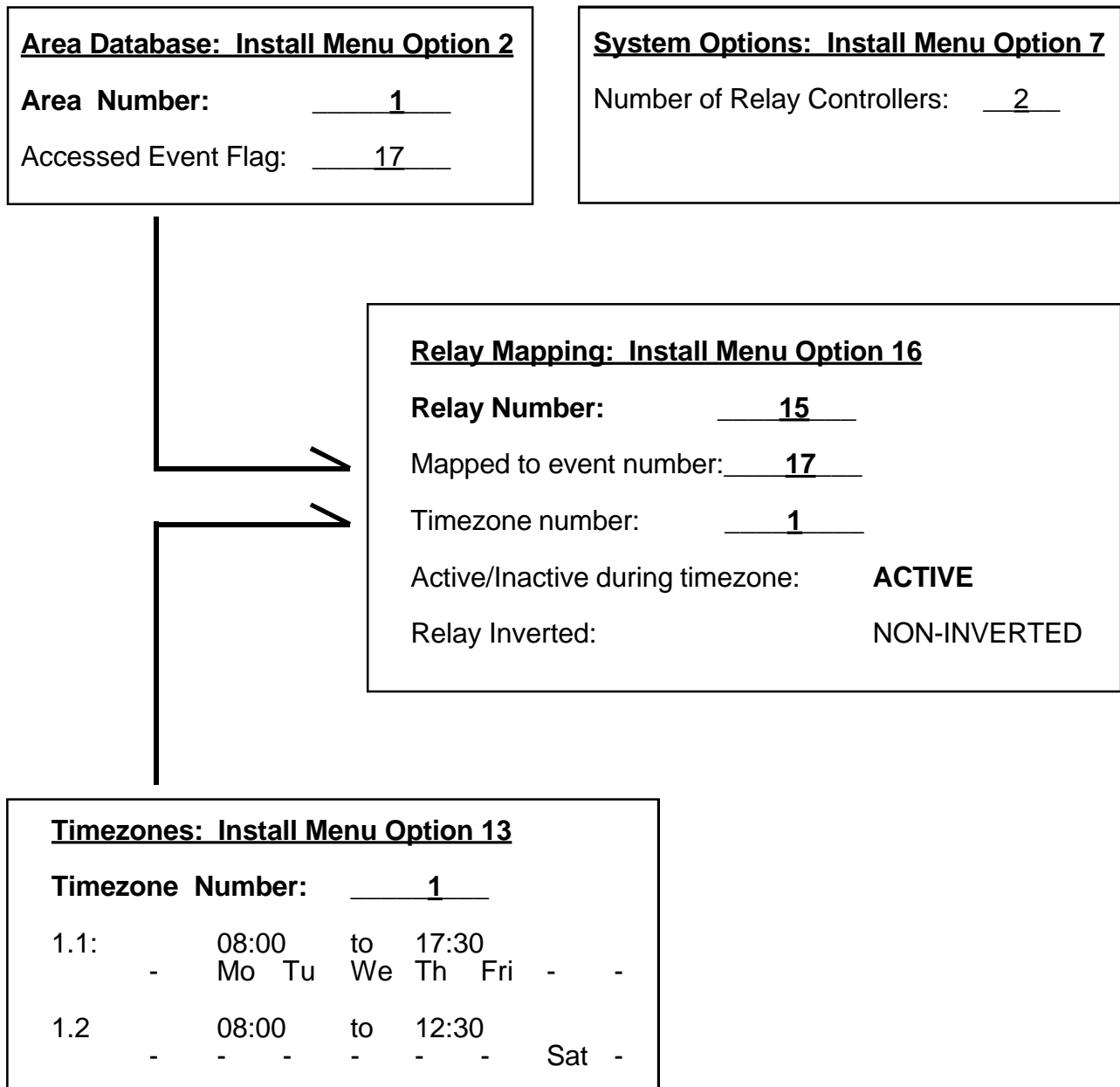
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## Example:

There are two 8 Way Relay Cards (TS0841) connected to The Challenger Panel.

Relay 15 is required to interface to a lighting system to automatically turn the lighting on during normal business hours or if the building security is turned off (Area 1 in access).

Normal business hours are:        8am to 5:30pm Monday to Friday  
   8am to 12:30pm Saturday

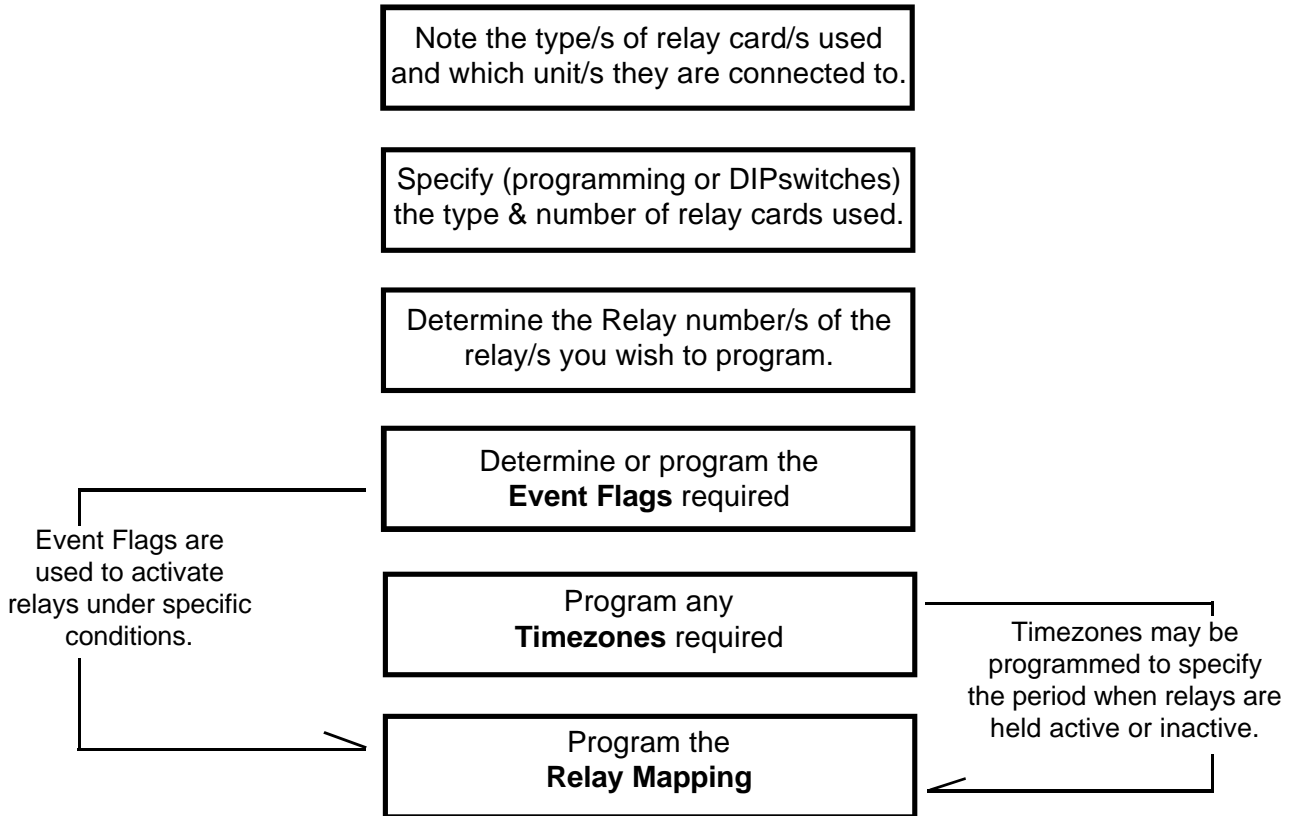


## Defaults:

In version 7 or 8 software the only relay mapping defaults are as follows:

<u>Relay No.</u>	<u>Function</u>	<u>Mapped to Event</u>
Relay 2	Panel Strobe O/P	Event Flag 2.
Relay 16	Panel Siren O/P	Event Flag 1.
Relay 32	DGP 1 Siren O/P	Event Flag 1.
Relay 48	DGP 2 Siren O/P	Event Flag 1.
Relay 64	DGP 3 Siren O/P	Event Flag 1.
Relay 80	DGP 4 Siren O/P	Event Flag 1.
Relay 96	DGP 5 Siren O/P	Event Flag 1.
Relay 112	DGP 6 Siren O/P	Event Flag 1.
Relay 128	DGP 7 Siren O/P	Event Flag 1.
Relay 144	DGP 8 Siren O/P	Event Flag 1.
Relay160	DGP 9 Siren O/P	Event Flag 1.
Relay 176	DGP 10 Siren O/P	Event Flag 1.
Relay192	DGP 11 Siren O/P	Event Flag 1.
Relay208	DGP 12 Siren O/P	Event Flag 1.
Relay 224	DGP 13 Siren O/P	Event Flag 1.
Relay 240	DGP 14 Siren O/P	Event Flag 1.

## SUGGESTED PROGRAMMING SEQUENCE



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