EXHIBIT 2

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PRODUCT NAME
XRADO_US

DATE 30/07/1998

Report accompanying the homologation request for appliances destined to be used as radio control devices. These devices are in the LPD range (LOW POWER DEVICES).

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1.0 INTRODUCTION

Manufacturer's data

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Product marketing and commercial name

The system consists of the following devices:

- two-channel transmitter (TX2)	cod. T-XRADO2US
- four-channel transmitter (TX4)	cod. T-XRADO4US
- one-channel mini receiver (RXM1CH)	cod. R-XRADOM1.0US
- two-channel mini receiver (RXM2CH)	cod. R-XRADOM2.0US
- one-channel slot-in receiver card (RXS1CH)	cod. R-XRADOS1.0US
- two-channel slot-in receiver card (RXS2CH)	cod. R-XRADOS2.0US

Notes:

1. the two transmitter versions (two and four-channels) only differ from one and other by the number of functions (channels) which they are able to activate from a distance. The various containers differ from one and other by the number of buttons which depend on the model. By looking at the wiring diagram it can be seen that all the transmitters feature the same radio frequency section and that only the encode section differs, due to the number of channel functions. The radioelectric behavioural of the two devices is perfectly identical;
2. the four receiver versions use the same pcb card; the differences are only in the component lists.

Technical report drawn up by:

Ing M. Terruso
Resp. Certif. & Approvals - Cardin Elettronica S.p.A.

2.0 DESCRIPTION

2.1 GENERAL DESCRIPTION

- Radio control system model XRADO, consisting of one or more transmitters and one or more receivers;
- Carrier frequency in the UHF waveband at 433.90 MHz;
- Highly reliable encoding system guaranteed by the use of dynamic codes. The code is changed for each encoding transmission through the use of an encoding algorithm which only the receiver is able to recognize and therefore decide whether or not the code transmitted corresponds to the memorized code;
- Each transmitter factory set with its own individual code (different for each transmitter);
- The signal is made up of a 66 bit frame which permits a maximum of 268.435.456 transmitters each with its own individual code;
- The generated code is memorized in the receiver via radio.

2.2 USE AND APPLICATIONS

The radio control model XRADO permits the remote activation of electrical and electronic appliances and has its best use in the following areas:

- Automatic opening systems
- Alarm systems

and in all systems which require remote activation (without wires) using secret user codes in compliance with the local safety standards in force.

2.3 PRODUCT DESCRIPTION

2.3.1 TRANSMITTERS

- Shock-proof container
- Overall dimensions 95 x 34 x 19 mm for XRADO
- Led indicating signal emission
- Access door permitting battery replacement and user code programming
- Power supply: pencil battery 12V(model GP23A)
- Versions with up to 4 channels
- Random code combinations with dynamic code transmission

Description	*Product code*
Miniaturized transmitter 2 channel	**T-XRADO2US**
Miniaturized transmitter 4 channels	**T-XRADO4US**

2.3.2 MINI RECEIVER

- Receiver housed in a plastic box for indoor applications
- Code programming and deleting by means of two push buttons on the pcb card
- LED indicating the code memorizing
- Max number of stored codes : 300
- Codes stored on EEPROM
- Microprocessor based logic
- overall dimensions : 95 x 75 x 25 mm
- Power supply : 12 - 24 V ac/dc
- Versions with up to 2 channels
- External connections through a 10 way terminal board

Description	*Product code*
Mini Receiver 1 channel	**R-XRADOM1.0US**
Mini Receiver 2 channels	**R-XRADOM2.0US**

2.3.3 CARD RECEIVER

- Slot-in card receiver
- Code programming and deleting by means of two push buttons on the pcb card
- LED indicating the code memorizing
- Max number of stored codes : 300
- Codes stored on EEPROM
- Microprocessor based logic
- Card dimensions : 70 x 51 mm
- Power supply : 24 V ac/dc
- Versions with up to 2 channels
- External connections through a 10 ways connector on devices designed to receive it

Description	*Product code*
Card Receiver 1 channel	**R-XRADOS1.0US**
Card Receiver 2 channels	**R-XRADOS2.0US**

3.0 ELECTRICAL CHARACTERISTICS

3.1 TRANSMITTERS

Carrier frequency	433.92 MHz
Tolerance on the carrier frequency	±75 KHz
Bandwith	> 25 KHz
Apparent power harmonic products	< -40 dBm
Arrarent radiated power	≤ -20 dBm
Modulation	AM/ ASK
Signal modulation	PCM
Power supply	12 V ± 10 %
	(alkaline battery GP23A)
Power consumption. max	30 mA
Working temperature	-10°C + +55 °C
Code combination N°	> 268.000.000

3.2 RECEIVERS

Operating frequency	433.92 MHz
Local oscillator frequency	433.42 MHz
Intermediate frequency IF	500 KHz
Tolerance on the local oscillator frequency	± 75 KHz
Bandwith (RF section)	± 1 MHz
Local oscillator emissions	< -57 dBm (< 2 nW)
Demodulation	AM / ASK
Bandwith of the BF signal (ON/OFF)	< 3 KHz
Input impedance	50 Ω
Sensitivity	1.2 µV
Mini receiver power supply :	12 or 24 V ac/dc
Slot-in receiver card power supply:	24 V ac/dc
Rest consumption	8 mA
Consumption with relay excited	35 mA
Maximum commutable power at the relay:	
dc load	28 W
ac load	60 VA
maximum voltage	48 Vac/dc
Excitation delay	30 mS + 1 Sec
Dropout delay	250 mS
Operating temperature range	-20°C + +60 °C

4.0 OPERATING INSTRUCTIONS

Instructions (code L312.00) for XRADO_US digital radio control at 433.920 MHz are enclosed to present chapter.

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CODE Nr.	SERIES	MODEL	DATE
L312.00	XRADO	US	27-04-98

This product has been tried and tested in the manufacturer's laboratory, during the installation of the product follow the supplied indications carefully.

DIGITAL RADIO CONTROLS WITH DYNAMIC CODES XRADO (US)

Description
The **XRADO "US"** Radio control system in consists of one or more transmitters and one or more receivers which can be combined to meet the specific needs of the system.

The **XRADO "US"** system uses a highly reliable encoding system guaranteed by the use of dynamic codes. The code is changed for each encoding transmission through the use of an encoding algorithm which only the receiver is able to recognise and therefore decide whether or not the code transmitted corresponds to the original code. The generated code is memorised in the receiver via radio. The receiver is able to memorise up to 300 different codes. During the transfer stage the codes are memorised in a non volatile memory module. As this is a system based on dynamic codes each code is processed individually by the receiver.

Important
The transmitted code changes for each command (rolling code). If disturbance interrupts the transmission, the receiver will wait for a different code, at this point the relay can only be activated by first releasing and then pressing the transmitter channel button a second time.

Use
The **XRADO "US"** radio control allows the remote activation of electrical and electronic appliances with its best use in the following areas: automatic opening systems, alarm systems, and in all systems which require remote control activation (without wires) using secret codes, in compliance with the safety standards governing the installation of appliances.

Transmitter versions

T-XRADO2US	Miniaturised transmitters	2 Buttons
T-XRADO4US	Miniaturised transmitters	4 Buttons

Receiver versions

R-XRADOM1.0US	Mini receiver	1 Channel
R-XRADOM2.0US	Mini receiver	2 Channels
R-XRADOS1.0US	Slot-in receiver card	1 Channel
R-XRADOS2.0US	Slot-in receiver card	2 Channels

Receiver antenna installation
NB. Minimum and maximum range of the radio controls. 'Range' is intended to mean the working distance, measured in free space, between the receiver and the transmitter with the antenna installed. The range is therefore closely linked to the technical characteristics of the system (power and sensibility) and varies according to the characteristics of the site in which the system is located.
It therefore follows that to obtain the best results from the radio control the installation sites for the receiver and the antenna should be carefully chosen.
It is not possible to install 2 receivers at a distance of less than 1.5 mt. from each other.
It is good practise to position the receiver away from computer systems, alarm systems and other possible sources of disturbance.
(**A bad choice of positioning could compromise the performance of the receiver**).

Antenna
The installation of the antenna is fundamental, connected to the receiver it represents the reception point for the radio control.
When installing the antenna the following points should be observed:
- Both the receivers (Slot-in and Mini) are supplied with their own antenna which consists of a piece of rigid wire 170 mm in length. As an alternative it is possible to connect a tuned antenna using a coaxial cable RG58 (impedance 50 Ω) with a maximum length of 15 m. The antenna should be positioned out of doors in the highest possible point, visible and away from metal structures.

Transmitters

The transmitter is pre-coded and is fitted with an integrated circuit which is programmed in the factory with a unique identification number. All the code parameters are contained in this integrated circuit (external memory modules are not required) thus making code management more reliable and the system more secure.
The transmitter has an automatic shut down mechanism which cuts in after 25 seconds of continuous use (this limits battery consumption).

Receivers

The receiver could be:
- **a card** inserted directly into an appliance which is designed to receive it (fig.6).
- **a mini receiver** (in a case) fitted with a terminal board (fig.7).

These receivers can either be fitted with one relay (single channel) or two relays (double channel) the outputs of which are marked CH1 (normally open contect) and CH2 (normally open/normally closed contact)
The relay functions A-B-C-D can be selected and made to correspond with the transmitter channels CHA-CHB-CHC-CHD by setting the jumpers situated on the circuit board (see fig.3).

Status led "L1" on the receiver
Flashing rapidly: cancelling a single user
Flashing slowly: memorising a single user
Continuously lit: memory full

Functions

A- Memorising a channel (fig. 5)

1. Keep button **"P1"** MEMO pressed down and the led **"L1"** will start to flash slowly
2. Press the channel on the transmitter which is to be memorised
3. Keep button **"P1"** MEMO pressed down until led **"L1"** starts to flash again
4. Release the button and the LED continues to flash
5. Press the channel on the transmitter which is to be memorised again (same transmitter, same channel. If the channel or the transmitter is different you will not be able to memorise the channel.
6. End of the memory procedure. LED **"L1"** will remain lit for 2 seconds meaning that the channel has been correctly memorised.

Note
- It is not possible to memorise a user code that is already in memory: In this case when the radiocontrol is activated (point 2) the led will stop flashing. The program will only work again when button **"P1"** MEMO has been released.
- If the radiocontrol is not activated a second time within fifteen seconds the program will automatically leave the memory mode without memorising a new user code.
- If a new user code is activated the first time and a different channel (with an already memorised user code) is activated the second time, the program will automatically leave the memory mode (because the two codes do not correspond) and the channel present in the second transmission will be activated.

B- Cancelling a channel (fig. 5)
1. Keep button **"P2"** DELETE pressed down and the led **"L1"** will start to flash rapidly
2. Press the channel on the transmitter which is to be cancelled
3. Led **"L1"** will remain lit for 2 seconds meaning that the channel has been cancelled.

Note
If the user which is to be cancelled is not found in the memory, the led will stop flashing. The program will only work again when button **"P2"** has been released.
If the button is released before a channel is activated the program will automatically leave the memorising or cancelling mode.

C- Cancelling the entire user memory (fig. 5)
1. Keep buttons (**P1+P2**) pressed down simultaneously for more than 4 seconds
2. Led **"L1"** will remain lit for the period of time required for the program to cancel all the codes (about 8 seconds)
3. Led **"L1"** will then turn off meaning that the cancellation procedure has been carried out.

Note
It is only possible to switch from the memorising mode to the cancelling mode if you haven't already entered the second part of the memorising procedure (point 4 onwards). Once this part of the procedure has been reached you will have to complete the entire procedure. If you do not wish to memorise a code which you have already transmitted wait for fifteen seconds without doing anything, the led will switch off and the code will not be memorised.
When the receiver's memory is almost full the user search function can take upto one second to complete.

TECHNICAL SPECIFICATIONS

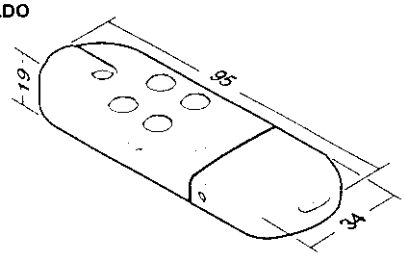
RECEIVER

- reception frequency	433,92 Mhz
- local oscillation frequency	433,42 Mhz
- local oscillation emission	<-57dBm (<2nW)
- intermediate frequency IF	390 KHz
- antenna impedance in input	50 Ω
- sensitivity (finely tuned signal)	1.2 µ V
- mini receiver power supply	12-24 Vac/dc
- slot-in card power supply	24 Vac/dc
- maximum power consumption at rest	8 mA
- maximum power consumption with activated relay	35 mA
- maximum commutable power at the relay with resistive load:	
load dc	28W
load ac	60VA
maximum voltage	48Vac/dc
- dropout delay	250 ms
- operating temperature range	-20°...+60°C
- maximum command response time	1 second
- minimum command response time	30 ms (circa)

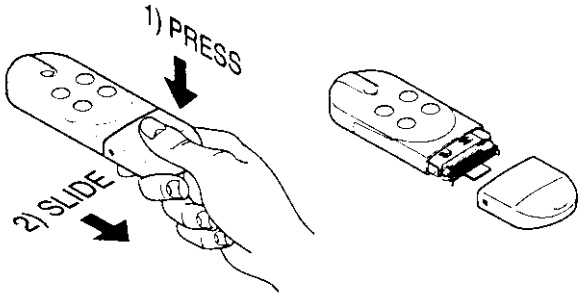
TRANSMITTERS

- carrier frequency	433.92 Mhz
- carrier frequency tolerance	±75 Khz
- band width	>25 Khz
- apparent radiated power	<-20 dBm
- apparent power harmonic products	<-40 dBm
- modulation	AM/ASK
- signal modulation	PCM, 1.2 ms/bit
- power supply	12V ± 10%
	(Alkaline battery GP23A)
- maximum power consumption	30 mA
- operating temperature range	-10...+55°C
- relative humidity	< 95%
- number of possible code combinations	more than 268 million

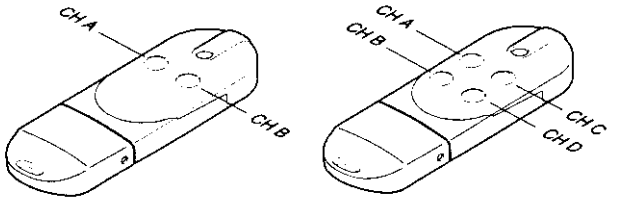
1 DIMENSIONI D'INGOMBRO - OVERALL DIMENSIONS - DIMENSIONS D'ENCOMBREMENT- AUSSENABMESSUNGEN - DIMENSIONES DEL ESPACIO OCUPADO



2 CAMBIO BATTERIA - CHANGING THE BATTERY - REMPLACEMENT DE LA PILE - BATTERIEWECHSEL - SUSTITUCIÓN DE LA PILA

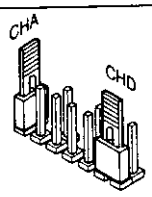


3 SELEZIONE DEI CANALI - CHANNEL SELECTION - DISPOSITION DES CANAUX - ANORDNUNG DER KANÄLE - DISPOSICION DE LOS CANALES

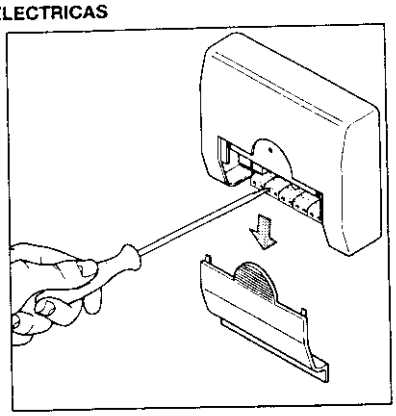


Esempio di selezione canali
Channel selection example
Exemple de sélection de canal
Beispiel der Kanalwahl
Ejemplo de seleccíon canal

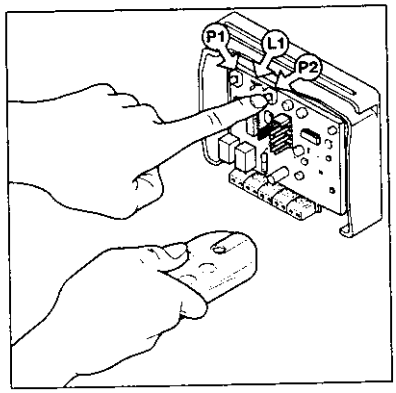
CH-1 = CHA (Tx)
CH-2 = CHD (Tx)



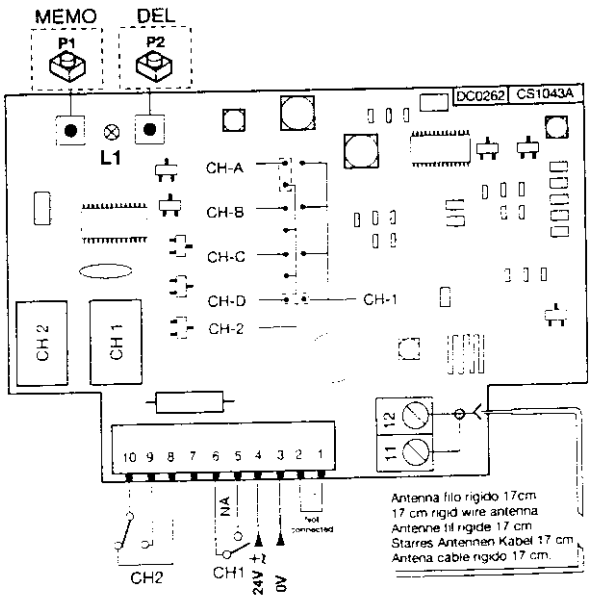
4 COLLEGAMENTO ELETTRICO - ELECTRICAL CONNECTION - BRANCHEMENT ÉLECTRIQUE - KLEMMLEISTANSCHLÜSSE - CONEXIONES ELECTRICAS



5 PROCEDURA DI MEMORIZZAZIONE/CANCELLAZIONE CHANNEL MEMORISATION/CANCELATION PROCEDURE PROCÉDÉ DE MÉMORISATION/EFFACEMENT SPEICHER-/LÖSCHUNGSVERFAHREN PROCEDIMIENTO DE ALMACENAMIENTO/BORRADO



6 RICEVITORE A SCHEDA AD INNESTO DIRETTO SLOT-IN RECEIVER CARD RÉCEPTEUR À CARTE EMBROCHABLE EMPFÄNGERKARTE ZUR DIREKTEN EINSTECKUNG RECEPTOR CON TARJETA DE INSERCION DIRECTA



7 RICEVITORE MINI MINI RECEIVER MINI RÉCEPTEUR MINIEMPFÄNGER MINI RECEPTOR