

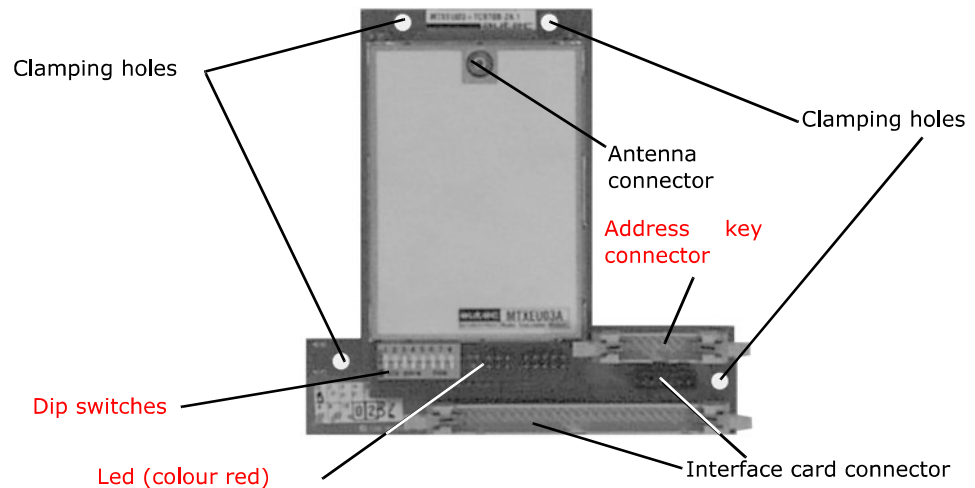
3.3 Radio transmitter encoder module (MTX____+TC9708)

Codes

MTXEU03A+TC9708	Radio transmitter encoder module frequency 433 MHz
MTXUK03A+TC9708	Radio transmitter encoder module frequency 458 MHz (module for UK)
MTXEU06B+TC9708	Radio transmitter encoder module frequency 870 MHz
MTXAU03A+TC9708	Radio transmitter encoder module frequency 472 MHz(module for Australia)

Always make sure that the frequencies at which the radio transmitter encoder module operates are permitted in the country where the radio remote control is to be used.

Module components



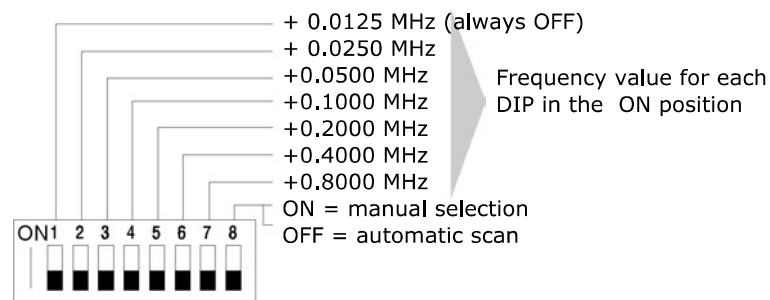
Led

The red LED should only light up during starting (approx. 1 second).

If it remains lit or does not light up during starting, there could be a failure in the transmitting unit.

Dip switches

The eight dip switches present on the radio transmitter encoder module define the operation mode of the frequency (automatic scan or manual selection) and also the operating frequency:



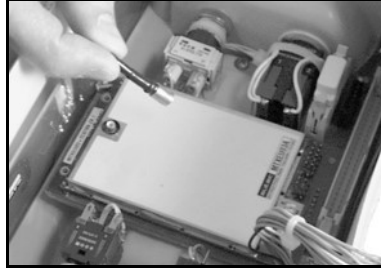
The radio transmitter encoder module dip switches must always be set similarly to the dip switches of the radio receiving module.



Replacement

Disassembly

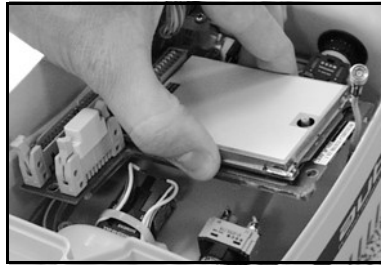
1.
Open the transmitting unit. (§ 3.16).
Disconnect the antenna cable from the connector on the module.



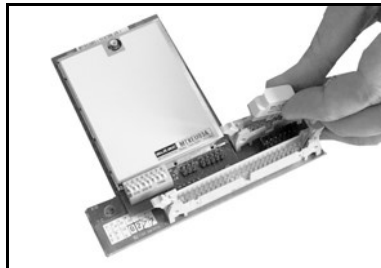
2.
Unscrew the four screws that hold to the module to the bottom control casing.



3.
Extract the module from the bottom control casing.



4.
Extract the address key from the module.



Assembly

8.
Connect the antenna cable to the module connector. Close the transmitting unit. (§ 3.16).

7.
Tighten the four screws that hold the module to the bottom control casing.

6.
Insert the new module into the bottom control casing.

5.
Insert the address key in the new module and control the setting of the dip-switch.

Automatic scan mode

For this type of mode it is necessary to:

- 1) set DIP8 at OFF
- 2) select the requested frequency group by setting the eight dip switches for each module as explained in the following tables:

MTXEU03A

	Group 1	Group 2	Group 3	Group 4
Position DIP 2, 3 e 4	OFF, OFF, OFF	ON, OFF, OFF	OFF, ON, OFF	ON, ON, OFF
Freq. 1	433.100 MHz	433.125 MHz	433.150 MHz	433.175 MHz
Freq. 2	433.300 MHz	433.325 MHz	433.350 MHz	433.375 MHz
Freq. 3	433.500 MHz	433.525 MHz	433.550 MHz	433.575 MHz
Freq. 4	433.700 MHz	433.725 MHz	433.750 MHz	433.775 MHz
Freq. 5	433.900 MHz	433.925 MHz	433.950 MHz	433.975 MHz
Freq. 6	434.100 MHz	434.125 MHz	434.150 MHz	434.175 MHz
Freq. 7	434.300 MHz	434.325 MHz	434.350 MHz	434.375 MHz
Freq. 8	434.500 MHz	434.525 MHz	434.550 MHz	434.575 MHz

	Group 5	Group 6	Group 7	Group 8
Position DIP 2, 3 e 4	OFF, OFF, ON	ON, OFF, ON	OFF, ON, ON	ON, ON, ON
Freq. 1	433.200 MHz	433.225 MHz	433.250 MHz	433.275 MHz
Freq. 2	433.400 MHz	433.425MHz	433.450 MHz	433.475 MHz
Freq. 3	433.600 MHz	433.625MHz	433.650 MHz	433.675 MHz
Freq. 4	433.800 MHz	433.825 MHz	433.850 MHz	433.875 MHz
Freq. 5	434.000 MHz	434.025 MHz	434.050 MHz	434.075 MHz
Freq. 6	434.200 MHz	434.225 MHz	434.250 MHz	434.275 MHz
Freq. 7	434.400 MHz	434.425 MHz	434.450 MHz	434.475 MHz
Freq. 8	434.600 MHz	434.625 MHz	434.650 MHz	434.675 MHz

In this module, DIPs 5, 6 and 7 do not effect the setting of the frequency group while DIP 1 must be set to OFF.

The available frequencies are those belonging to the set group.



MTXUK03A

In this module, the DIPs from 2 to 7 are inactive and do not influence in the choice of the frequency group, while DIP 1 must be set at OFF.

MTXEU06B

In this module, the DIPs from 2 to 7 are inactive and do not influence in the choice of the frequency group, while DIP 1 must be set at ON.

MTXAU03A

In this module the DIPs from 2 to 7 must be set in order to operate within the permitted frequencies:.

DIP 1	OFF
DIP 2	ON
DIP 3	OFF
DIP 4	OFF
DIP 5	ON
DIP 6	OFF
DIP 7	ON
DIP 8	OFF



Manual frequency mode

For this type of mode it is necessary to:

- 1) set DIP8 at ON
- 2) select the frequency by setting the DIPs from 2 to 7 as explained below as a function of the radio transmitter encoder module:

MTXEU03A

Frequenza (MHz)	Dip switch							Frequenza (MHz)	Dip switch						
	1	2	3	4	5	6	7		1	2	3	4	5	6	7
433.100	OFF	OFF	OFF	OFF	OFF	OFF	OFF	433.500	OFF	OFF	OFF	OFF	OFF	ON	OFF
433.125	OFF	ON	OFF	OFF	OFF	OFF	OFF	433.525	OFF	ON	OFF	OFF	OFF	ON	OFF
433.150	OFF	OFF	ON	OFF	OFF	OFF	OFF	433.550	OFF	OFF	ON	OFF	OFF	ON	OFF
433.175	OFF	ON	ON	OFF	OFF	OFF	OFF	433.575	OFF	ON	ON	OFF	OFF	ON	OFF
433.200	OFF	OFF	OFF	ON	OFF	OFF	OFF	433.600	OFF	OFF	OFF	ON	OFF	ON	OFF
433.225	OFF	ON	OFF	ON	OFF	OFF	OFF	433.625	OFF	ON	OFF	ON	OFF	ON	OFF
433.250	OFF	OFF	ON	ON	OFF	OFF	OFF	433.650	OFF	OFF	ON	ON	OFF	ON	OFF
433.275	OFF	ON	ON	ON	OFF	OFF	OFF	433.675	OFF	ON	ON	ON	OFF	ON	OFF
433.300	OFF	OFF	OFF	OFF	ON	OFF	OFF	433.700	OFF	OFF	OFF	OFF	ON	ON	OFF
433.325	OFF	ON	OFF	OFF	ON	OFF	OFF	433.725	OFF	ON	OFF	OFF	ON	ON	OFF
433.350	OFF	OFF	ON	OFF	ON	OFF	OFF	433.750	OFF	OFF	ON	OFF	ON	ON	OFF
433.375	OFF	ON	ON	OFF	ON	OFF	OFF	433.775	OFF	ON	ON	OFF	ON	ON	OFF
433.400	OFF	OFF	OFF	ON	ON	OFF	OFF	433.800	OFF	OFF	OFF	ON	ON	ON	OFF
433.425	OFF	ON	OFF	ON	ON	OFF	OFF	433.825	OFF	ON	OFF	ON	ON	ON	OFF
433.450	OFF	OFF	ON	ON	ON	OFF	OFF	433.850	OFF	OFF	ON	ON	ON	ON	OFF
433.475	OFF	ON	ON	ON	ON	OFF	OFF	433.875	OFF	ON	ON	ON	ON	ON	OFF

Frequenza (MHz)	Dip switch							Frequenza (MHz)	Dip switch						
	1	2	3	4	5	6	7		1	2	3	4	5	6	7
433.900	OFF	OFF	OFF	OFF	OFF	OFF	ON	434.300	OFF	OFF	OFF	OFF	OFF	ON	ON
433.925	OFF	ON	OFF	OFF	OFF	OFF	ON	434.325	OFF	ON	OFF	OFF	OFF	ON	ON
433.950	OFF	OFF	ON	OFF	OFF	OFF	ON	434.350	OFF	OFF	ON	OFF	OFF	ON	ON
433.975	OFF	ON	ON	OFF	OFF	OFF	ON	434.375	OFF	ON	ON	OFF	OFF	ON	ON
434.000	OFF	OFF	OFF	ON	OFF	OFF	ON	434.200	OFF	OFF	OFF	ON	OFF	ON	ON
434.025	OFF	ON	OFF	ON	OFF	OFF	ON	434.425	OFF	ON	OFF	ON	OFF	ON	ON
434.050	OFF	OFF	ON	ON	OFF	OFF	ON	434.450	OFF	OFF	ON	ON	OFF	ON	ON
434.075	OFF	ON	ON	ON	OFF	OFF	ON	434.475	OFF	ON	ON	ON	OFF	ON	ON
434.100	OFF	OFF	OFF	OFF	ON	OFF	ON	434.500	OFF	OFF	OFF	OFF	ON	ON	ON
434.125	OFF	ON	OFF	OFF	ON	OFF	ON	434.525	OFF	ON	OFF	OFF	ON	ON	ON
434.150	OFF	OFF	ON	OFF	ON	OFF	ON	434.550	OFF	OFF	ON	OFF	ON	ON	ON
434.175	OFF	ON	ON	OFF	ON	OFF	ON	434.575	OFF	ON	ON	OFF	ON	ON	ON
434.200	OFF	OFF	OFF	ON	ON	OFF	ON	434.600	OFF	OFF	OFF	ON	ON	ON	ON
434.225	OFF	ON	OFF	ON	ON	OFF	ON	434.625	OFF	ON	OFF	ON	ON	ON	ON
434.250	OFF	OFF	ON	ON	ON	OFF	ON	434.650	OFF	OFF	ON	ON	ON	ON	ON
434.275	OFF	ON	ON	ON	ON	OFF	ON	434.675	OFF	ON	ON	ON	ON	ON	ON



MTXUK03A

Frequenza (MHz)	Dip switch						
	1	2	3	4	5	6	7
458.525	OFF	ON	OFF	OFF	OFF	OFF	ON
458.550	OFF	OFF	ON	OFF	OFF	OFF	ON
458.575	OFF	ON	ON	OFF	OFF	OFF	ON
458.600	OFF	OFF	OFF	ON	OFF	OFF	ON
458.625	OFF	ON	OFF	ON	OFF	OFF	ON
458.650	OFF	OFF	ON	ON	OFF	OFF	ON
458.675	OFF	ON	ON	ON	OFF	OFF	ON
458.700	OFF	OFF	OFF	OFF	ON	OFF	ON
458.725	OFF	ON	OFF	OFF	ON	OFF	ON
458.750	OFF	OFF	ON	OFF	ON	OFF	ON
458.775	OFF	ON	ON	OFF	ON	OFF	ON

The DIPs that are present make it possible to set other frequencies (see Dip switches page 7) which are not, however, permitted.

MTXEU06B

Frequenza (MHz)	Dip switch						
	1	2	3	4	5	6	7
869.7125	ON	OFF	OFF	ON	OFF	ON	ON
869.7375	ON	ON	OFF	ON	OFF	ON	ON
869.7625	ON	OFF	ON	ON	OFF	ON	ON
869.7875	ON	ON	ON	ON	OFF	ON	ON
869.8125	ON	OFF	OFF	OFF	ON	ON	ON
869.8375	ON	ON	OFF	OFF	ON	ON	ON
869.8625	ON	OFF	ON	OFF	ON	ON	ON
869.8875	ON	ON	ON	OFF	ON	ON	ON
869.9125	ON	OFF	OFF	ON	ON	ON	ON
869.9375	ON	ON	OFF	ON	ON	ON	ON
869.9625	ON	OFF	ON	ON	ON	ON	ON
869.9875	ON	ON	ON	ON	ON	ON	ON

The DIPs that are present make it possible to set other frequencies (see Dip switches page 7) which are not, however, permitted.

MTXAU03A

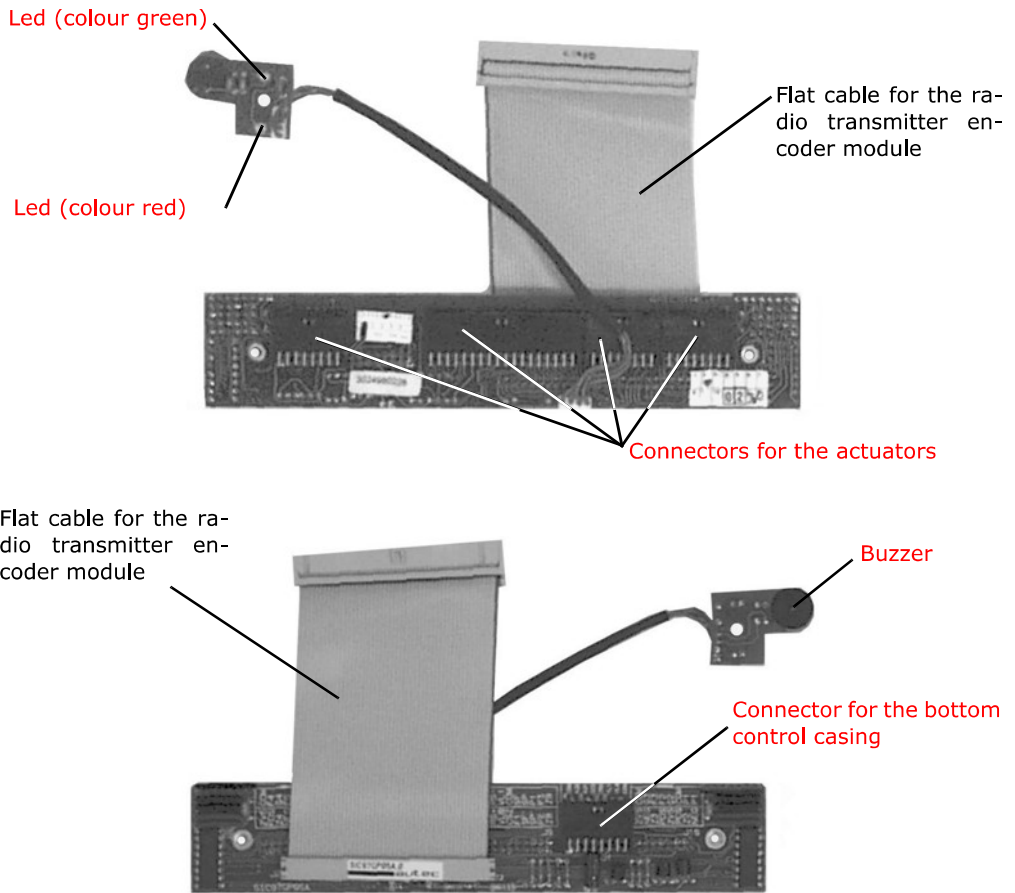
Frequenza (MHz)	Dip switch						
	1	2	3	4	5	6	7
472.025	OFF	ON	OFF	OFF	ON	OFF	ON
472.050	OFF	OFF	ON	OFF	ON	OFF	ON
472.075	OFF	ON	ON	OFF	ON	OFF	ON
472.100	OFF	OFF	OFF	ON	ON	OFF	ON

The DIPs that are present make it possible to set other frequencies (see Dip switches page 7) which are not, however, permitted.



3.4 Interface card (SIC97GP05A)

Electronic card components



Led e buzzer

Of the two LEDs on the interface card one is green, the other is red. The green LED blinks slowly during correct operation. If it blinks quickly, this means that the battery is running down and will be completely flat within 15 minutes. The red LED blinks quickly to signal that the battery will be completely flat within 3 minutes. The buzzer is an acoustic signal that activates in particular situations.

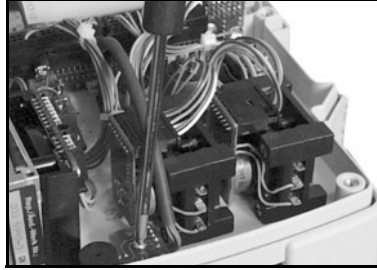
Operation	Green led	Red led	Buzzer
Slow blink	normal operation	/	not operational
Fast blink	1st signal of a flat battery	2nd signal of a flat battery	not operational
(at starting) fixed light	/	Command inserted during power on	operational
fixed light for both LEDs	frequency has changed		operational



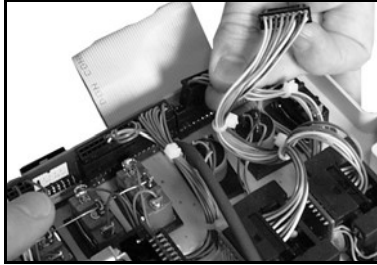
Replacement

Disassembly

1.
Open the transmitting unit (§ 3.16). Unscrew the screw that fix the buzzer and the two LEDs to the top control casing.



2.
Extract all the connectors from the interface card.



3.
Unscrew the two screws that clamp the interface card to the upper control casing.



Assembly

6.
Tighten the screw that clamps the buzzer and the two LEDs to the upper control station casing. Close the transmitting unit (§ 3.16).

5.
Connect all the connectors to the interface card.

4.
Tighten the two screws that clamp the interface card to the upper control casing.

Connectors


Symbol	Signal
2V5	2.5 Vdc
AU1	Auxiliary
AU2	Auxiliary (motor start)
BUZZ	Buzzer
CGS	GAS+/GAS- common
COM	On/off command common
CRS	Remote Set Up common
CSZ	Sectioned common
F1	START (start command)
F2-F10	On/off commands
G2-G10	On/off commands
GND	Ground (battery negative)
LEDR	Red LED
LEDV	Green LED
P1	Joystick 1 enable (if present)
P2	Joystick 2 enable (if present)
P3	Joystick 3 enable (if present)
POS	5 Vdc
RS+	Remote Set Up increase
RS-	Remote Set Up decrease
SA	Automatic switching off*
SF	SAFETY
SF'	SAFETY I
SP	STOP
SP'	STOP I
VBATT	Battery voltage (7.2 Vdc)
VL0	Speed selection
VL1	Speed selection
Z2-Z7	Proportional commands
Z8,Z9	Auxiliary proportional commands

* if automatic switching off is to be deactivated, connect "SA" to "GND".

