

**Universal Loud Sounding Tone Ringer/Alarm** 

K3509



#### FEATURES

This versatile unit, in the same-sized case as our K3507 tone ringer, replaces the Type-C Alarm.

There is provision for two exchange lines via separate RJ11 sockets. Four different selectable alarm tones are provided for each exchange line. All other connections to and from the unit are via screw terminals. Requires K3505 horn speaker.

Other peripheral devices such as strobe lights, PIR sensors, doorbells, reed-relays, PA amplifier inputs etc can be connected. Supplied with a 12V DC power supply which is also used to provide 12V power for strobe-light operation.

The maximum volume of the Universal Loud Sounding Alarm in conjunction with our K3505 Horn Speaker is 110 dB. The unit has a REN of 0.1. Dimensions 115(W) x 155(H) x 35(D)mm.

Provides a loud alarm for incoming exchange calls, front door bell chimes and building entry alarm via a reed switch or PIR sensor.

#### CONNECTION

- One or two (parallel) 8 ohm speakers. You can use any speaker combination you want to, providing that the total load is greater than 4 ohms.
- Up to six 12-volt 2-watt strobe lights.
- One 8 ohm speaker and up to two 12-volt 2-watt strobe lights.
- To the unbalanced 10K ohm auxiliary input of a P.A. amplifier.
- Any auxiliary device that can be driven by a set of dry contacts.

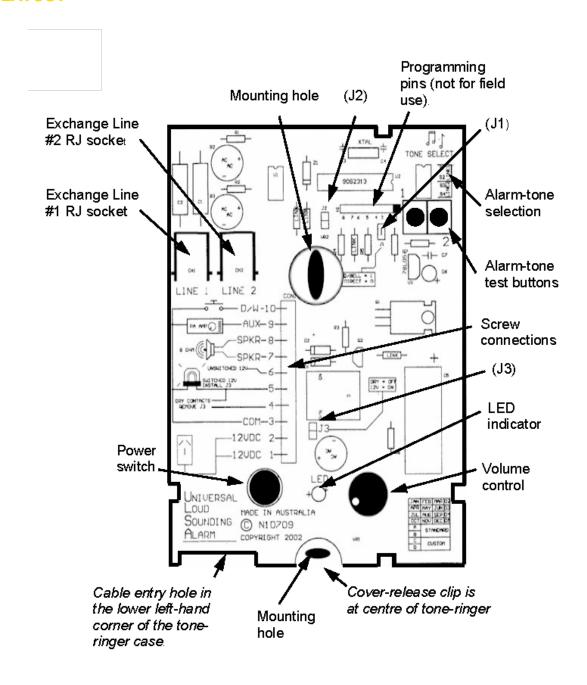
#### INPUTS ACCEPTED

- Up to 2 exchange lines, each with its own set of four different selectable alarm tones.
- A front door push button giving a distinctive "door-chime tone".
- Passive infra-red sensors in either normally open or normally-closed configuration.
- Reed switches using either normally-closed or normally-open configuration.
- PBX system dry relay contacts.



# Universal Loud Sounding Tone Ringer/Alarm

#### PCB LAYOUT





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#### TECHNICAL SPECIFICATIONS

#### **SPEAKERS**

- A horn speaker (available separately) must be connected to the Universal Alarm to provide an audible output
- There is no in-built speaker
- Nominal horn speaker impedance is  $8\Omega$  and up to two  $8\Omega$  speakers can be connected in parallel
- It is possible to connect up to four 16Ω speakers in parallel. Remember that the total load must not be less than 4 ohms
- Maximum cable run is 15 metres
- A single speaker connected to the Universal alarm recorded "loudness" measurements

#### **EXCHANGE LINES**

- Connected via the two 6P6C sockets near the top left-hand side of the PCB. Only the two centre contacts (pins 3 & 4) are used
- Link J2 must be open
- Each line has four distinctive alarm-tones selected by dip-switches on the top righth and side of the PCB.
- The top two switches are for "Line 1" and the bottom two switches are for "Line 2"
- There are two alarm-test buttons below the switches.
- The left-hand button is for "Line 1" and the right-hand button is for "Line 2".

#### **DIRECT WORKING**

Connect the PBX system dry contacts to screw terminals 3 & 10. Ensure link J1 is open

#### P.I.R. SENSORS AND REED SWITCH INPUTS

The device is connected to screw terminals 3 & 10

- 2V power for the PIR sensor can be supplied from terminals 3 (-12V) and 6 (+12V)
- If the device offers a "normally-closed" condition, link J2 must be bridged
- If the device offers a "normally-open" condition, link J2 must be open
- If the device is configured for "normally-open" condition, the position of link J1 determines the type of alarm-signal tone:
- If J1 is bridged, the door-alarm tone is provided
- If J1 is open, the "Line 1" alarm-tones are used
- If the device is configured for "normally-closed" condition, the position of link J1 determines the length of time the alarm sounds
- If J1 is bridged, a momentary alarm tone is heard
- If J1 is open, alarm-tone is heard as long as the device remains in its "operated" state

#### DOOR CHIME INPUT

- Independent of "Line 1" and "Line 2" inputs
- Has its own distinctive (non-changeable) tone
- The door push-button must be "normally-open"
- Link J1 must be bridged
- Terminal 3 (-12V) and 6 (+12V) can be used to power a light in the push-button
- The alarm-signal tone lasts as long as the button is pressed



## **Universal Loud Sounding Tone Ringer/Alarm**

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#### TECHNICAL SPECIFICATIONS CONTINUED

#### **DIRECT WORKING INPUT**

- Dry relay contacts or a push-button are connected to terminals 3 and 10.
- Link J1 must be open (to disconnect the door-bell tone)
- Alarm signal-tone is selected by the "Line 1" selection switches.
- The "line 1" exchange input can also be used as well but it will obviously have the same alarm-signal tone as the direct-working contacts
- The "Line 2" input can be used to provide a different alarm-signal tone for exchange line calls

#### STROBE LIGHT OUTPUT

- Up to 6 strobe lights can be connected to terminals 3 (-12V) and 5 (+12V). To connect one of our "Access" strobe lights, make sure the black lead from the strobe is on terminal 3 and that the blue lead is on terminal 6.
- Link J3 must be bridged
- If a single speaker is connected to the Universal Alarm, a maximum of only two strobe lights can be connected. If two speakers are connected to the Universal Alarm, no strobe lights should be connected.
- A typical strobe light is rated at around 2 watts, drawing about 160mA at 12 volts.
- The Universal Alarm's power supply is rated at 12 watts. A horn speaker draws around 7 watts leaving only 5 watts to power up to two strobe lights.
- Lower or higher wattage strobe lights can be connected. Just remember that the total load (including speakers and strobe lights) must not exceed 12 watts

#### **INCADESCENT LAMP OUTPUT**

- A standard 12 volt incandescent light can be operated from the strobe-light terminals (3 & 5). The light will operate on an incoming call and remain lit until the call is answered or the incoming ring ceases.
- If one horn speaker is connected to the Universal Alarm, you are limited to a 4 watt globe. If no horn speaker is connected, a 12 watt globe can be used.

#### P.A. AMPLIFIER OUTPUT

- A P.A. system amplifier can be used to generate a signal for any Universal loud Sounding Alarm input condition (including exchange lines, PIR sensors, door bells etc).
- The tone generated by the P.A. system is the same as that provided to the horn speaker.
- Connection is via screw terminals 3 and 9.
- The amplifiers unbalanced auxiliary input (10KΩ) should be used.

#### **DRY CONTACT OUTPUT**

- A dry contact output is provided from terminals 4 and 5.
- Link J3 must be open.
- The contacts are rated to carry up to 5 amps at up to 24 volts Dc or AC.
- The dry contact output can be used in conjunction with an external power supply to power any device (light etc) up to a maximum of 120 watt load.
- The dry contacts can be used to operate any self-powered device such as piezo sirens, burglar alarms etc, allowing these extra alarms to be used in conjunction with the horn speakers.



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#### INSTALLATION SPECIFICATIONS

Choose from some or all of the following items depending on what you are installing.

#### **EXCHANGE LINE CONNECTION**

Exchange lines 1 and 2 (non polarity-conscious) are connected to the 6P6C RJ sockets near the top left hand side of the PCB. Only the two centre contacts (3 & 4) are used. Link J2 must be open.

#### **ALARM-TONE SELECTION AND TESTING**

Each exchange line is allocated 4 unique alarm-tones. These are selected by dip-switches at the top right of the ringer. The top two switches are for exchange line 1 and the bottom two switches are for exchange line 2. There are two push buttons immediately below the dip switches that are used to test the tones. The left hand "test" button is for exchange line 1 and the right hand "test" button is for exchange line 2.

To test the alarm-tones, connect the speaker and connect power to the tone ringer (the LED should light). Set a pair of dip-switches (either 1 & 2 or 3 & 4) to one of the four possible combinations for that pair. Momentarily press the corresponding "test" button. Repeat this procedure until you get a suitable alarmtone. If you are connecting only one exchange line and prefer the alarm-tones for Line 2, simply use the Line 2 RJ socket instead of using the Line 1 socket.

#### **DOOR CHIME**

A simple door push-button is all that is required to have the tone ringer operate as a door chime. The "chime" is audibly different (non-adjustable) from the exchange line cadences. Connect the doorbell button to screw terminals 3 &10. Ensure link J1 is bridged. Power for a 12V doorbell light can be wired from screw terminals 3 (-12V) and 6 (+12V).

#### **DIRECT WORKING**

Connect the PBX system dry contacts to screw terminals 3 & 10. Ensure link J1 is open

#### P.I.R. SENSOR or REED SWITCH

These devices usually offer a "normally-closed" condition to the control/alarm panel. Link J2 must be bridged for N/C operation. If your device presents a "normally-open" condition, then link J2 must be open. The device is connected to screw terminals 3 & 10. Power for the P.I.R. sensor can be obtained from screw terminals 3 (-12V) and 6 (+12V).

## COMMUNICATIONS PTYLTD

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LINE 1 Tone Selection switches and test button



LINE 2 Tone Selection switches and test button



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**POSITION 1** 



**POSITION 2** 



POSITION 3



POSITION 4

Momentarily press the corresponding "test" button. Repeat this procedure until you get a suitable alarm-tone. If you are connecting only one exchange line and prefer the alarmtones for Line 2, simply use the Line 2 RJ socket instead of using the Line 1 socket.