

8.1 Automatic self-tests

• Automatic self-tests

On power-up, the XBT-K8 executes a series of self-tests. The order of execution is described below. If there is a permanent fault, the XBT-K8 displays the error and the self-test stops.

TEST		XBT-K8 DISPLAY	COMMENTS
PROGRAM MEMORY		<div style="border: 1px solid black; padding: 2px; text-align: center;">*****</div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">CHECKSUM PROG =</div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">XBT-K 80101. V . . .</div>	Permanent display : internal fault Checksum error XBT-K8 program memory Product reference code and software version
SERIAL LINE	SERIAL CONNECTOR ADDRESSING	<div style="border: 1px solid black; padding: 2px; text-align: center;">CONFIGURATION FAULT</div>	Multi-drop address and ADJUSTMENT shunt simultaneously present
	MULTIDROP ADDRESSING	<div style="border: 1px solid black; padding: 2px; text-align: center;">AD. PARITY FAULT</div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px; text-align: center;">ASC H 9600 8B OD 15</div>	Parity bit value does not correspond to address read Display configuration parameters of operating line
STORED MESSAGE MEMORY		<div style="border: 1px solid black; padding: 2px; text-align: center;">MESS. NUMBER= xxx</div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px; text-align: center;">MESS CKSUM ERROR</div>	Message area checksum error: checksum update
PARALLEL BUS		<div style="border: 1px solid black; padding: 2px; text-align: center;">PARAL INTERFACE FAULT</div>	Parallel interface test circuit fault
		<div style="border: 1px solid black; padding: 2px; text-align: center;">** RUNNING **</div>	XBT-K8 ready (waiting for commands)

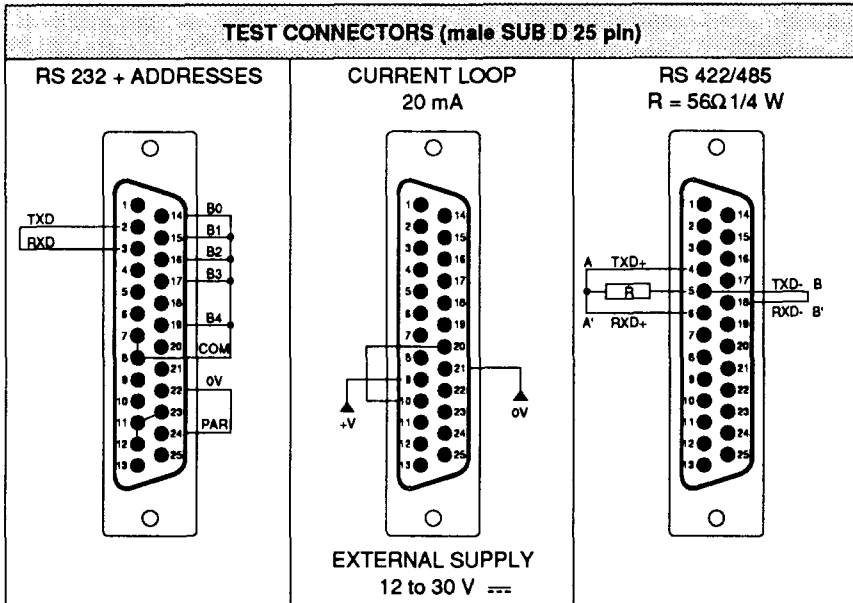
**TO CANCEL A PERMANENT FAULT :
POWER OFF THE XBT-K8**

8.2 Controlled self-test

• Serial link

The serial link can be tested by using the following procedure :

- 1 - Make a loop at the serial connector, according to the type of link to be tested.



- 2 - Send the command code to the parallel bus.

COMMAND CODE	XBT-K DISPLAY	COMMENTS																						
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">OP2</td><td style="padding: 2px;">OP1</td><td style="padding: 2px;">D8</td><td style="padding: 2px;">D7</td><td style="padding: 2px;">D6</td><td style="padding: 2px;">D5</td><td style="padding: 2px;">D4</td><td style="padding: 2px;">D3</td><td style="padding: 2px;">D2</td><td style="padding: 2px;">D1</td><td style="padding: 2px;">D0</td> </tr> <tr> <td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">1</td> </tr> </table>	OP2	OP1	D8	D7	D6	D5	D4	D3	D2	D1	D0	0	0	0	0	0	0	0	0	0	0	1	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; width: fit-content; margin: 0 auto;">TEST RUNNING</div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">TEST CORRECT</div>	<p>The XBT-K8 checks the looped serial link</p> <p>This message appears as soon as test is correctly completed</p>
OP2	OP1	D8	D7	D6	D5	D4	D3	D2	D1	D0														
0	0	0	0	0	0	0	0	0	0	1														

THE COMMAND SHOULD REMAIN PRESENT UNTIL THE END OF THE TEST

8 Self-tests

Controlled self-test

• Character displays

The test for the character displays of the XBT-K8 is started by applying the following command to the parallel bus.

COMMAND CODE	XBT-K8 DISPLAY	COMMENTS																					
<table border="1"> <tr> <td>OP2</td><td>OP1</td><td>D8</td><td>D7</td><td>D6</td><td>D5</td><td>D4</td><td>D3</td><td>D2</td><td>D1</td><td>D0</td> </tr> <tr> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td> </tr> </table>	OP2	OP1	D8	D7	D6	D5	D4	D3	D2	D1	D0	0	0	0	0	0	0	0	0	1	0	D D D D	Cyclic display test. 5 characters successively shifted
	OP2	OP1	D8	D7	D6	D5	D4	D3	D2	D1	D0												
	0	0	0	0	0	0	0	0	1	0													
	Y. Y. Y. Y. Y.																						
	E E E E E																						
	X. X. X. X. X.																						
	* * * * *	20 characters																					
□.□.□.□.□.□.	20 characters																						
* * * * *	20 characters (all segments illuminated)																						

THE COMMAND SHOULD REMAIN PRESENT
UNTIL THE END OF THE TEST

9.1 Messages displayed on the XBT-K8

MESSAGE	OPERATING MODE	PROBABLE CAUSE	REMEDY
XXX : No MESSAGE	ADJUSTMENT MODE OR UNI-TE PROTOCOL OR ASCII MODE	No message programmed at address XXX	- Check the command - Program the message
*** *** (IN THE NUMERIC FIELD)	ADJUSTMENT MODE OR UNI-TE PROTOCOL OR ASCII MODE	Value corrected by a conversion coefficient greater than a value acceptable by the numeric field of the message	- Check length of numeric field - Check conversion coefficient
> PROGRAM ERROR <	CONFIGURATION MODE	Incorrectly written in the message memory	- Check message syntax
> NO MESSAGE <	Controlled by parallel interface (scanning)	No message programmed at the address	- Program message if necessary
> AD PARITY FAULT <	MODE ASCII (multidrop) or UNI-TE Protocol	Addresses incorrectly wired	- Check serial connector wiring
> CHECKSUM ERROR <	CONFIGURATION MODE	Exiting the CONFIGURATION MODE not allowed	- Do not interrupt storage procedure
> CONFIGURATION FAULT <	ADJUSTMENT MODE	Multidrop address present at the serial connector	- Check serial connector wiring

9.2 Special messages for the XBT-K8

MESSAGE	OPERATING MODE	PROBABLE CAUSE	REMEDY
> LINE FAULT <	UNI-TE PROTOCOL	<ul style="list-style-type: none"> - Link XBT-K8 ↔ module UNI-TELWAY defective - UNI-TELWAY Station N° wired for XBT-K8 PLC is greater than the maximum declared during the configuration of the faulty module - Defective module 	<ul style="list-style-type: none"> - Check the link cable XBT-K8 ↔ module - Test the XBT-K8 serial link (SELF-TESTS chapter 8.2) - Check the module configuration and the XBT-K8 station N° - Check module self-test results
> FAULT STATION <	UNI-TE PROTOCOL	No response to XBT-K8 request: UNI-TELWAY parameters incorrect, indicating device absent or faulty.	Check the parameters : UNI-TELWAY NETWORK N° STATION N° GATE N° MODULE N° CHANNEL N° in operating line configuration mode (Section ...)
> REFUSAL STATION <	UNI-TE PROTOCOL	<p>The device refuses the action requested by the XBT-K8 because :</p> <ul style="list-style-type: none"> - The variable does not exist at this station - The action requested is not allowed 	<p>Check the address of the variable</p> <p>Check the request code sent</p>

10.2 ASCII character table

(ASCII : American Standard Code for Information Interchange)

BINARY				HEXADECIMAL								
				0	1	2	3	4	5	6	7	
b ₃	b ₂	b ₁	b ₀									
0	0	0	0	0	NUL	DLE	SP	0	@	P	`	p
0	0	0	1	1	SOH	DC ₁	!	1	A	Q	a	q
0	0	1	0	2	STX	DC ₂	"	2	B	R	b	r
0	0	1	1	3	ETX	DC ₃	#	3	C	S	c	s
0	1	0	0	4	EOT	DC ₄	\$	4	D	T	d	t
0	1	0	1	5	ENQ	NAK	%	5	E	U	e	u
0	1	1	0	6	ACK	SYN	&	6	F	V	f	v
0	1	1	1	7	BEL	ETB	'	7	G	W	g	w
1	0	0	0	8	BS	CAN	(	8	H	X	h	x
1	0	0	1	9	HT	EM	)	9	I	Y	i	y
1	0	1	0	A	LF	SUB	*	:	J	Z	j	z
1	0	1	1	B	VT	ESC	+	;	K	[	k	{
1	1	0	0	C	FF	FS	,	<	L	\	|	|
1	1	0	1	D	CR	GS	-	=	M	]	m	}
1	1	1	0	E	SO	RS	.	>	N	^	n	~
1	1	1	1	F	SI	US	/	?	O	_	o	DEL

test characters

display characters

characters displayed by XBT

10.3 Display character table

The characters displayed on the XBT-K... correspond to ASCII codes 20 (H) to 5F (H)

	MSB			
LSB	2	3	4	5
0		N	X	F
1	V	I	P	N
2	I	E	B	R
3	H	S	O	S
4	H	L	O	T
5	V	S	E	L
6	V	E	F	/
7	/		G	I
8	/	O	H	V
9	/	S	T	V
A	W		L	Z
B	+	/	K	I
C	.	/	L	\
D	--	--	M	I
E	.	\	N	^
F	/	P	O	_

MSB: MOST SIGNIFICANT BITS
 LSB : LEAST SIGNIFICANT BITS

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