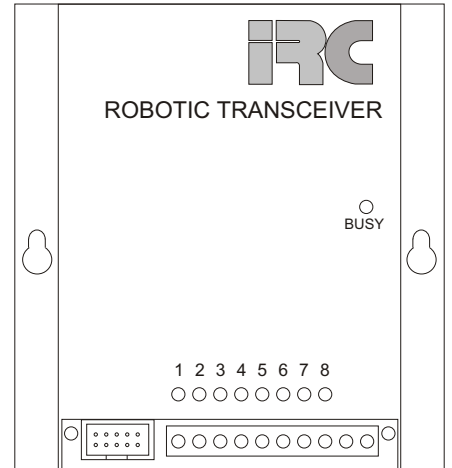




# ROBOTIC TRANSCEIVER

INSTRUMENT AND RADIO CORPORATION



## General Description of the Robotic Transceiver

The Robotic Transceiver is a small, low cost, radio transceiver designed for Radio based monitoring and control.

It contains eight digital inputs/outputs (programmable)

It acts on instructions from a Robotic Controller or another outstation to Switch any device attached to it.

eg. a pump or a lamp.

It transmits status changes on its inputs to a Robotic Controller, another outstation or an IRC Pathfinder Mobile Radio

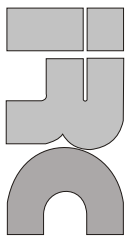
eg. From a button or level sensor.

Other modules in the Robotic family are :

1. Robolin Analog In/Out (ROB-LIN)
2. Audio/speech Module for voice communications via the Robotic Outstation (RSA-AUDIO)
3. Terminal Block Connector (Requires an interface cable)(ROB-TBLOCK)
4. Digital Expansion Module which provides eight additional Digital I/Os (ROB-DIG/IO)
5. A stand-alone (Desktop) controller and/or PC based controller. (ROB-CON/ROB-PCSW)
6. Parrot Repeater Module (Requires an interface cable). (ROB-PAR)

## RADIO SPECIFICATIONS

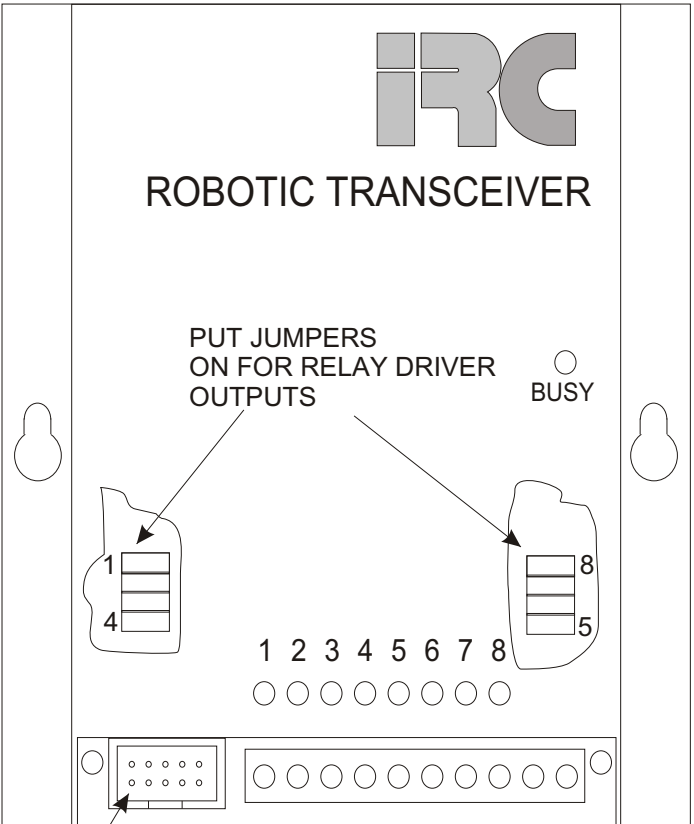
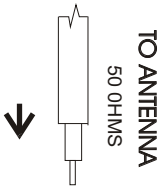
| GENERAL                         |  |
|---------------------------------|--|
| Frequency Range                 | 135 to 175MHz  |
| Frequency Control               | Synthesised (Receiver is Self-aligning)  |
| Channel Spacing                 | 12,5kHz  |
| Antenna                         | Whip, Dipole, Folded Dipole or any Standard Radio antenna (communications range is antenna dependant)                            |
| TRANSMITTER                     |  |
| Transmitter Power               | 15W Nominal  |
| Deviation                       | 2,5kHz maximum   |
| Mode                            | Frequency Modulation (FM)  |
| CTCSS Tone                      | Any Standard CTCSS tone (67Hz to 250,3Hz) can be transmitted (eg. For opening a community repeater with a tone panel)            |
| RECEIVER                        |  |
| Receiver Sensitivity            | <0,4uV for 12dB SINAD  |
| Spurious Responses              | Better than 60dB   |
| DIGITAL INPUTS AND OUTPUTS      |  |
| Inputs                          | <5V - Low >11V - High 15V Maximum  |
| Outputs                         | Sink up to 300mA when output jumper is installed on a pin  |
| POWER REQUIREMENT               |  |
| Nominal 13,2V DC (12V to 14,5V) | Transmitting < 1,2A<br>Receiving < 50mA<br>Each pin which is on - LED consumes 10mA<br>Excludes external components (relays etc) |



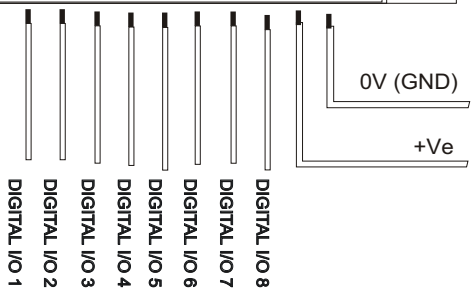
# ROBOTIC TRANSCEIVER INSTALLATION INSTRUCTIONS

## DIMENSIONS

LENGTH = 113mm  
 WIDTH = 105mm  
 HEIGHT = 41mm  
 KEYHOLE-KEYHOLE = 93,0mm



NOMINAL 13.2V DC  
 (11 TO 14V DC)



### POWER REQUIREMENTS ROBOTIC TRANSCEIVER

- 40mA IN RECEIVE
- 1.2A IN TRANSMIT
- 10mA FOR EVERY INPUT OR OUTPUT WHICH IS ON
- OTHER
- ADD REQUIREMENTS FOR RELAYS AND SENSORS

**NOTE**  
 RELAY DRIVERS ARE ONLY ENABLED WHEN THE JUMPER IS PLACED ON THE LINK FOR THE APPROPRIATE PIN

**INPUTS**  
 ON (HIGH) > 11V DC  
 OFF (LOW) < 2V

**OUTPUTS**  
 NPN TYPE  
 300mA MAXIMUM SINK

| PIN | PROGRAMMING AND EXPANSION PLUG            |
|-----|---|
| 1   | PTT IN (0V = PTT), PROGRAMMING PLUG SENSE |
| 2   | 0V (GND)                                  |
| 3   | AUDIO OUT 2V P-P FOR 2.5KHZ DEV           |
| 4   | NO CONNECTION                             |
| 5   | CARRIER (0V = CHANNEL BUSY)               |
| 6   | SERIAL DATA OUT (EXPANSION)               |
| 7   | 13.2V +Ve SUPPLY                          |
| 8   | PROGRAMMING DATA IN                       |
| 9   | MODULATION IN (2.5V P-P)                  |
| 10  | NO CONNECTION                             |

