

TTY Distributor

G. Tuccari, S. Buttaccio, L. Nicotra, IRA - Noto
A. Freihold, Max Planck Institute - Bonn

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Internal Report

CONSIGLIO NAZIONALE DELLE RICERCHE

ISTITUTO DI RADIOASTRONOMIA

Via P. Gobetti, 101 - 40129 BOLOGNA (Italy)

1. Introduction

A simple distributor for serial communication has been developed to operate in the VLBA4 environment. Two additional modules are dedicated to the communication with the FS computer: MKIV formatter and MKIV decoder. The distributor allows to drive both of them keeping the possibility to add five additional elements, for future expansion.

In despite of the traditional RS232 power supply requirement, with double polarity, the board needs only +5V for generating all the necessary voltages.

2. Description

The fundamental components of the distributor is the level converter TTL-RS232, driver/receiver Maxim MAX238, that is utilised to generate all the voltages from the + 5V and converts TTL levels to RS232 and vice-versa.

The 'master' port is connected with the FS control computer, and what is received from this side is transferred to the slave ports. The modules connected to the slave sections, named TTY 1-7 are indeed addressed so, that only one module at a time will answer the communication.

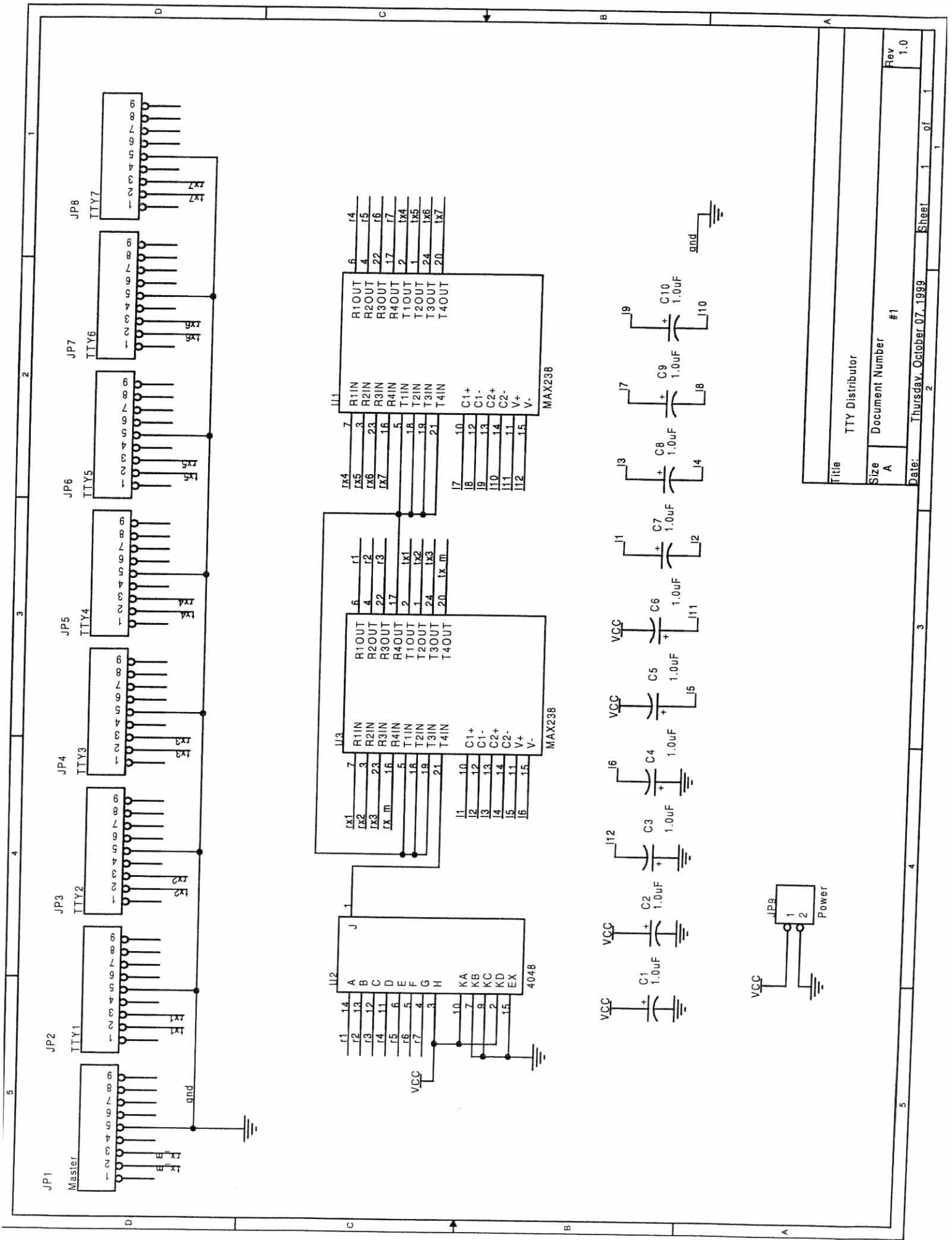
Any slave port is replying, the master port will receive the message, transferring it to the control computer.

Schematics show how the circuit is implemented; for external communication DB9 connectors are used. For such reason the board is accessible onto the surface.

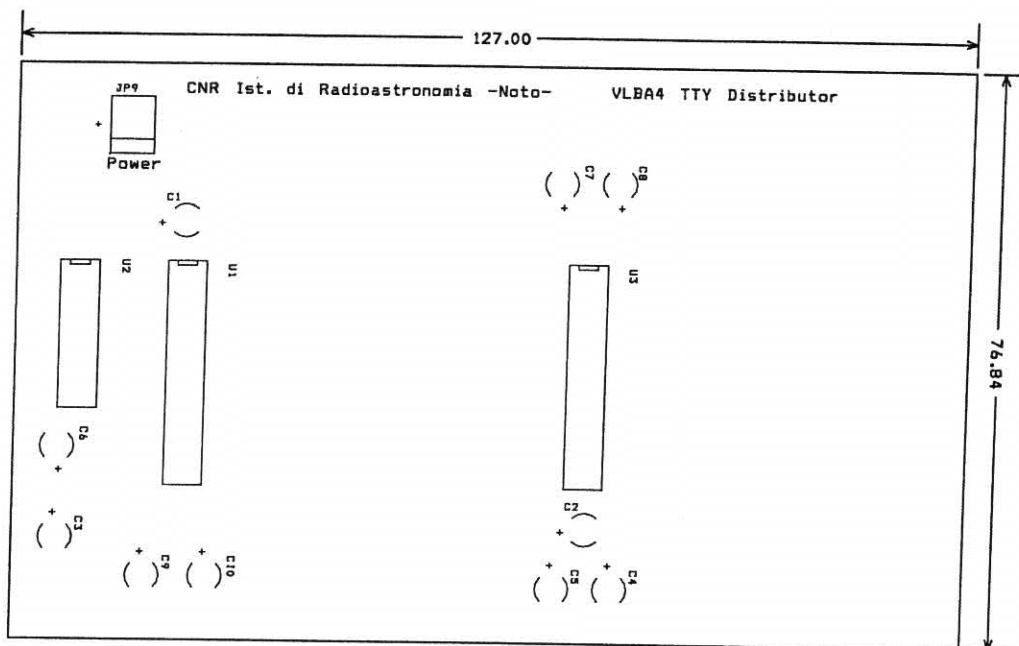
A PCB has been realised able to support all the components, including communication connectors.

Power supply of +5V is external and to be connected through the JP9 connector. The board is included in a metallic box that can be located in the rear side of the MKIV formatter.

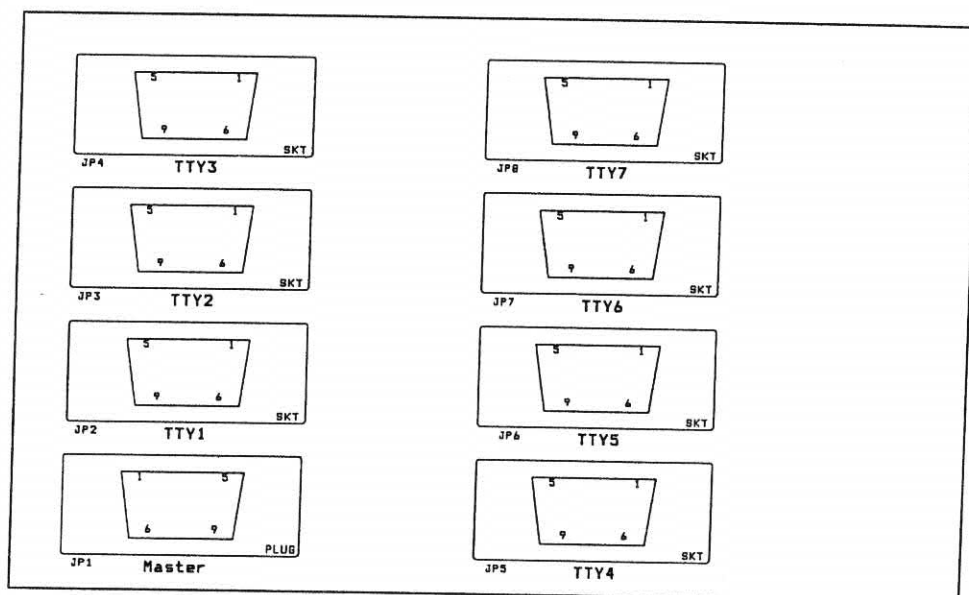
In the drawings are showed schematics, PCB layers and datasheet.



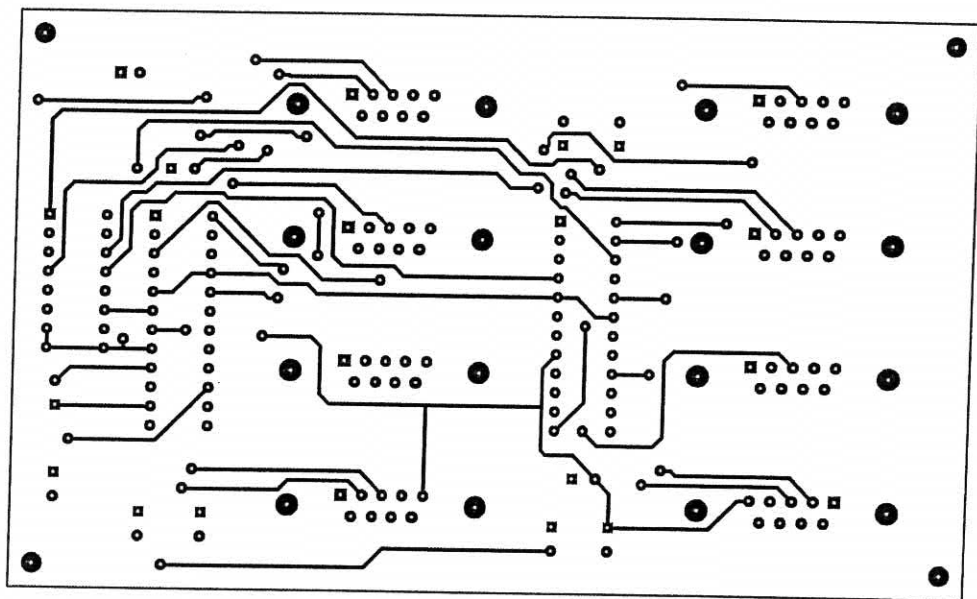
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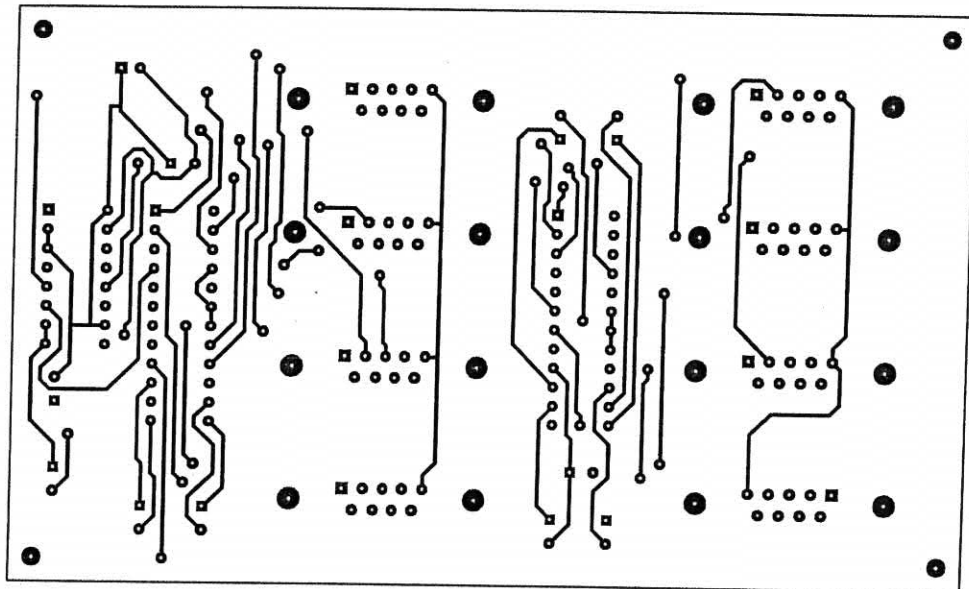
Silkscreen TOP



Silkscreen BOTTOM



TOP Layer



BOTTOM Layer

+5V-Powered, Multi-Channel RS-232 Drivers/Receivers

MAX220-MAX249

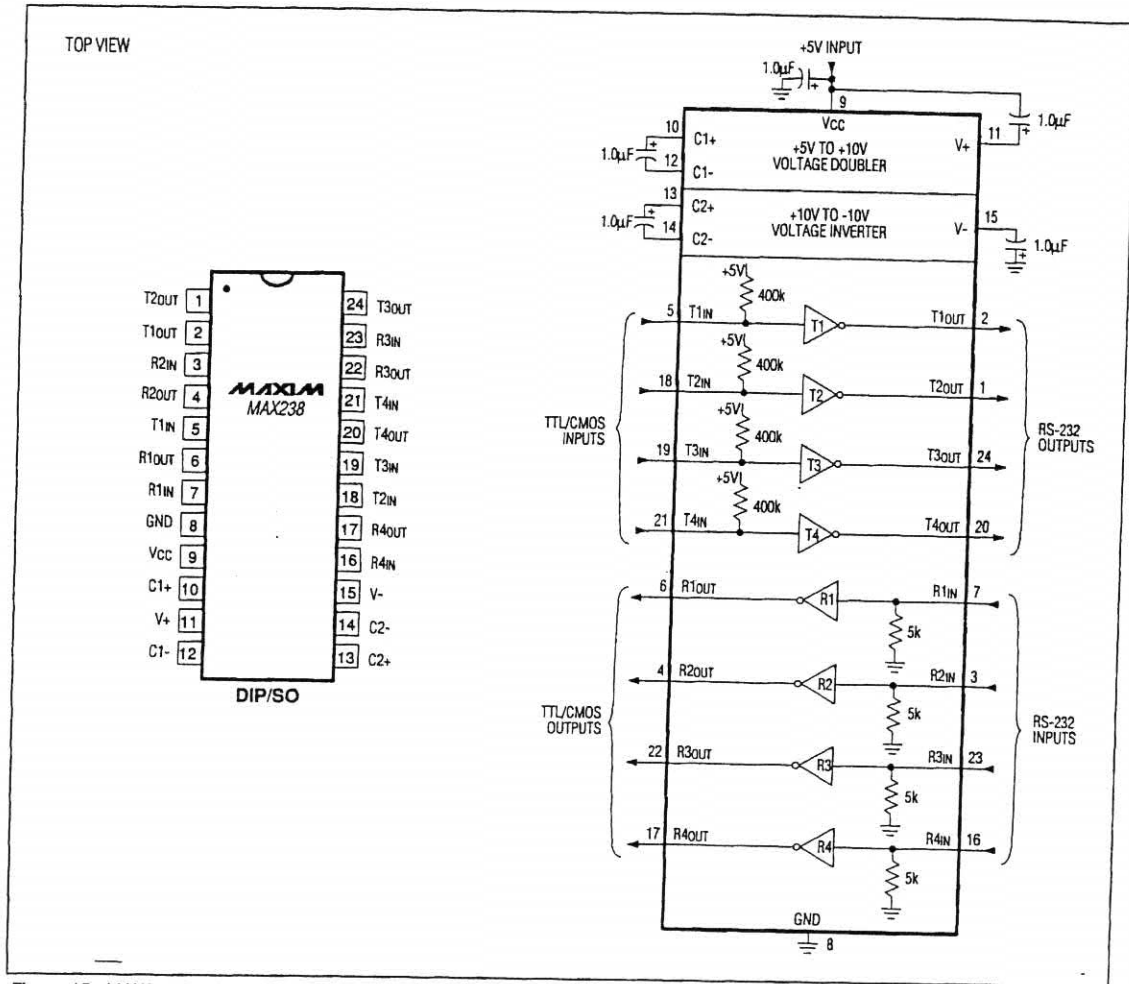


Figure 15. MAX238 Pin Configuration and Typical Operating Circuit