GLR2702
TWO CHANNEL 27MHz GIGALINK™ RECEIVER

The GIGALINK™, is the most advanced Remote Control technology available in the world today. GIGALINK™ is an invention that has revolutionised the entire Remote Control technology including Elsema's earlier version of FMT- … and FMR- … series. The GLR.... series state-of-the-art invention brings a new dimension in the world of Remote Control technology in domestic, commercial and industrial applications.

The innovative microcontroller technology replaces the traditional dip switch coding which eliminates any possible code grabbing. Special features such as **over four billion code combinations, ability to program any number of transmitters to any of the receiver outputs, three user selectable modes, dual conversion superhet and operational over a wide voltage range** all adds up to the most advanced and secure Remote Control available.

Features include:

- Wide supply connection – 11.0 to 28.0 Volts AC/DC
- Highly sensitive receiver input stage. When used with GLT27…. series transmitters and an ANT27L antenna, an operating range of 350 metres (980 ft) is possible.
- Two relay outputs. Both outputs can be operated simultaneously.
- Crystal controlled for high stability and performance.
- Dual Conversion to reduce interference.
- Uses micro-controller technology that can be re-programmed to suit unique applications.
- Momentary, flip-flop and latching output modes is user selectable.

Four billion codes
The user can easily change the code on all the channels. Momentary joining the two CC pins on the receiver board sets all channels to one random code. One of 4,294,967,296 possibilities is selected.

Code Programming - Single
During single code programming, the 2-way dip switch selects the channel to be programmed. The table below shows the setting to select a different channel.

Dip Switch		Setting Channel
1	2	(Output Relay)
Off	Off	1
On	Off	2

After selecting the correct channel, the receiver channel is ready to be single code programmed.

Follow the steps outlined in the receivers instruction sheet titled single code programming to complete the code programming.

Code Programming - Channelised
If all the receiver channels are to be programmed onto a multi channel transmitter, then follow the steps outlined in the receivers instruction sheet titled channelised code programming. This does not

require the user to set the 2-way dip switch since all receiver channels will be programmed sequentially onto the transmitters channels.

The receiver power must be connected when single or channelised code programming.

When programming is completed and the GIGALINK cable is removed from the multi channel receiver-coding socket, the 2-way dip switch is used to select different output modes. This is described below.

Different Modes for the Output
Modes are user selectable from the 2-way dipswitch. Dipswitch 1 corresponds to relay channel 1 and dipswitch 2 corresponds to relay channel 2.

Momentary Mode
If the dipswitch is “off” the relay will be in momentary mode.

Flipflop Mode
If the dipswitch is “on” the relay will be in flipflop mode.

Latching
If latching is required (Relay stays on until power is removed) the latching link should be inserted and soldered into the two holes to the right of the 2-way dipswitch. After the latching link is soldered into the receiver each channels latching mode is selectable by switching “on” the corresponding dipswitch, for example, with link inserted and dipswitch 1 “on” only channel 1 will be latching.

With the link inserted and the dip switch is “off” momentary mode is enabled.

Dual Conversion Superhet
The multi channel receiver is crystal controlled using dual conversion. Dual conversion is where the received frequency is mixed twice, using a crystal at both mixing stages. This results in less interference, enabling the receiver to operate in noisy industrial applications, improves operating performance, which allows the receiver to pass EMC and stringent radio regulations around the world.

AC/DC Supply and Antenna
AC/DC power supply and antenna is connected via a screw-type terminal block. Do not connect the supply to the 2.5-mm coding socket since connection may damage the microcontroller.

Applications
The two channel receiver output can be set to different modes which allows it to be used in many diverse applications such as automatic gates, security, timer controlled outputs and simple on/off functions etc.

Unique Code System
The microcontroller EEPROM allows large volume users to have a unique code. This enables Elsema to offer everyone "your own" radio control.

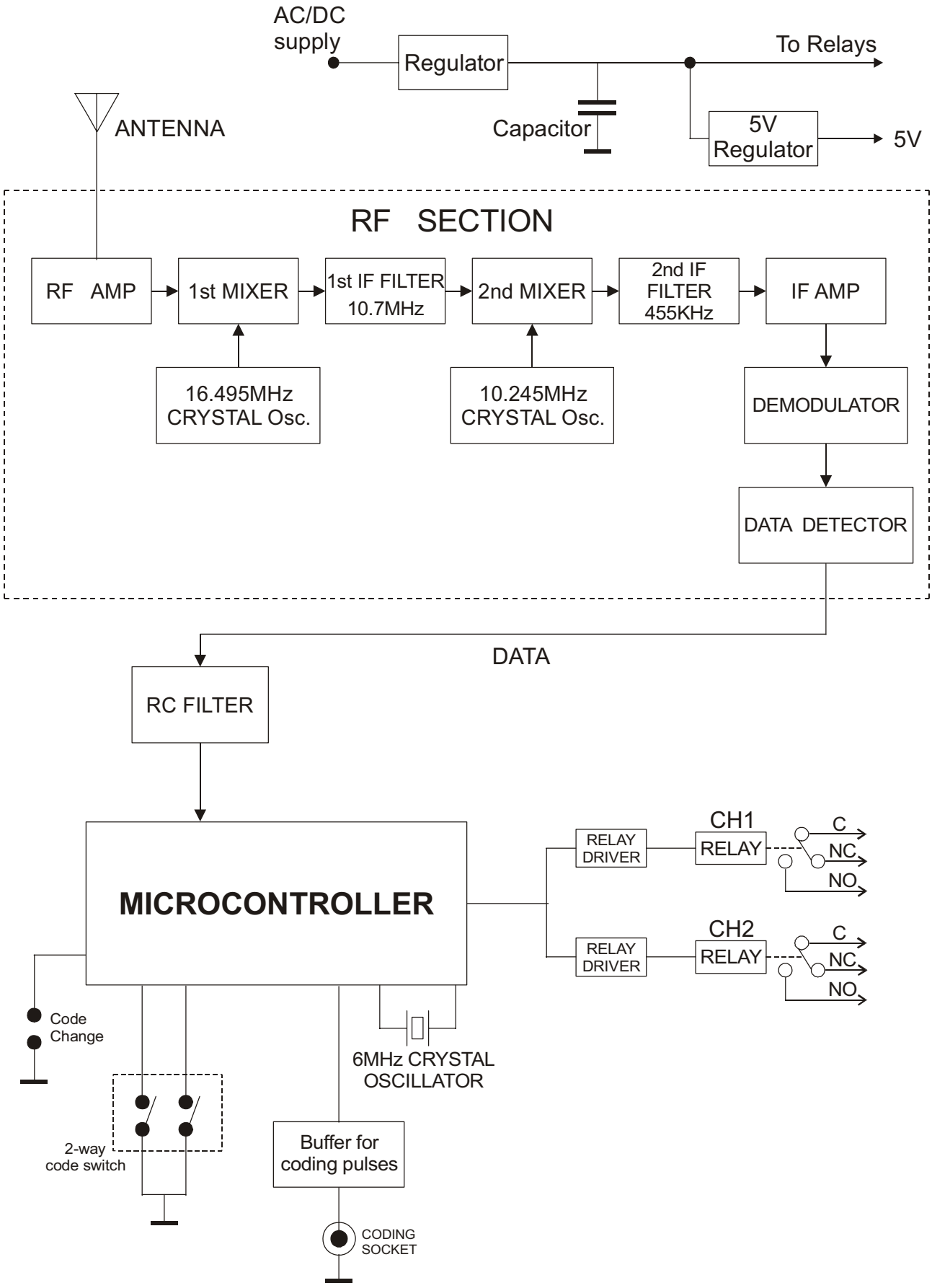
Case
The two-channel receiver is supplied without a case, this allows the receiver to be integrated according to your needs. Elsema has available a Quick Mount bracket which enables easy mounting to walls, roof etc.

TECHNICAL DATA ON 27MHz GLR2702

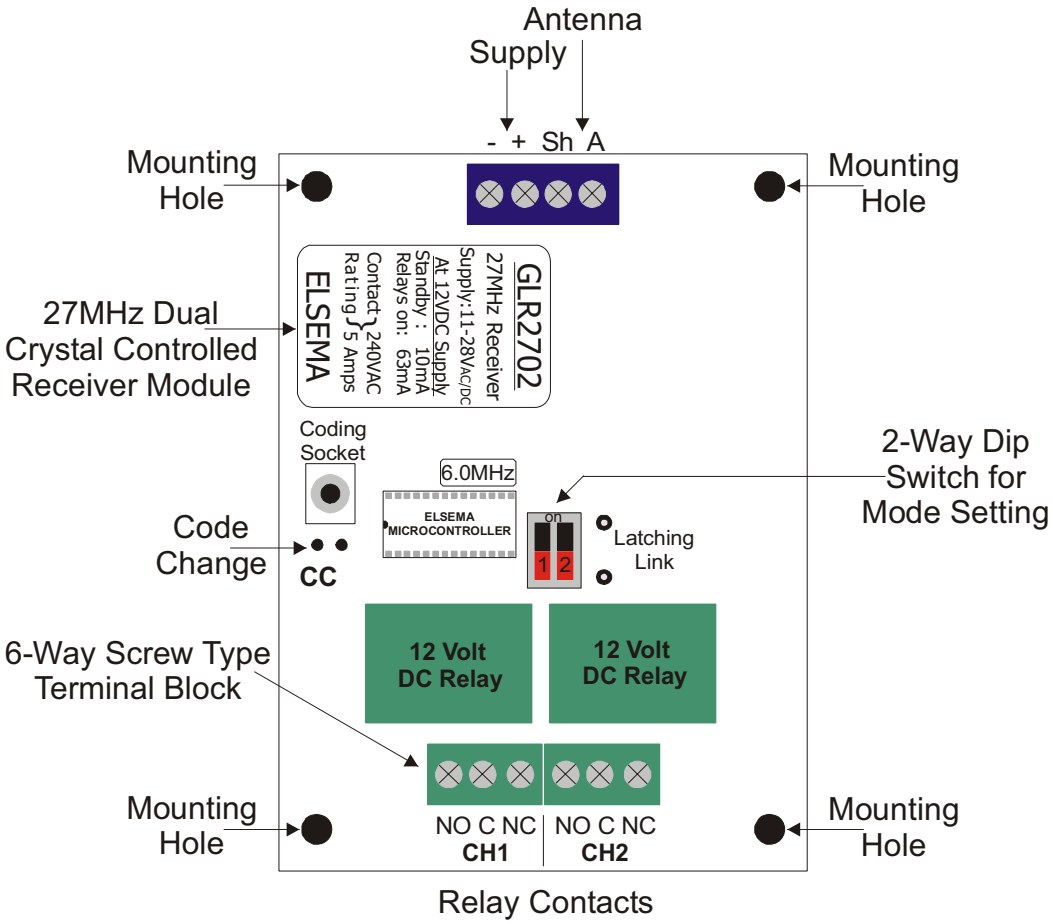
SUPPLY VOLTAGE	11.0 to 28.0 V DC 10.0 to 28.0 V AC Can use Elsema AC power pack (PP12 or PP24) Supply lines should be less than 3 metres long to comply with radio frequency authorities.
CURRENT CONSUMPTION	10mA standby at 12VDC 63mA if both relay "ON" at 12VDC
RECEIVER TYPE :	Dual Conversion Superheterodyne
RECEIVING FREQUENCY :	27.195 MHz (Other frequencies available on 27.045, 27.145 and 27.455 MHz. The 27.455 frequency is not available for Australia).
TYPE OF CRYSTALS USED :	10.245 MHz, Fundamental, 20pf, 30ppm. 16.495 MHz, Fundamental, 20pf, 30ppm.
OPERATING TEMPERATURE RANGE :	-5 to + 50°C
1ST IF FREQUENCY :	10.7 MHz
2nd IF FREQUENCY :	455 KHz
SELECTIVITY :	-6 dB at + - 5 KHz -20 dB at +- 6KHz
IMAGE REJECTION :	At 26.285MHz better than –60dB
SENSITIVITY :	1μV (for relay to activate).
TYPE OF DEMODULATION :	Narrow-band-width Frequency Modulation (FM).
OCCUPIED BAND WIDTH :	+ - 5.0 KHz
DECODING SYSTEM :	Microcontroller based 96-bit word.
CODE COMBINATION :	4,294,967,296
OUTPUTS	Two change over relay outputs, each rated at 5 Amps/240 Volts
CONNECTION SUPPLY, ANTENNA and OUTPUTS :	Screw type terminal block.
ANTENNA :	50 ohms, 27 MHz CB-Antenna or piece of approximately 1 metre of wire.
DIMENSIONS :	95 X 70 X 20 mm
MOUNTING HOLE SIZE :	3.97 mm or 5/32"
WEIGHT	83 grams

MICROCONTROLLER :	Can be re-programmed to suit your customised needs.
USEABLE TRANSMITTERS :	All Elsema type 27MHz GLT-... series
USEABLE OPERATING RANGE :	Up to 350 metres with proper 50 ohms, 27 MHz CB-Antenna . Up to 200 metres with 1 metre long antenna wire. Antenna wire should be extended and away from metal. Ranges assume line-of-sight operation.

GLR2702 BLOCK DIAGRAM

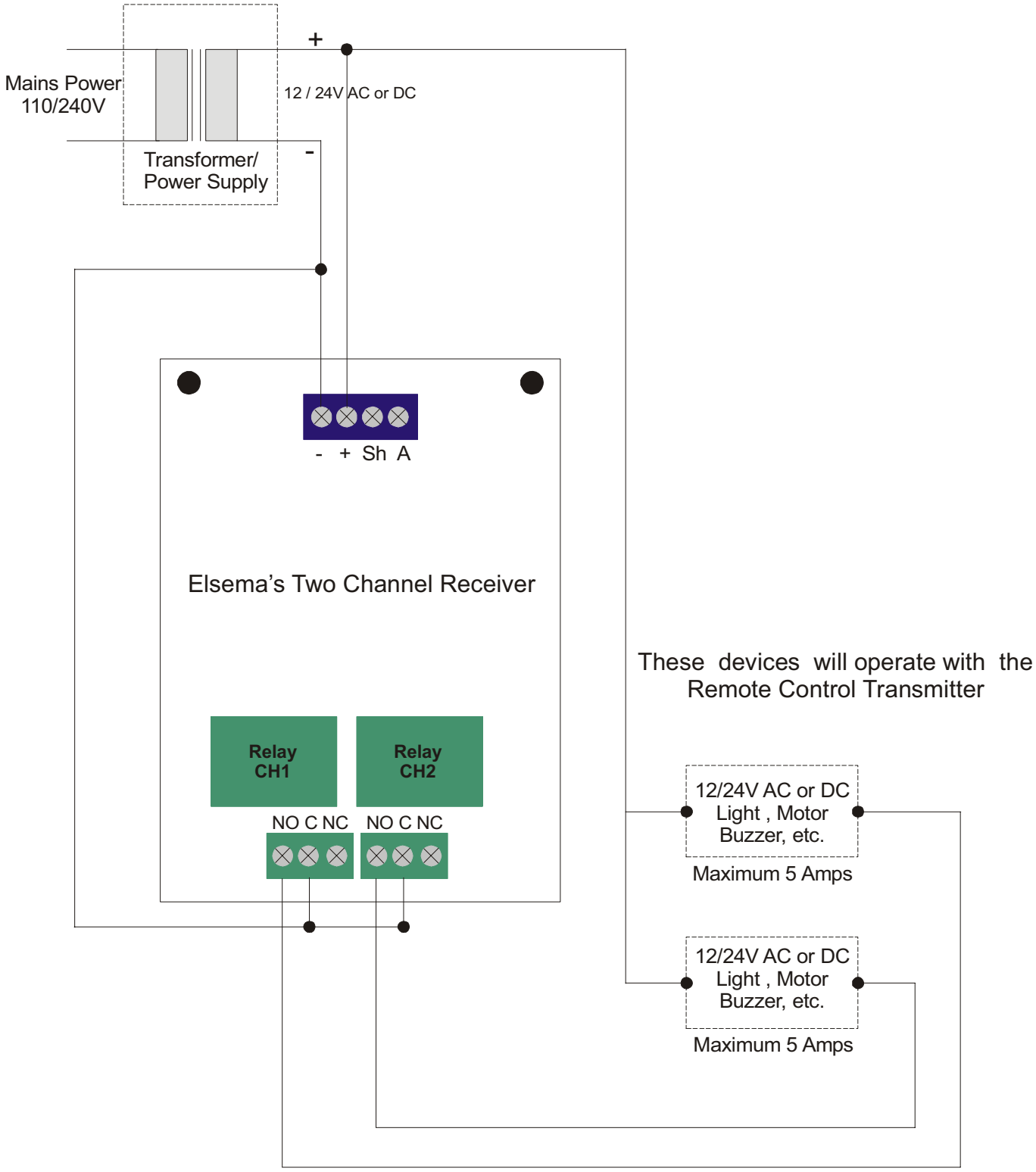


GLR2702 DIAGRAM



Sh terminal is used for antenna's using coaxial cables. The shield (braid) on the coaxial cable should be connected to the Sh terminal while the core of the coaxial cable is connected to the A terminal.

GLR2702 12/24VDC APPLICATION



GLR2702 240/110 VAC APPLICATION