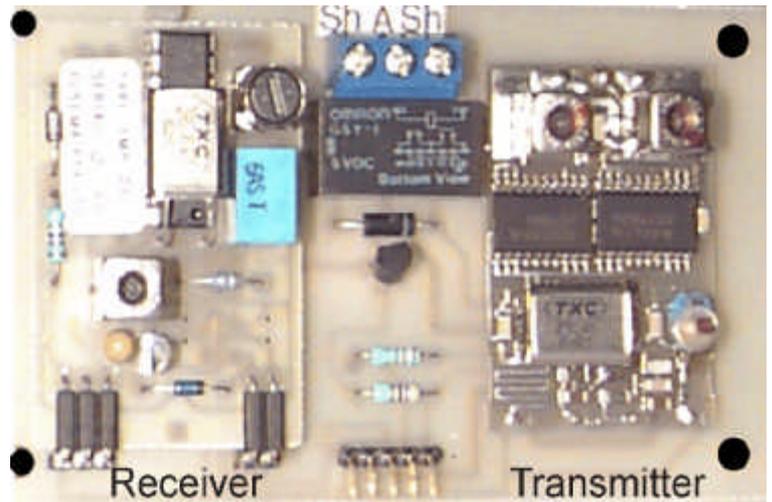


FMTR-27R 27MHz TRANSMITTER AND RECEIVER

The FMTR-27R transceiver is a 27MHz half-duplex radio data module. With a RF power output of 500mW combined with its light weight and compact size, makes it suitable for long distance mobile applications. Applications such as wireless communications, radio remote controls, telemetry or wireless security systems is most suitable for the FMTR-27R transceiver.

Data rates from 300 to 4800 bauds can be transmitted and received.



Transmit Mode

When the enable pin is high (+5Volts) the transceiver goes to transmit mode. In transmit mode, when an input signal (Data) is fed to the TX Data pin a FM modulated signal is transmitted directly through the antenna output terminal (Sh A Sh) block. A suitable 27MHz antenna should be connected to this terminal block. We recommend the Elsema ANT27M or ANT27L 27MHz antenna.

Transmit mode should be disabled (TX enable pin to 0 Volts) to avoid unnecessary transmission if no data is on TX Data pin. This also enables the receiver which puts the transceiver into the receive mode.

For technical specifications on the transmitter refer to the FMT-2705 radio data module.

Receive Mode

When the transmitter is disabled the receiver will receive signals. This can be from another FMTR-27R transceiver or any other FM modulated signal that matches the carrier signal.

For reception a suitable antenna must be connected to the antenna terminal block. Transmitter output and receiver input uses the same antenna terminal. We recommend the Elsema ANT27M 27MHz antenna.

For technical specifications on the receiver refer to the FMR-05 receiver.

TECHNICAL DATA ON FMTR-27R

SUPPLY :	Supply range, 4.5 to 5.5 volts. Absolute maximum DC supply 7 volts DC.
CURRENT CONSUMPTION :	Transmitting : 400 mA Receiving : 12 mA
OPERATING FREQUENCY :	27.145MHz (Other frequencies available on 27.045, 27.195 and 27.455 MHz. The 27.455 frequency is not available for Australia).
CARRIER FREQUENCY TOLERANCE :	Crystal controlled, 30 parts per million (0 to 50° C).
TYPE OF EMISSION:	Narrow-band-width Frequency Modulation (5K00F1D)
TRANSMITTER RF OUTPUT :	Typical 500mW, into 50 ohms
ANTENNA :	Terminal Connection provided. Optimum performance use Elsema ANT27M antenna.. A piece of 1 metre of wire will give an operating range up to 100 metres. Use longer wire for better results.
TRANSMITTER DATA INPUT LEVEL :	0 to +5 volts
RECEIVER FREQUENCY RESPONSE :	100Hz to 2400Hz
BAUD RATE :	300 to 4800bps. Please note that Data of long time High (H) or Low (L) should be avoided. MANCHESTER code is recommended.
RECEIVER DATA INPUT LEVEL :	0 to +5 volts (22 Kilohms source)
DIMENSION :	100 X 61 X 20 mm
MOUNTING HOLE SIZE :	3.97 mm or 5/32"
MOUNTING HOLE SPACING:	Length 91 mm (3.60") Width 51.25 mm (2.02")
WEIGHT :	54 grams
USEABLE OPERATING RANGE :	up to 2000 metres, depending on installation and type of antenna used. Recommended Antenna is Elsema ANT27M.

Further technical Notes:

- Antenna shield is in direct contact with supply minus.
- Antenna relay output impedance 50 Ohms.
- TX enable pin requires + 5 volts, do not leave open circuit.
- RX-Data slicer is set for MANCHESTER format (Average 66% low and 33% High).

FMTR-27R DIAGRAM

