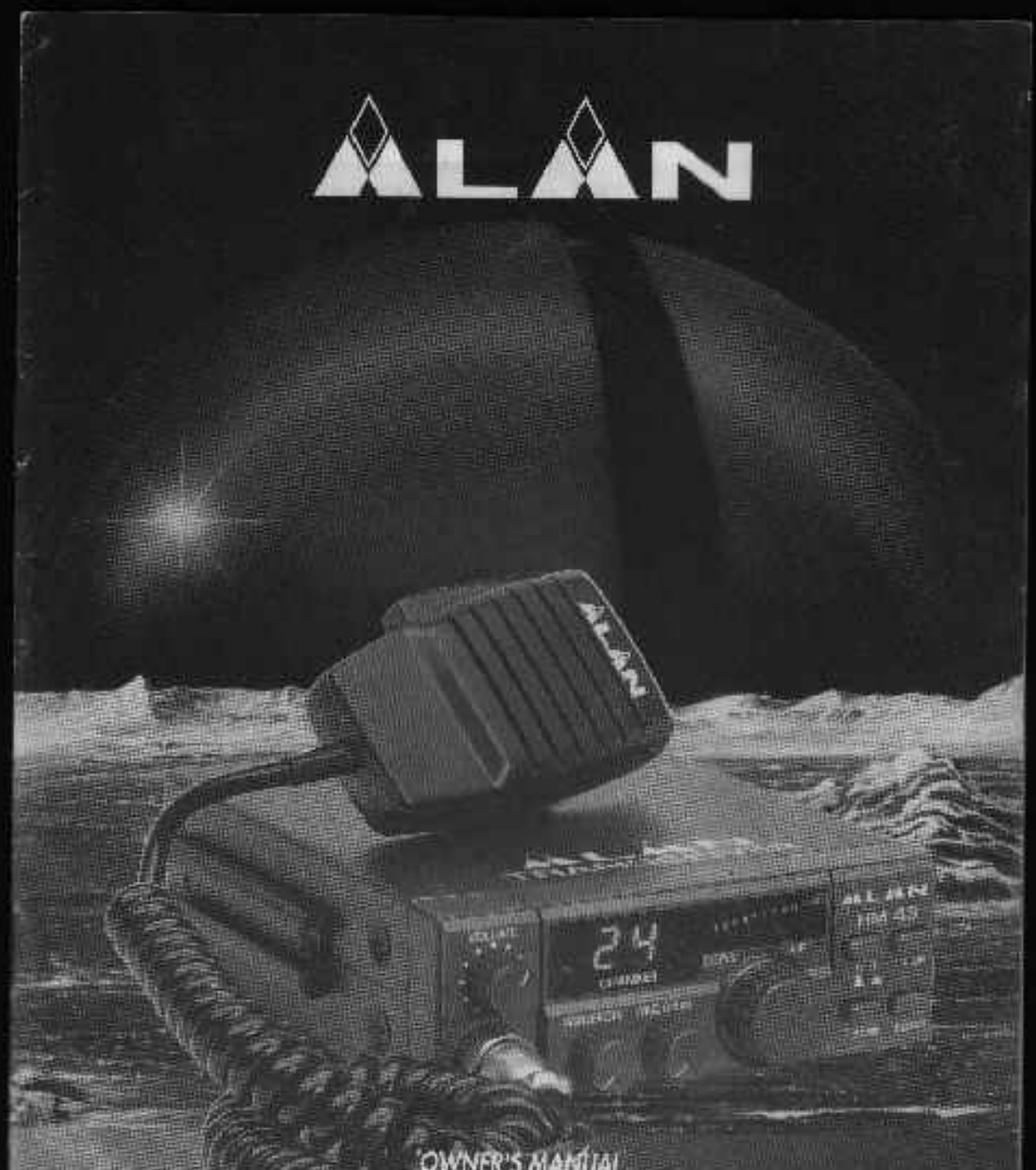
ALAN



OWNER'S MANUAL

ALAN HM 43

24FM CHANNELS 12,5 KHz MOBILE TRANSCEIVER

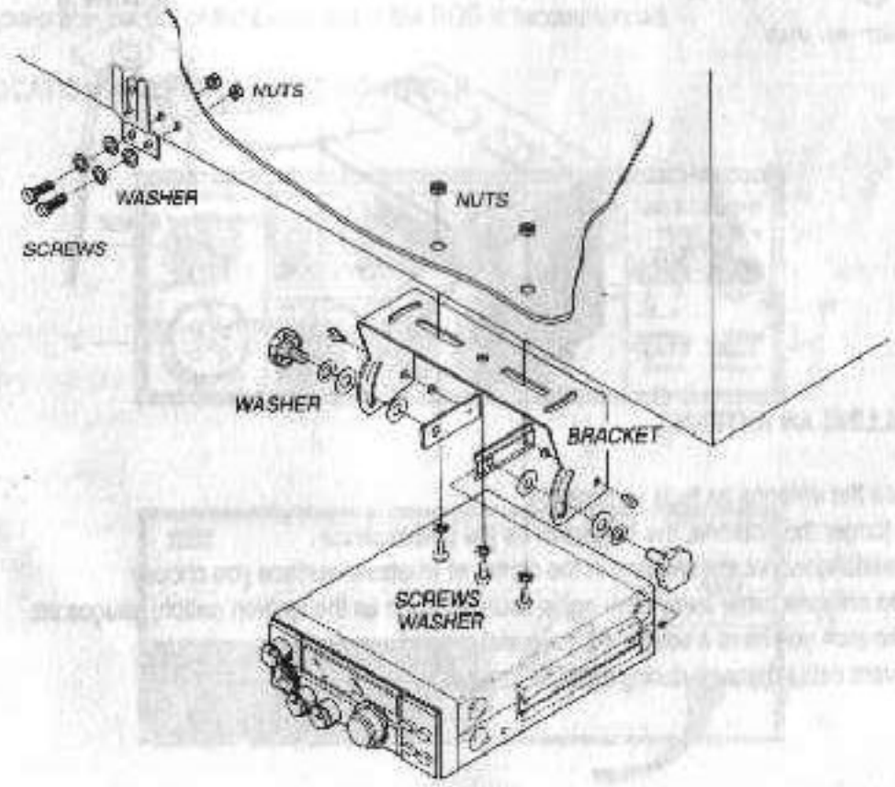
CONTENTS

OVERVIEW

The ALAN HM 43 operates on 24 channels on the new 43 MHz band , represents the state-of-the art in high-tech engineering. The ALAN HM 43 is the best solution for small-medium businesses and professional use, sport associations, hunting, fishing, healt care, road emergency unit and marine use.It has fast channels selector and 2 scanning mode: the search can be occurs on the busy channel or on the free channel. It can be used according to approval articles 1,2,3,4,7 of 334 C.P.

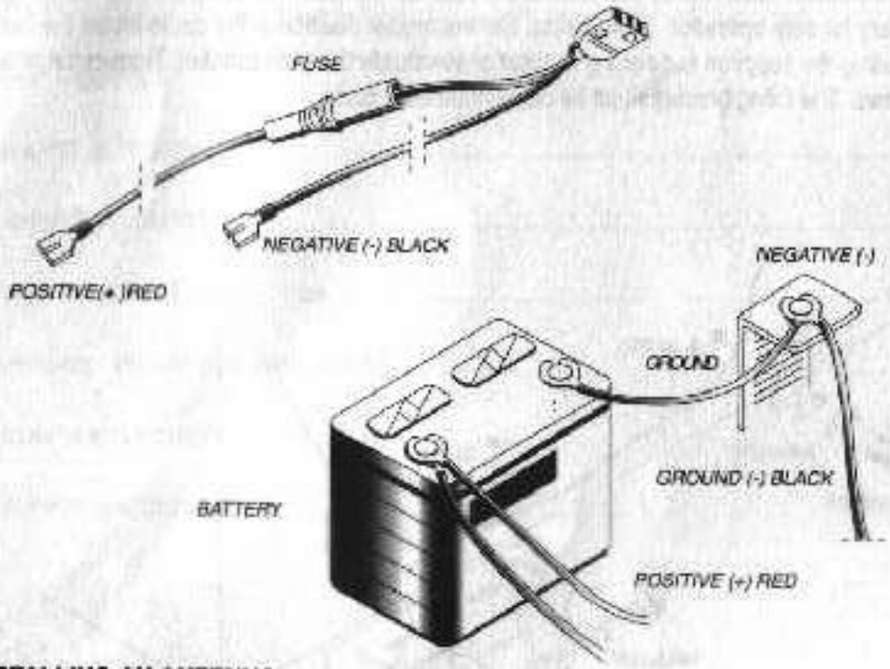
INSTALLATION

Safety and convenience are the primary consideration for mounting any piece of mobile equipment. All controls must readily available to the operator without interfering with the movements necessary for safe operation of the veicle. Set the proper position in the car to install the transceiver using the supplied supporting bracket or eventually the slide bracket. Tighten the retaining screws. The fixing bracket must be close to metallic parts.



POWER SUPPLY

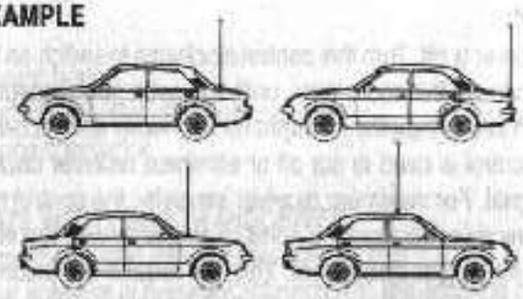
Be sure the transceiver is off. In the direct-voltage power supply, is very important to observe the polarity even if the unit is protected against the accidental inversion:
Red = positive pole (+)
Black = negative pole (-)
The same colors are present on the battery and in the fuse box of the car. Correctly connect the cable terminal to the battery



INSTALLING AN ANTENNA

1. Place the antenna as high as possible
2. The longer the antenna, the better will be the performance
3. If possible, mount the antenna in the center of whatever surface you choose
4. Keep antenna cable away from noise sources, such as the ignition switch, gauges,etc.
5. Make sure you have a solid metal-to-metal ground connection.
6. Prevent cable damage during antenna installation.

MOUNTING EXAMPLE

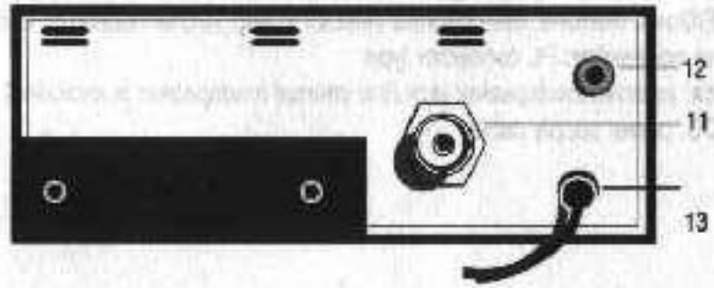


BASE STATION ANTENNA

While your Transceiver is designed for mobile operation, you might wish to use it as a base station unit,in conjunction with a 12-13.2 V 2Amp DC power supply. If you decide to use your Transceiver as a base station, choose an antenna designed to operate most efficiently as a base station antenna. For example, the 1/2 wave antenna is a high-efficiency radiator with omnidirectional characteristics. It performs as well in most applications as does the ground plane. You can use this type of antenna for medium-long range communications.

WARNING. to avoid damage, never operate your radio without connecting a proper antenna. A periodical control of the cable and of the ROS is recommended.

LOCATION AND FUNCTION OF CONTROLS



1. **Volume - On/Off Control.**
In "off" position your transceiver is off. Turn this control clockwise to switch on the unit. Turn the knob clockwise a little more to set the audio level, until you get a good reception.
2. **Microphone jack**: Insert in this jack the microphone connector and screw with care.
3. **Squelch control**: this control is used to cut off or eliminate receiver background noise in absence of an incoming signal. For maximum receiver sensivity, the control must be adjusted only to the point where the receiver background noise or ambient noise are eliminated. Rotate clokwise until the receiver noise just disappears. This will require the incoming signal to be slightly stronger than the average receiver noise. Further clockwise rotation will increase the threeshold level which a signal must overcome in order to be heard. Only strong signals will be heard at maximum clockwise setting.
4. **Mic (Microphone) Gain Control**: In TX mode it controls the microphone amplification.
To get the best results, use the microphone and set the optimum position for both the distance from your mouth and for the amplification level, asking to your partner when the modulation comes out better.
5. **Channels selector**
6. **S. Meter**
- During reception, it shows the signal level received in range .
- During transmission, it shows the radiofrequency transmitter output power.
7- **Display. It shows:**
- the channel selected number
- TX :transmission mode
- Scan: the scan function activated
8. **B/F (Busy-Free) switch**: it select the scanning mode.
"B"position: the transceiver seeks for a busy channel automatically
"F" position the transceiver seeks for a free channel automatically
9. **Scan button**: it activates the scan function of the unit.
Follow these steps:
- Turn the Squelch clockwise until the background noise is no longer heard.
- Set "B", then press the "Scan" button , and the transceiver will scan automatically all the channels until a carrier is being received. Set "F" and then "Scan" if a automatically free channel scanning is desired.
To disactivate the function, press again "Scan".
10. **F/Up - F/Down buttons**: fast channels selector to skip 10 channels up or 10 channels down.
11. **Antenna connector:** PL connector type
12. **EXT jack**: external loudspeaker jack.(the internal loudspeaker is excluded)
13 .**13.2V DC**: power supply cable

MICROPHONE

1. PTT (transmission button
2. UP/DOWN buttons: manual channels selector.
3. 6 pin microphone connector

HOW TO OPERATE WITH YOUR TRANSCEIVER

1. Screw the microphone plug into the microphone jack.
2. Make sure your antenna is securely connected to the antenna connector.
3. Make sure the SQUELCH control is turned fully counterclockwise
4. Turn on the unit and adjust the volume control
5. Select your desired channel
6. To transmit, press the PTT button and speak in a normal tone of voice.
7. To receive, release the PTT button.

PROBLEMS	SOLUTIONS									
	Check the power supply cable	Check the fuse	Check the "squelch" adjustment	Check the On/off-Volume control	Check the channel	Check the screws, the socket cable, and all connections	Push down the PTT button of the microphone	Check the microphone connection	Check the ground connection	Check the antenna cable, and SWR adjustment
No sound, no channels lighting	●	●		●					●	
Channels lighting, no sound			●			●		●	●	
No voice received			●	●	●					
Loss / low reception						●			●	●
Transmission problems						●	●	●	●	●

TECHNICAL SPECIFICATIONS

Frequency range	43.300-43.5875 MHz.
Channels	24
Mode of operation	F3E (FM)
Antenna impedance	50 ohm.
Loudspeaker	8 ohm 3 W.
Microphone	condenser type
Power supply	13.2 Vdc
Dimensions	180x140x50 mm.
Weight	980 gr.
Channel spacing	12.5 kHz

RECEIVER

Sensitivity at 12 dB S/N(with CCITT Filter)	1 μV(FM)
Squelch range	1 μV-200 μV
Audio output power	2.5W 8 ohm (10% distortion)
Intermediate frequency	I°=10.700 MHz
	II°= 455 KHz
Spurious response	more than 70 dB
Current drain(SQUELCH)	RX: 500 mA

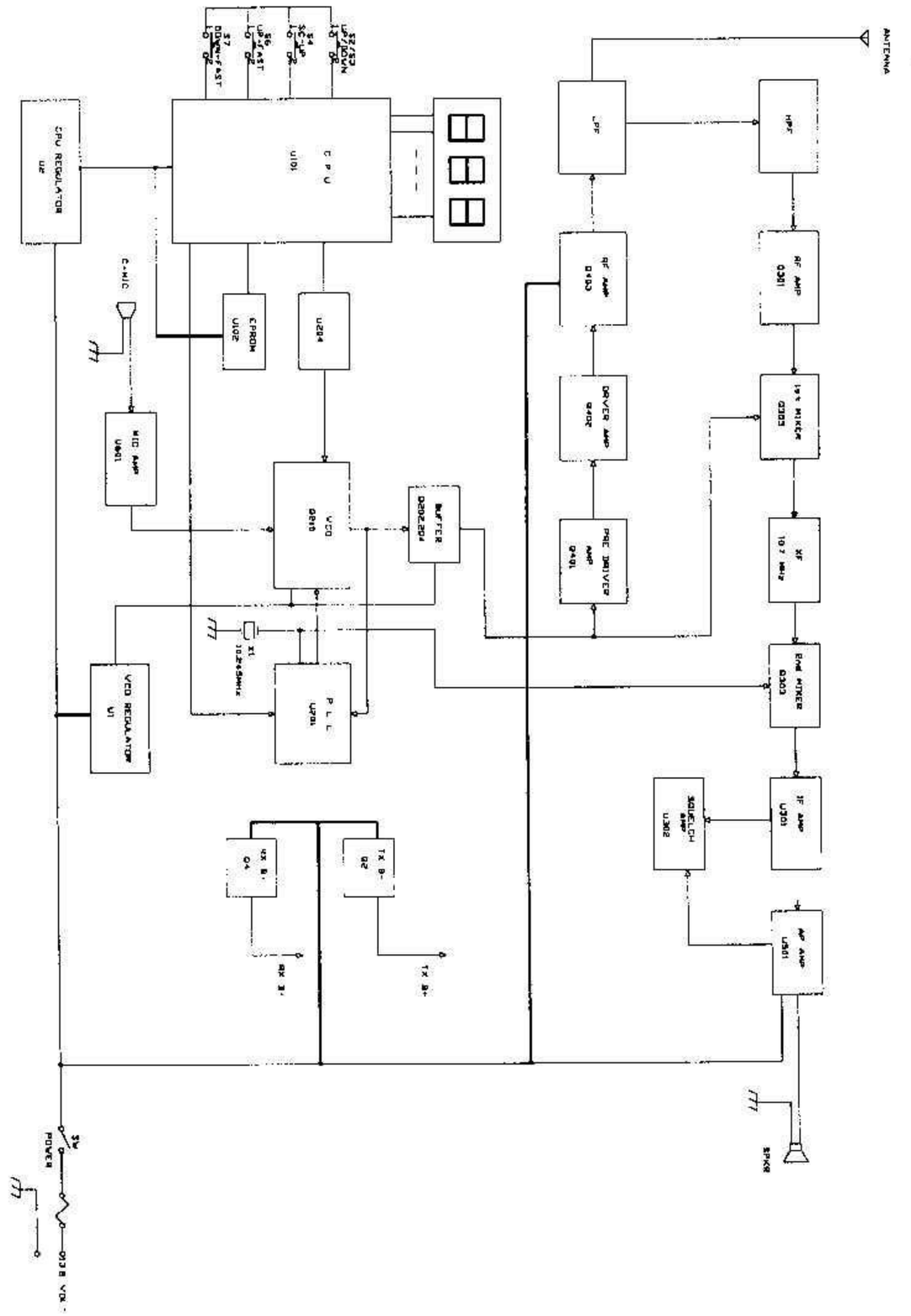
TRANSMITTER

RF Output Power	4.0W
Frequency Tolerance	0.005%
Harmonic Emission	less than -60 dB
Current Drain(No Modulation)	1500 mA
Modulation	FM dev. 1.5 kHz

All specifications are subject to change without notice.

BLOCK DIAGRAM

SCHEMA A BLOCCHI



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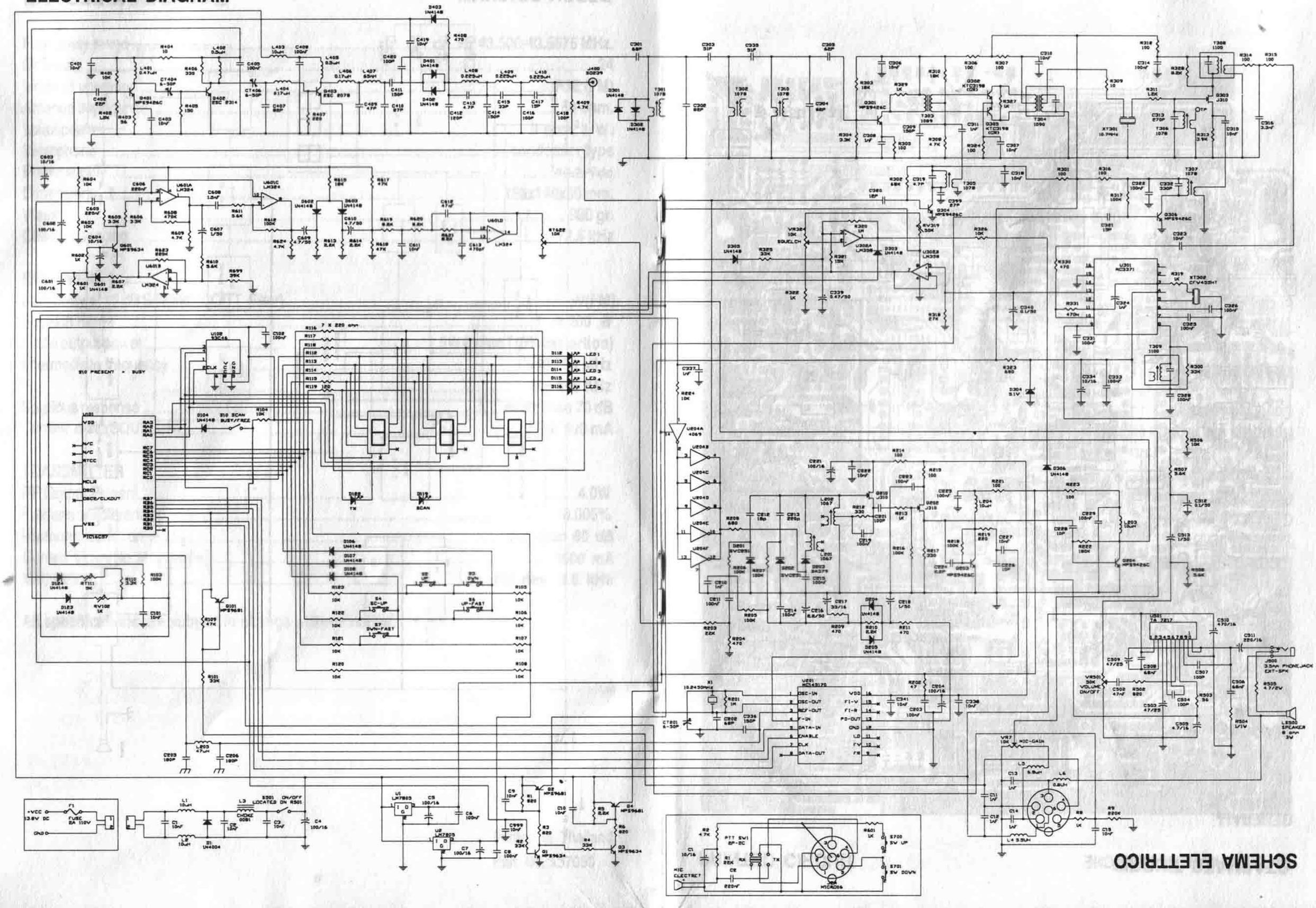
Part No.:937050

ELECTRICAL DIAGRAM



SCHEMA ELETTRICO

CARATTERISTICHE TECNICHE

GENERALI

Gamma di frequenza	43.300-43.5875 MHz.
Canali	24
Modulazione	F3E (FM)
Impedenza antenna	50 ohm.
Passo di canalizzazione	12.5 KHz
Altoparlante	8 ohm 3 W.
Microfono	a condensatore.
Alimentazione	13.2 Vdc
Dimensioni	180x140x50 mm.
Peso	980 gr.

RICEVITORE

Sensibilità 12dB S/N	1 μV(FM)
Gamma squelch	1 μV-200 μV
Potenza d'uscita audio	1W 8 ohm
Frequenze intermedie	I'=10.700 MHz
	II' = 455 KHz
Reiezione alle risposte spurie	maggiore di 70 dB
Corrente assorbita	RX: 500 mA

TRASMETTITORE

Potenza d'uscita RF	4.0 W
Tolleranza di frequenza	0.005%
Emissioni armoniche	minore di 60 dB
Corrente assorbita	1500 mA
Modulazione	FM dev. 1.5 kHz

Le specifiche possono variare senza preavviso.

PRINTED CIRCUIT — CIRCUIT STAMPATO