# HAWK

LONG RANGE RADIO TRANSMITTER

## INSTALLATION & OPERATION MANUAL

# TABLE OF CONTENTS

## INTRODUCTION

The Hawk VHF Transmitter is a highly featured radio based unit which is used for the transmission of security messages over radio networks.

The Hawk makes use of the sophisticated radio/GSM repeaters and base stations to reliably send security signals to a Control Room. It includes the universal Contact ID interface to Alarm Control Panels as well as serial interfacing into some leading panels. It also has seven dry contact input triggers. In addition, the Hawk has the option of a remote control receiver which can be used for remote panic functions.

## FEATURES AND FUNCTIONS

- Contact ID Tip and Ring Telephone interface to all leading control panels.
- Up to 999 zones and 99 partition reporting using the Fast FSK protocol.
- 7 Hardwired inputs with positive trip, negative trip or both.
- Input 3 can be programmed to delay an alarm trigger if the panel has siren annunciation for arm/disarm.
- Dedicated AC Supply monitoring input. Programmable fail and restore delays.
- Built-in battery low report with programmable trip time.
- Internal programmable self-test time.

- Serial alarm interface to leading control panels.
- Tamper-proof antenna installation.
- IOW transmitter power.

## PROGRAMMING FOR CONTACT ID

- No special programming is required for use with an alarm panel sending Ademco Contact ID.
- The Hawk will respond to any telephone number sent by the alarm panel.
- The alarm panel can be programmed to send ALL ACCOUNT CODES or only the codes required can be programmed into the panel.
- Any account code can be programmed into the panel. The transmitter will send its own account code.
- The Hawk will send full Contact ID messages (all codes, partitions and zones) using the Fast FSK protocol.
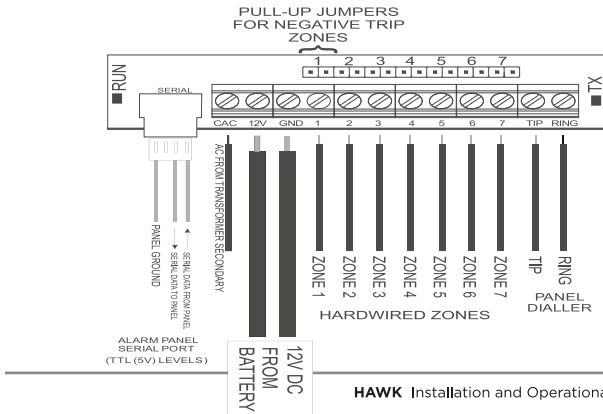
## INSTALLATION

### Opening the Hawk Cover
The plastic cover on the Hawk is opened by inserting a small flat screw-driver into the two openings at the top of the cover.
Gently pull the top of the cover away from the base and then insert the screw-driver into the two bottom openings to completely remove it.

**Hawk Wiring**



PULL-UP JUMPERS
FOR NEGATIVE TRIP
ZONES

RUN

SERIAL

TX

CAC  12V  GND  1  2  3  4  5  6  7  TIP  RING

AC FROM TRANSFORMER SECONDARY

PANEL GROUND

SERIAL DATA FROM PANEL
SERIAL DATA TO PANEL

ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 5
ZONE 6
ZONE 7

HARDWIRED ZONES

TIP
RING

PANEL
DIALLER

ALARM PANEL
SERIAL PORT
(TTL (5V) LEVELS)

12V DC
FROM
BATTERY

## Power Supply

The Hawk must be wired **DIRECTLY FROM THE 12V BATTERY.** The transmitter will draw up to 2A peaks when it transmits and power connection is critical for its correct operation.
Use 1mm flex (or thicker) and **NOT** security cable to power the radio.

## Check AC

The Check AC (CAC) input detects the presence of the AC supply and is used to check for power failure. The CAC line should be connected to one of the transformer's **SECONDARY** terminals. Do **NOT** connect this line to the mains.

The CAC line will detect AC voltages between 10 and 24V. The AC Failure and AC Restore signals have a programmable delay (default 10 minutes) in order to prevent false triggers.

## Dry Contact Inputs

The dry contact inputs can be used to detect alarms generated from the outputs of the Alarm Panel or from other sources. If the external device generates the alarm by pulling the input to ground (negative trigger), the pull-up jumper should be inserted on the corresponding input of the Hawk.

## Contact ID Inputs

The Hawk+ can 'intercept' signals sent by the alarm panel on its telephone line (Contact ID) interface. If the Contact ID interface is to be used, the Alarm Panel's TIP and RING lines should be connected to the TIP and RING lines on the Hawk.

The alarm panel must be programmed to use its dialler, and the option for reporting must be set to Contact ID. Refer to the programming manual of the applicable Alarm Panel.

The default inputs are as follows:

| INPUT | FUNCTION | DEFAULT TRIGGER |
|-------|----------|-----------------|
| 1 | OPEN/CLOSE BY KEYHOLDER 1 | HIGH = CLOSE LOW = OPEN |
| 2 | PANIC | HIGH |
| 3 | DELAYED ALARM | HIGH |
| 4 | BURG ZONE 1 | HIGH |
| 5 | BURG ZONE 2 | HIGH |
| 6 | MEDICAL | HIGH |
| 7 | FIRE | HIGH |

The inputs can be factory programmed for your particular requirements.

**Serial Port**

The Hawk can receive alarms from the following alarm panels on its serial port:
- FSK Rhino alarm panels
- Texecom premier range
- Paradox E65, SP6000 and MGS0S0
- Pima
- IDS

**Selecting the Alarm Panel Serial Port Format**

1. Press and hold-down the button on the Hawk PCB until the green RUN lamp stops flashing (turns off).
2. Release the button
3. Press the button successively until the green RUN lamp flashes the correct number of times, indicating the serial mode selected

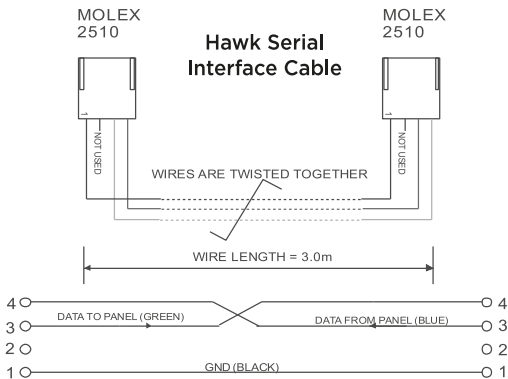| RUN LAMP FLASHES | SERIAL FORMAT |
|---|---|
| 1 | Pima |
| 2 | Paradox |
| 3 | Texecom |
| 4 | Rhino |
| 5 | IDS |

Repeat the process until the correct serial port format has been selected. The Hawk will remember the setting.

**TEST** the operation of the radio with the panel after the serial port format has been selected.

# APPENDIX A - SERIAL INTERFACE

The Hawk uses a standard interface cable along with an adapter to connect to various alarm panels. The cable ends are interchangeable. The following adapter boards are available:

| ALARM PANEL | ADAPTER |
| --- | --- |
| **RHINO** | No adapter |
| **TEXECOM PREMIER** | Texecom/IDS (5 pin) |
| **IDS** | Texecom/IDS (5 pin) |
| **PARADOX** | Paradox (4 pin) |
| **PIMA** | Pima (4 pin) |

MOLEX 2510

MOLEX 2510

Hawk Serial
Interface Cable

NOT USED

NOT USED

WIRES ARE TWISTED TOGETHER

WIRE LENGTH = 3.0m

4

3

2

1

DATA TO PANEL (GREEN)

DATA FROM PANEL (BLUE)

GND (BLACK)

4

3

2

1

## RHINO SERIAL INTERFACE

There is no adapter required for the Rhino Alarm Panels. Plug the one end into the Rhino Panel and the other end into the Hawk serial port.

## TEXECOM SERIAL INTERFACE

Use the serial interface cable along with the adapter board marked TEXECOM/IDS

Program the Hawk to use the Texecom Serial Alarm Interface (DTMF - Serial Interface Tab)

The Hawk is connected to COMI on the Alarm Panel
The following programming is required on the Texecom panel:

| MENU 39 | **OPTION 3 ON (DISABLE ONLINE PRINTING)** |
|---------|---------------------------------------------|
| MENU 70 | 1,2,5,8 ON (ENABLE COMMUNICATOR) |
| MENU 71 | OPTION 3 ON (DISABLE ONLINE PRINTING) |
| | 0 TEL NO 22 (YES) |
| | 1 ACC CODE 3456 (YES) |
| | 2 PROTOCOL TYPE = 4 (CONTACT ID) |
| | 3 DIALLER ATTEMPTS = 1 |
| | 4 PARTITION (SELECT PARTITIONS 1 AND 2) |
| | 5 SELECT REPORTING OPTIONS |

# PARADOX SERIAL INTERFACE

The Hawk can send alarms received from the serial port of the Paradox E65, MGS0S0 and SPG000 alarm panels.

Plug the adapter marked PARADOX into the serial port on the Paradox alarm panel. Plug the other end into the Hawk serial port.

**Events Sent By the Paradox Alarm Panel**
The table below shows the Contact ID codes which will be sent in response to the messages received from the Paradox E65/MGS0S0 and SPG000 alarm panel serial ports.

Note that the Hawk will not send all the events, such as trouble conditions, if it is not factory programmed to do so.

| PARADOX | | FSK | ALWAYS SENT |
|---|---|---|---|
| EVENT GROUP NO | SUB-GROUP NO | DESCRIPTION | |
| 06 = Non Reportable Event | Telephone Line Trouble | Comms Trouble | |
| 29 = Arming with User | 01 - 32 = User Number | Close by Keyholder 1-20 | |
| 30 = Special Arming | 03 = Partial Arming | Partial Arming | |
| 31 = Disarming with User | 01-32 = User Number | Open by K/H 1-20 | |
| 32 = Disarming after Alarm with user | 01-32 = User Number | Open by K/H 1-20 | |

| PARADOX | | FSK | ALWAYS SENT |
|---|---|---|---|
| EVENT GROUP NO | SUB-GROUP NO | DESCRIPTION | |
| 34 = Special Disarming | N/A | Open by K/H 20 | |
| 36 = Zone In Alarm | 01 to 32 = Zone Number | Burglary Zone 1-32 | YES |
| 37 = Fire Alarm | 01 to 32 = Zone Number | Fire Zone 1 | YES |
| 38 = Zone Alarm Restore | 01 to 32 = Zone Number | Restoral Zone 1-32 | |
| 40 = Special Arm | 00 = Panic non-medical emergency | Panic | YES |
| | 01 = Panic medical | Medical Emergency | YES |
| | 02 = Panic Fire | Fire Zone 1 | YES |
| | 05 = Duress Alarm | Duress | YES |
| 42 = Zone Tampered | 01-32 = Zone Number | Fault Zone 1 to 32 | YES |
| 44 = New Trouble | 01 = AC Failure | AC Fail | YES |
| | 02 = Batt Fail | Batt Low | YES |
| | 04 = Bell Current Overload | Bell Trouble | |
| | 05 = Bell disconnected | Bell Trouble | YES |
| | 08 = Fail To Communicate Tel 1 | Fail to Report | YES |
| | 09 = Fail to Communicate Tel 2 | Fail to Report | YES |
| | 10 = fail to Communicate Pager | Fail to Report | |

| PARADOX | | FSK | ALWAYS SENT |
|---|---|---|---|
| EVENT GROUP NO | SUB-GROUP NO | DESCRIPTION | |
| | 11 = fail to communicate voice | Fail to Report | |
| 46 = Bus/wireless module new trouble | 01 = tamper Trouble | Tamper | YES |
| 48 = Special (Partition 1 only) | 01 = Reporting Test | Peripheral Test | YES |
| | 05 = Installer Exited Prog Mode | Prog Complete | YES |
| | 07 = Maintenance Exited Prog Mode | Prog Complete | |
| 49 = Low Battery on Zone | 01-32 = Zone Number | Peripheral Trouble | YES |
| 50 = Low Battery on Zone Restore | 01-32 = Zone Number | Peripheral Trouble | |
| 51 = Zone supervision trouble | 01-32 = Zone Number | Peripheral Trouble | YES |
| 52 = Zone Supervision restore | 01-32 = Zone Number | Peripheral Trouble | |
| 53 = Wireless Module Sup Trouble | | Peripheral Trouble | |
| 54 = Wireless Module Sup Rest | | Peripheral Trouble | |
| 55 = Wireless Module Tamper Trouble | | Peripheral Trouble | |
| 56 = Wireless Module Tamper Rest | | Peripheral Trouble | |

## PIMA SERIAL INTERFACE

Plug the adapter marked PIMA into the serial port on the Pima alarm panel. Plug the other end into the Hawk serial port. The Pima serial interface will send the standard FSK alarm codes.

## IDS SERIAL INTERFACE

Use the serial interface cable along with the adapter board marked TEXECOM/IDS.

There are no special settings required on the panel.

# SPECIFICATIONS

## Transmitter

| | | |
|---|---|---|
| Radio Performance tested to | : | ETSI 300-086 |
| EMI Tested to | : | ETSI EN 301 |
| Safety to | : | EN 60 950 |
| Mode of Operation | : | FM |
| Channel Spacing | : | 12,5kHz |
| Power Requirements | : | 35mA Standby, <1.6A |
| | : | Transmitter Active |
| Frequency of Operation | : | Lowband 135 to 156MHz |
| | : | Highband 155 to 175MHz |
| Carrier Power | : | >8W into 50E |
| Frequency Error | : | <1kHz (0 to 55 ˚C) |
| Spurious Conducted | : | < -36 dBm (9kHZ to 1GHz) |
| Components | | < -30 dBm (1GHz to 4GHz) |
| Adjacent Channel Power | : | < -60dB |
| Frequency Deviation | : | < 2.5kHz (2kHz standard) |
| Transient Frequency | | |
| Behaviour | : | To ETSI 300-086 |

## Electrical

| | | |
|---|---|---|
| Power Requirements | : | 13.2V DC Nominal (10 - 15V) |
| | | 35mA Standby, <1.6A |
| | | Transmitter Active |
| Low Voltage Alarm | : | 10.5V |

## Environmental

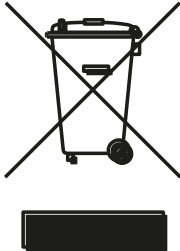Operating Temperature : -5˚C to 45˚C
Storage Temperature : -25˚C to 55˚C
Humidity : 95% non-condensing
EMC : Residential, Commercial and Light Industrial
Do not throw away the product with the normal household waste at the end of its life, but hand it in at an official collection point for recycling. The on-board battery also contains substances that may pollute the environment. Always remove the battery before you discard and dispose of the battery at an official collections point for batteries.

## Physical

Dimensions : 107x136x46mm (without antenna)
Housing : Plastic with steel insert for RF earthing

Packaged Weight : 300g
Packaged Dimensions : 161.5 x 140 x 46.5

# LIMITED WARRANTY

Limitations of Security Products: Security products and alarm systems do not offer guaranteed protection against burglary, fire, or other emergencies. They may fail to warn for diverse reasons, including (but not limited to): power failure, dead batteries, improper installation, coverage "blind spots", coverage areas overlooked during installation, defeat by technically sophisticated intruders, component failure, or inadequate maintenance. Alarm systems should be checked weekly to ensure that all devices are working properly. AN ALARM SYSTEM IS NOT A SUBSTITUTE FOR INSURANCE.

FSK Electronics (Pty) Ltd, warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for twelve months from the date of original purchase. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labour, any part which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Seller. For warranty service, return transportation prepaid, to the manufacturer.

There are no warranties, expressed or implied, of merchantability, or fitness for a particular purpose or otherwise, which extend beyond the description on the face hereof. In no case shall seller be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, express or implied, or upon any other basis of liability

whatsoever, even if the loss or damage is caused by its own negligence or fault.

Seller does not represent that the products it sells may not be compromised or circumvented; that the products will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the products will in all cases provide adequate warning or protection.

Customer understands that a properly installed and maintained alarm system may only reduce the risk of a burglary, robbery, or fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result.
Consequently, seller shall have no liability for any personal injury; property damage or other loss based on a claim the product failed to give any warning. However, if seller is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, seller's maximum liability shall not in any case exceed the purchase price of the product, which shall be the complete and exclusive remedy against seller.

This warranty replaces any previous warranties and is the only warranty made by Seller on this product. No increase or alteration, written or verbal, of the obligations of this Limited Warranty is authorized.

For any problems or technical assistance
please contact our technical helpdesk on
**011 477 7705.**

sales@amecor.com
support@amecor.com

www.amecor.com
www.armme.app

+27 11 477 2600
+27 11 477 7705 (technical support)

Amecor House, 14 Richard Road,
Industria North, 1709

**AMECOR**