

32K EPROM CARD

PBK V1.0

32K EPROM Card

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32K EPROM Card

Introduction

This TANBUS compatible card enables the use of 2716, 2532 or 2732 EPROMS as extension ROM to Microtan and Tanex's ROM space. This allows the user who has designed his own software to place the software in EPROM and have it immediately accessible by the system thus bypassing time-consuming or inconvenient tape or disc loads.

The card is switch selectable to enable the addressing to cover the range from the end of Tanex RAM space up to the beginning of I/O space. Use is made of the system's Block Enable and Inhibit RAM signals to allow the card to overlay existing RAM space or to take advantage of page selection facilities.

Address Switching

The DIL block of switches labelled 'G3' control the top 4 most significant address lines. They are labelled as follows.

Address Line	Switch			
	1	2	3	4
	A15	A14	A13	A12

Switch On = logic 0 Switch Off = logic 1

Table 1 shows all the possible addresses that the EPROM card can be set up to start at.

Address Page	Switch	1	2	3	4	Binary Equivalent
0000-7FFF		ON	ON	ON	ON	0000
F000-6FFF		ON	ON	ON	OFF	0001
E000-5FFF		ON	ON	OFF	ON	0010
D000-4FFF		ON	ON	OFF	OFF	0011
C000-3FFF		ON	OFF	ON	ON	0100
B000-2FFF		ON	OFF	ON	OFF	0101
A000-1FFF		ON	OFF	OFF	ON	0110
9000-0FFF		ON	OFF	OFF	OFF	0111
8000-FFFF		OFF	ON	ON	ON	1000
7000-EFFF		OFF	ON	ON	OFF	1001
6000-DFFF		OFF	ON	OFF	ON	1010
5000-CFFF		OFF	ON	OFF	OFF	1011
4000-BFFF		OFF	OFF	ON	ON	1100
3000-AFFF		OFF	OFF	ON	OFF	1101
2000-9FFF		OFF	OFF	OFF	ON	1110
1000-8FFF		OFF	OFF	OFF	OFF	1111

Table 1: Address switch positions

Note that when EPROM card overlays existing ROM or I/O or TANEX space the EPROM overlaying this area will not be seen by the system unless the existing chips are removed.

Chip Selection

The block of switches labelled 'C3' is used to specify which EPROM sockets are active (enabled) in 4K steps. This 4K is filled by either 2K chips occupying the same positions in the two rows of sockets e.g. H1 and H2 or by 4K chips which would only go in the top row e.g. H1. Table 2 shows which switch controls which socket pair:

Switch No.	Sockets	Base Address
1	H 1 & 2	0000-0FFF
2	G 1 & 2	1000-1FFF
3	F 1 & 2	2000-2FFF
4	E 1 & 2	3000-3FFF
5	D 1 & 2	4000-4FFF
6	C 1 & 2	5000-5FFF
7	B 1 & 2	6000-6FFF
8	A 1 & 2	7000-7FFF

Table 2: Switch block C3 Functions

Hardware Configuration

There are three links on the card which are used to determine which type of EPROM is being used and whether memory page selection is used.

Table 3 illustrates which rows of sockets are to be used and the appropriate positions of Links 1 and 2.

Chip Option	Row 1	Row 2	Link 1	Link 2
1	2716	2716	MADE	CUT
2	2732	EMPTY	CUT	MADE
3	EMPTY	2532	-	-

Note that '-' means 'doesn't matter'

Table 3: Chip options and wire links

It can be seen from table 3 that 2532 and 2716's can be used on the board at the same time. Sockets which have been enabled will drive $\overline{\text{INHRAM}}$ and are inhibited by $\overline{\text{INHROM}}$.

Link 3 determines whether the card runs in block (page) mode or in 'phantom mode' which causes it to be seen by the system irrespective of which page has been selected. With Link 3 fitted the card is in block mode.

Power Consumption

This is determined by the types of devices used. Preference should be made to manufacturer's literature.

Note: On Issue 1 boards Bank 2 pin 21 must be linked to pin 24 when using 2716's.