Doc. No. : MD10-PG-012

Rev. : 0

Date : December 15, 1989

MAESTRO D MODULE - 10MHz GENERAL PRODUCT SPECIFICATIONS

A. Current Consumption : a) Normal mode at V.Ad (SW6) = 9V
Measured at V+ of PIO Connector
130mA typical
200mA max.

b) Memory mode at V.Ad = 9.0V
Measured at V+ of PIO connector
0.5uA typical
10uA max.

B. Power Consumption : 1.17W typical
1.8W max.

C. System Clock Frequency : 10MHz +/- 1%

PREPARED BY : _____ APPROVED BY : _____

PROJECT : MAESTRO D MODULE - 10MHz

Doc.No. : MD10-PS-014

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ADJUSTMENT PROCEDURE

OBJECT : To adjust system clock frequency.

EQUIPMENT NEEDED : Frequency counter or Oscilloscope capable of frequency measurement up to 20MHz.

PROCEDURE :

1. Disassemble unit by removing screws (6) on bottom cover.
2. Power on unit.
3. Place probe of counter/scope at pin 39 of U1. If frequency measured is out of specified range (9.9-10.1MHz), replace C6,R24,X1 until counter/scope reading is within specification.
4. Reassemble unit.

PREPARE BY : _____

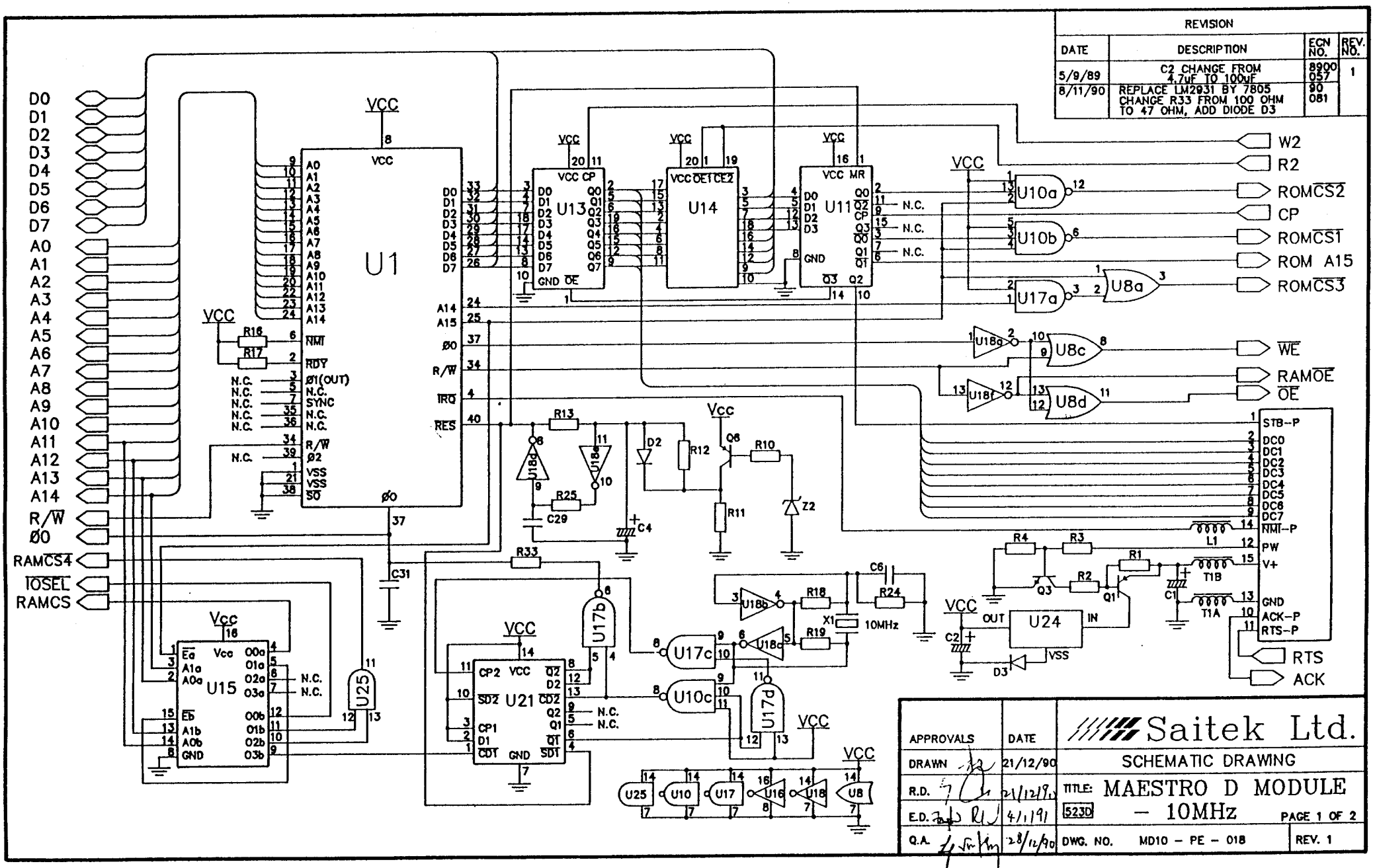
APPROVED BY : _____

Filename : MD10TSC 21 March 1990

MAESTRO D MODULE - 10MHz TROUBLE-SHOOTING CHART

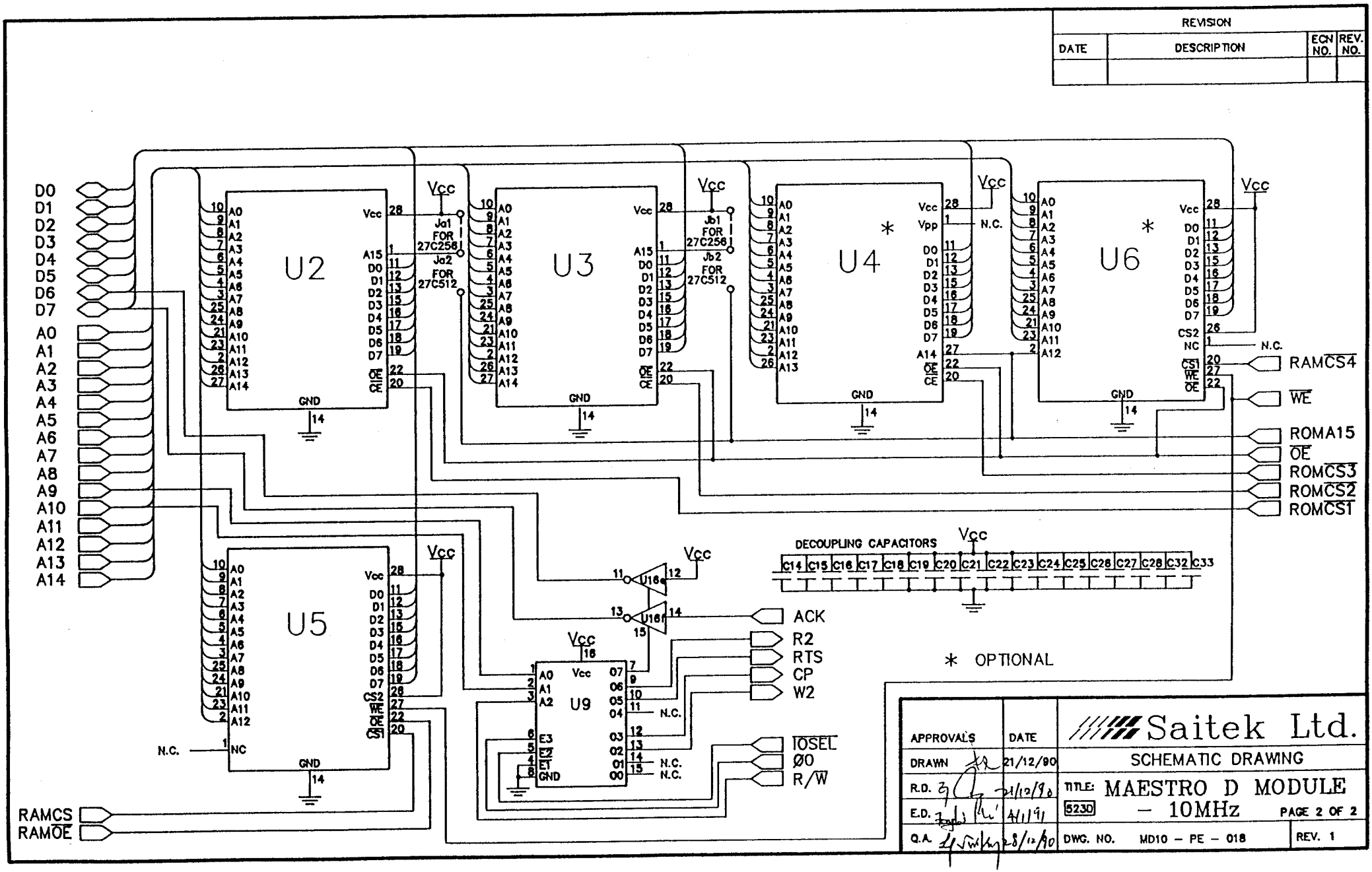
SYMPTOMS	POSSIBLE CAUSES
Unit will not turn-on	1) Check Vcc for 4.75 - 5.25V If Vcc is not within this range : i) Check U24 pin 1 input for higher than 7V, if not, defective adapter circuit. ii) Check V+ pin 15 of edge connector for higher than 7.5V, if not, defective adapter. iii) Check PW pin 12 of edge connector for higher than 4V, if not, check R3, R4. iv) Check for broken connection(s) between edge socket connector and logic PCB. 2) Check clock circuit - check clock frequency at U1 pin 39 for 10MHz +/- 1% square wave, if not, i) Check U18, U17, U10, U21, R33. ii) Defective U1, crystal X1. 3) Check reset circuit - check U1 pin 40 for the changes of logic 'low' to logic 'high' state when power is switched from OFF to ON. if not, i) check C4 at power up. ii) check Q6, R10, R11, Z2. iii) defective U18, C4, R12, D2, C29. 4) Check for defective IC. 5) Check for broken traces. 6) Check for bad contacts between IC and IC socket.
MODULE TESTER test 1) LED 1 to 8 on tester not scanning a) LED 1 not light up b) LED 2 not light up c) LED 3 not light up d) LED 4 not light up e) LED 5 not light up f) LED 6 not light up g) LED 7 not light up h) LED 8 not light up 2) All 8 LEDs not light up 3) Only one of 8 LEDs lights up 4) NMI pin test LED lights up 5) RTS-P test LED not toggle	 - ROM failure : defective U2 or broken traces. - ROM failure : defective U3 or broken traces. - ROM failure : defective U4 or broken traces. - RAM failure : defective U5 or broken traces. - ROM failure : defective U2 or broken traces. - ROM failure : defective U3 or broken traces. - ROM failure : defective U4 or broken traces. - RAM failure : defective U6 or broken traces. - Check for broken connections between edge socket connector and logic PCB. - Check connections between U11 pin 10 and U16 pin 4. - Defective U9, U11, U13, U16. - Check connection to the corresponding lighted LED. - Defective U13, U14. - Edge socket pin 14 shorted to pin 15. - Check U1 pin 6 short to ground. - Check for broken connection between U9 pin 10 to the logic PCB. - Defective U9.

ORIGINAL


REVISION
DATE | DESCRIPTION | ECN NO. | REV. NO.
5/9/89 | C2 CHANGE FROM 4.7uF TO 100uF | 8900 057 | 1
8/11/90 | REPLACE LM2931 BY 7805 CHANGE R33 FROM 100 OHM TO 47 OHM, ADD DIODE D3 | 90 081 |
D0 D1 D2 D3 D4 D5 D6 D7
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14
R/W
Ø0
RAMCS4
IOSEL
RAMCS
U1
U13
U14
U11
U15
U21
U24
U25
U10a
U10b
U17a
U8a
U8c
U8d
U18a
U18f
U17b
U17c
U10c
U17d
U18b
U18d
U18e
W2
R2
ROMCS2
CP
ROMCS1
ROM A15
ROMCS3
WE
RAMOE
OE
RTS
ACK
STB-P
DC0 DC1 DC2 DC3 DC4 DC5 DC6 DC7
NMI-P
PW
V+
GND
ACK-P
RTS-P
10MHz
APPROVALS | DATE
DRAWN | 21/12/90
R.D. | 21/12/90
E.D. | 4/1/91
Q.A. | 28/12/90
Saitek Ltd.
SCHEMATIC DRAWING
TITLE: MAESTRO D MODULE – 10MHz
523D
PAGE 1 OF 2
DWG. NO. MD10 – PE – 018
REV. 1

ORIGINAL

REVISION			
DATE	DESCRIPTION	ECN NO.	REV. NO.



APPROVALS	DATE	Saitek Ltd.
DRAWN	21/12/90	SCHEMATIC DRAWING
R.D.	21/12/90	TITLE: MAESTRO D MODULE
E.D.	4/1/91	5230 — 10MHz PAGE 2 OF 2
Q.A.	28/12/90	DWG. NO. MD10 — PE — 018 REV. 1