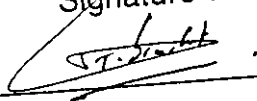
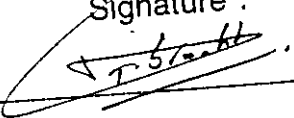


ATTACHMENT B

CHS_2019 LOCKED BOX

GENERAL DESCRIPTION

Auteur/Author : Ph. GÖBRECHT	date : 3/4/98	Signature : 
Autorisé/Approved : Ph. GÖBRECHT	date : 3/4/98	Signature : 

I - EXTERNAL DESCRIPTION

- box
light grey metal : RAL7035
dimensions: 240 x 170 x 170 mm
- weight: 4,200 kg

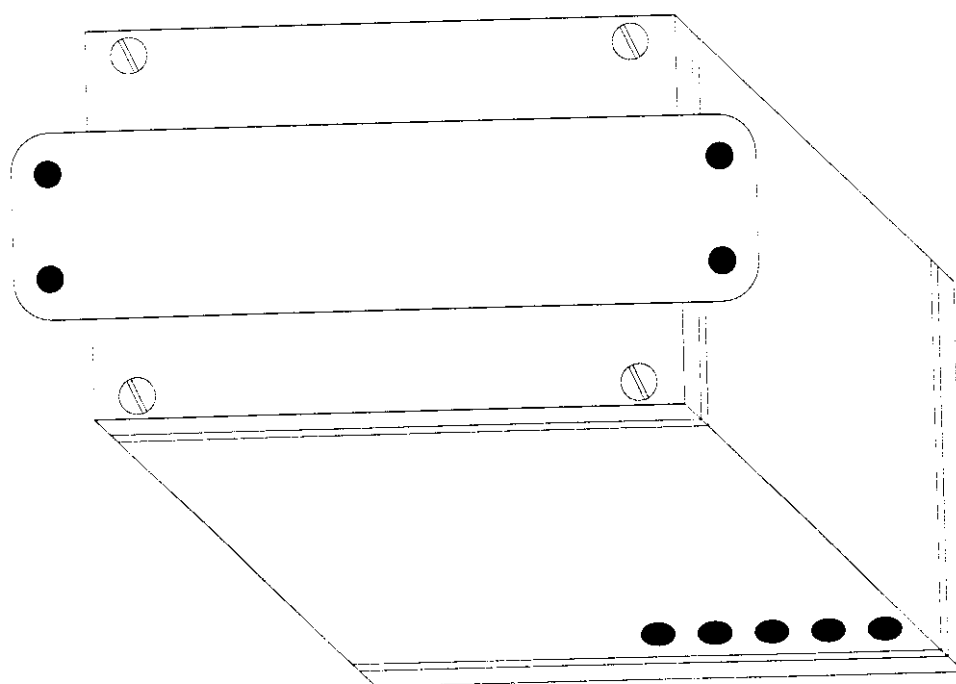
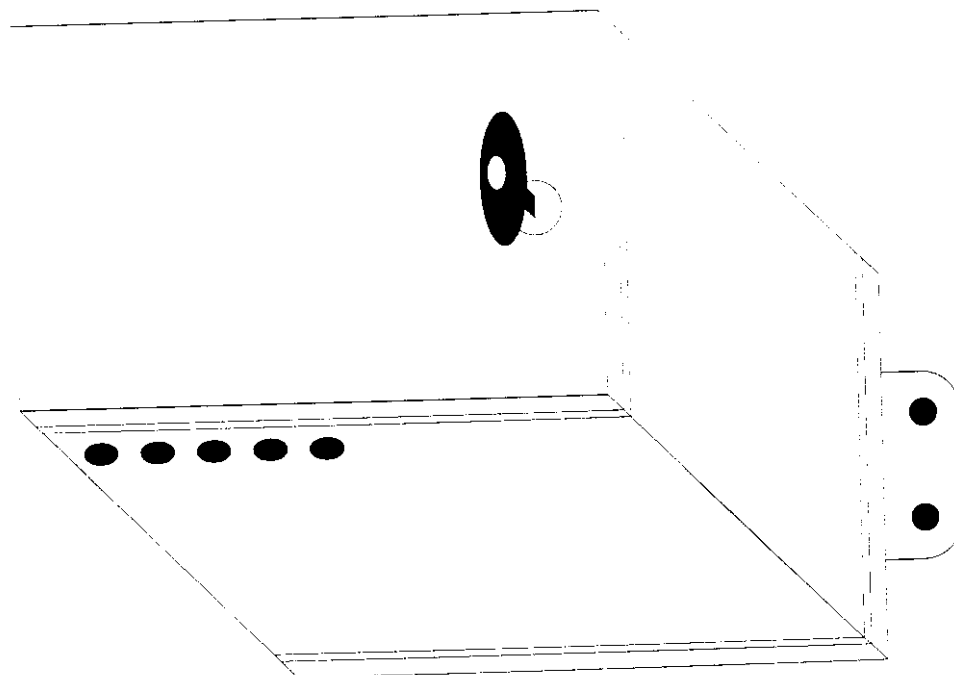
II - FUNCTIONAL DESCRIPTION

- this box is equiped with printed circuit board (ref.2065) which connects together each module.
- this box iis equiped with microwave absorber material to attenuate microwave harmonic signal.
- this box is locked with a key , so, in that way , the BNC connector of the antenna , connected to SAM or LAM module inside the box , cannot be removed .

III - TECHNICAL DESCRIPTION

- see attached document
mechanical definition ref.46323009/030 (page 1 to 4)
schema (FDP42) of printed circuit board ref. 2065X020

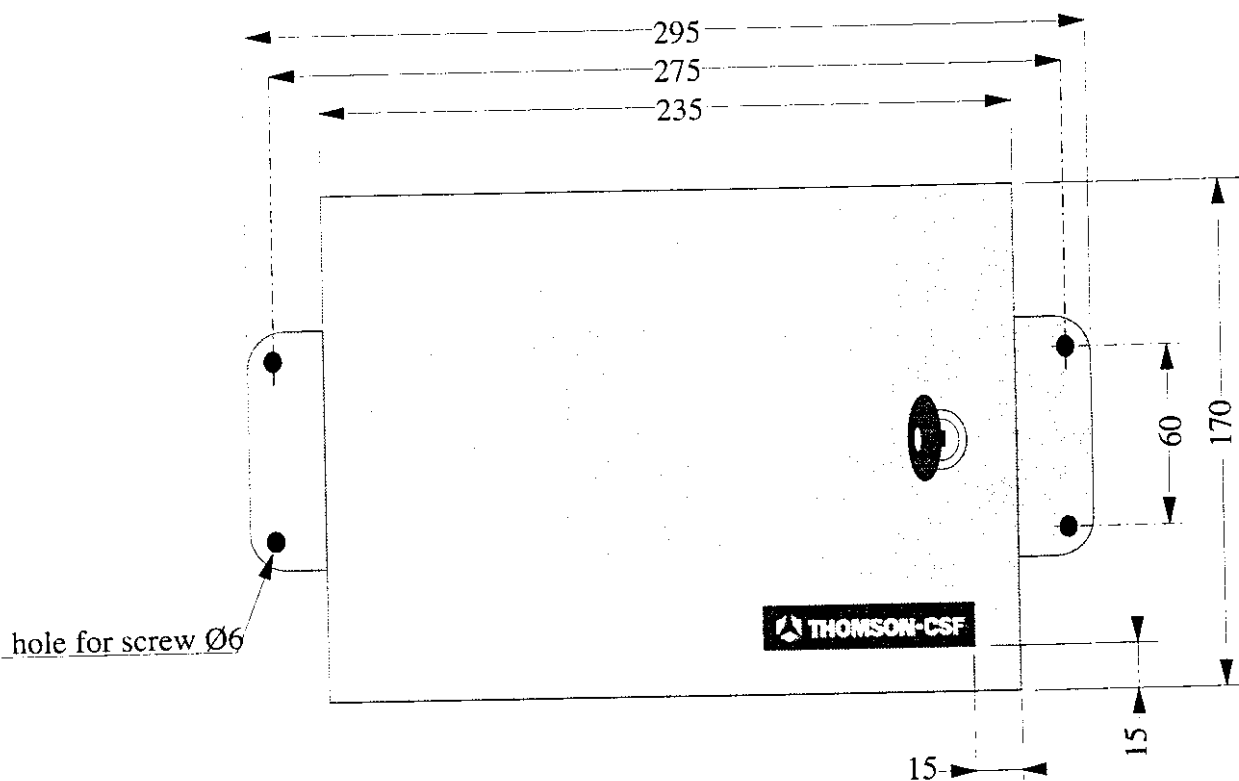
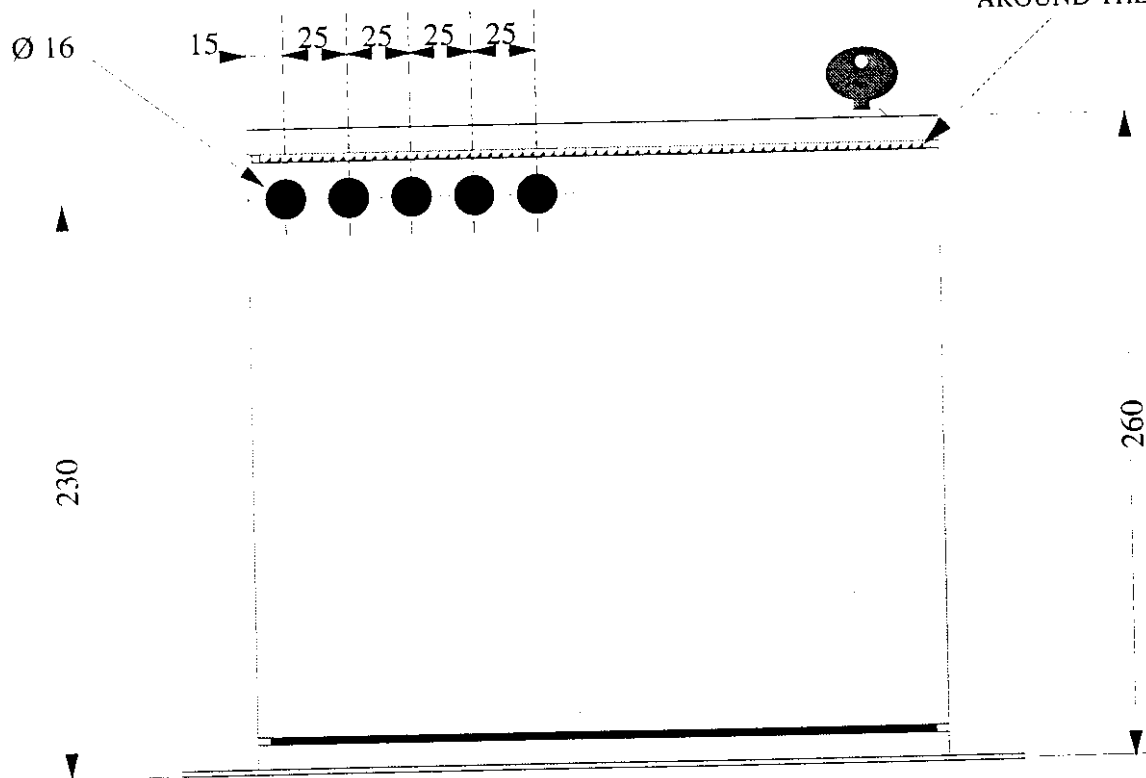
FRONT VIEW



BACK VIEW

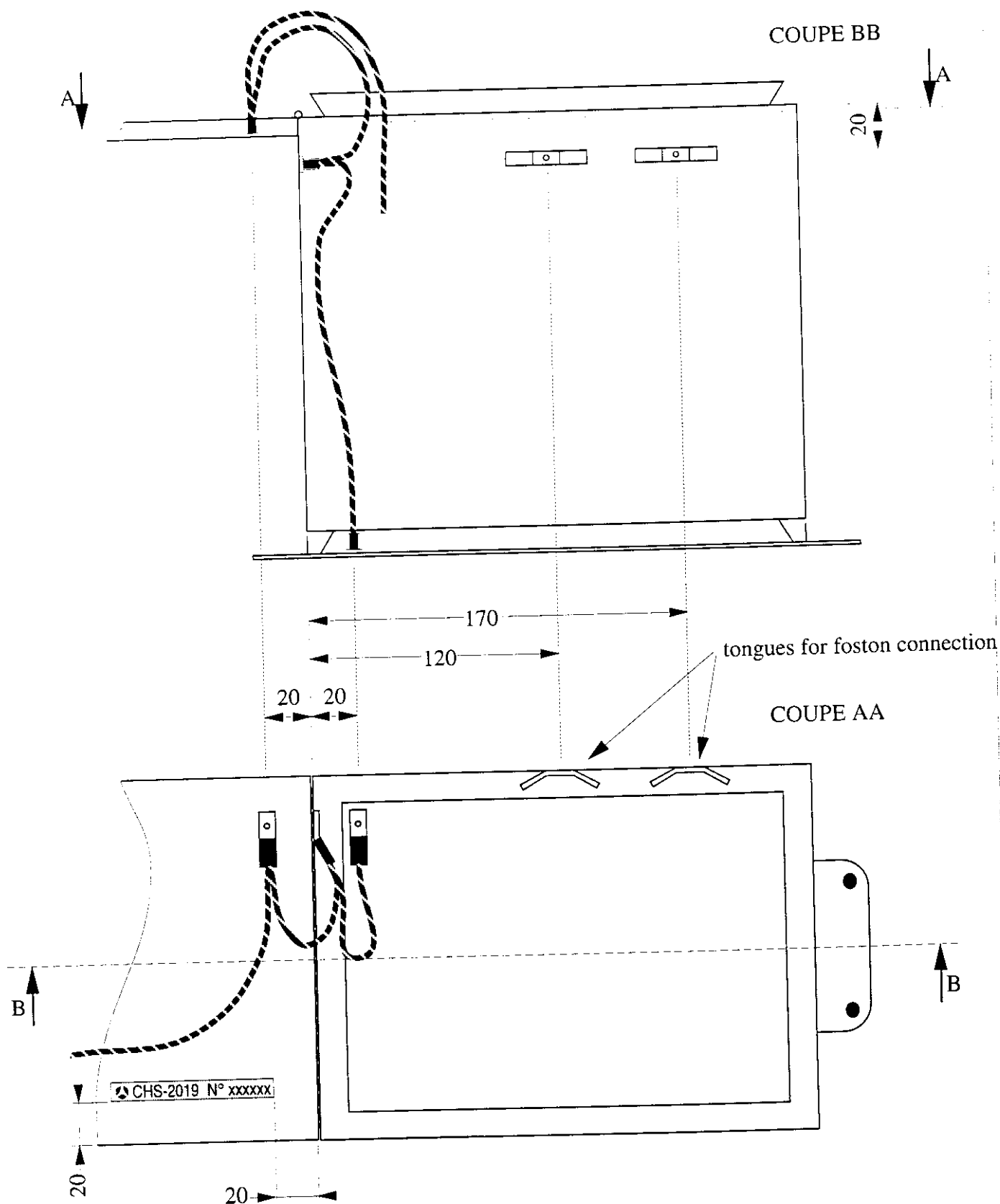
ECHELLE 1/3 ENV.

STRIP OF BERYLIUM
AROUND THE DOOR



MATIERIAL:
STEEL

FINISHED:
EPOXY PAINTING
COLOR GREY RAL 7035

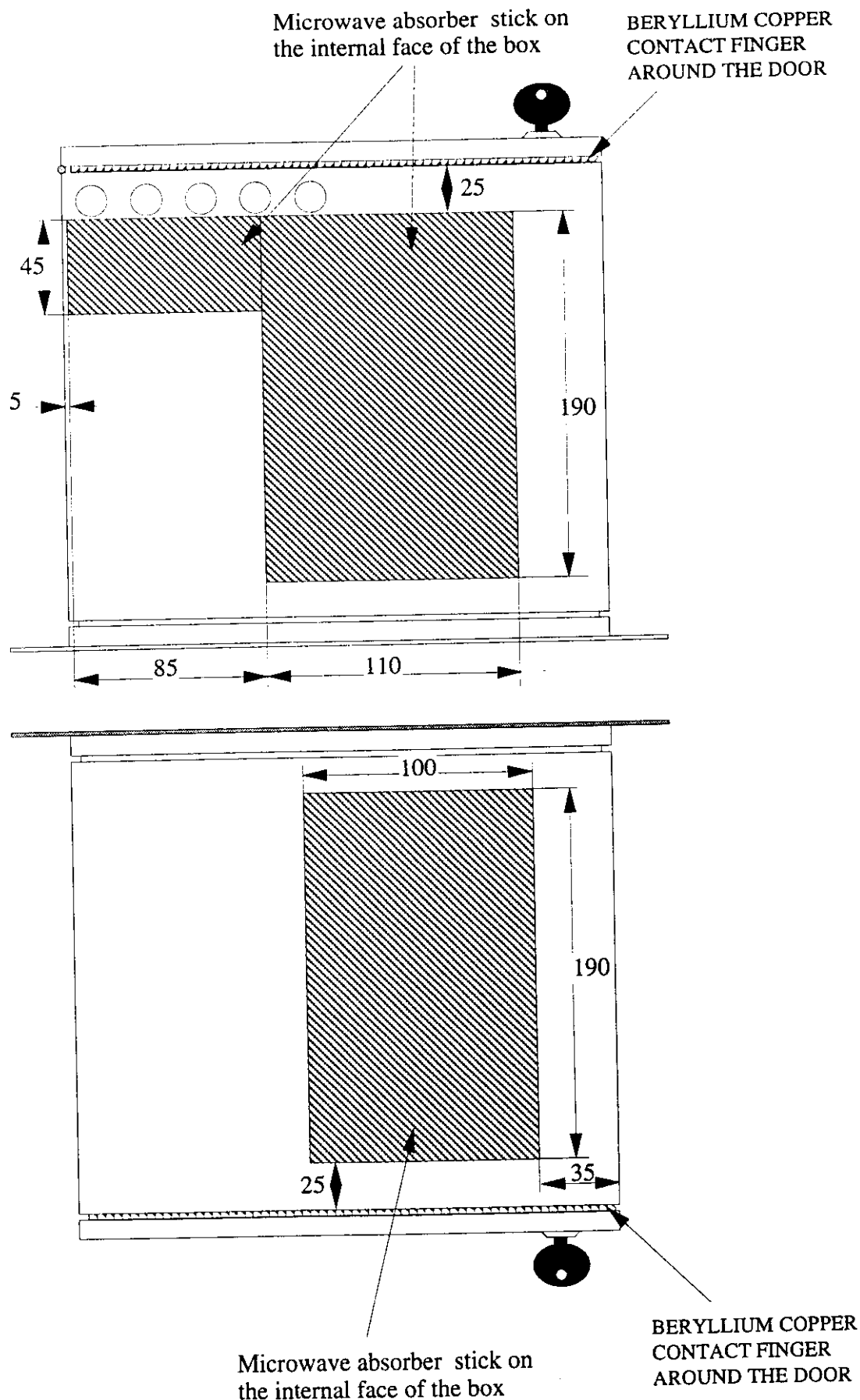


FASTON CONNECTION :
 3 SIMPLS AND 2 DOUBLES
 WIDTH 5mm ET THICKNESS 0,8 mm
 ANGLE OF THE TONGUE: 30°

EARTH WIRE:
 FLEXIBLE MULTWIRES 1mm²
 COLOR : GREEN/YELLOW

Position of internal wire and faston connection

ECHELLE 1/3 ENV.



MATIERIAL:
STEEL

FINISHED:
EPOXY PAINTING
COLOR GREY RAL 7035

Microwave absorber : ref. ECOSORB LS-26-SA-1/8" from Emerson & Cuming

Location margin : +/-2mm

Microwave absorber stick on
the internal face of the box

BERYLLIUM COPPER
CONTACT FINGER
AROUND THE DOOR

Location of microwave absorber

THOMSON-CSF

CHS-2019:

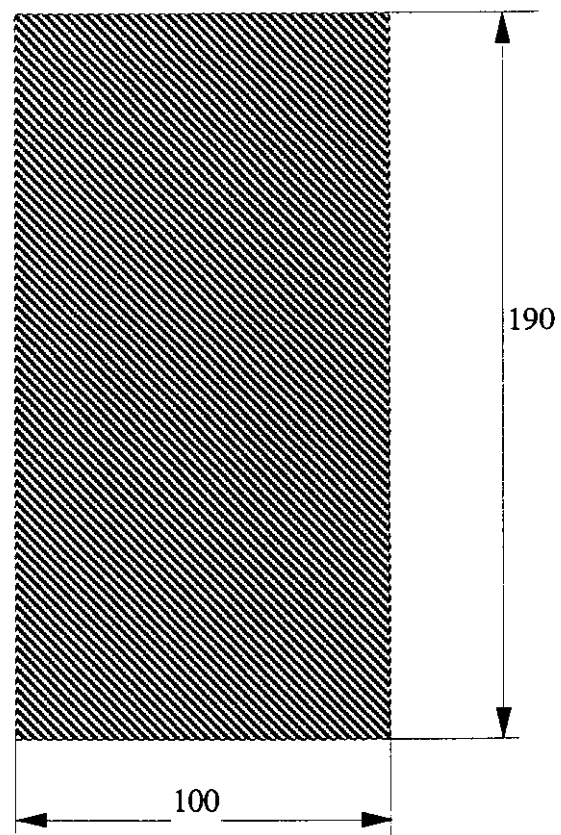
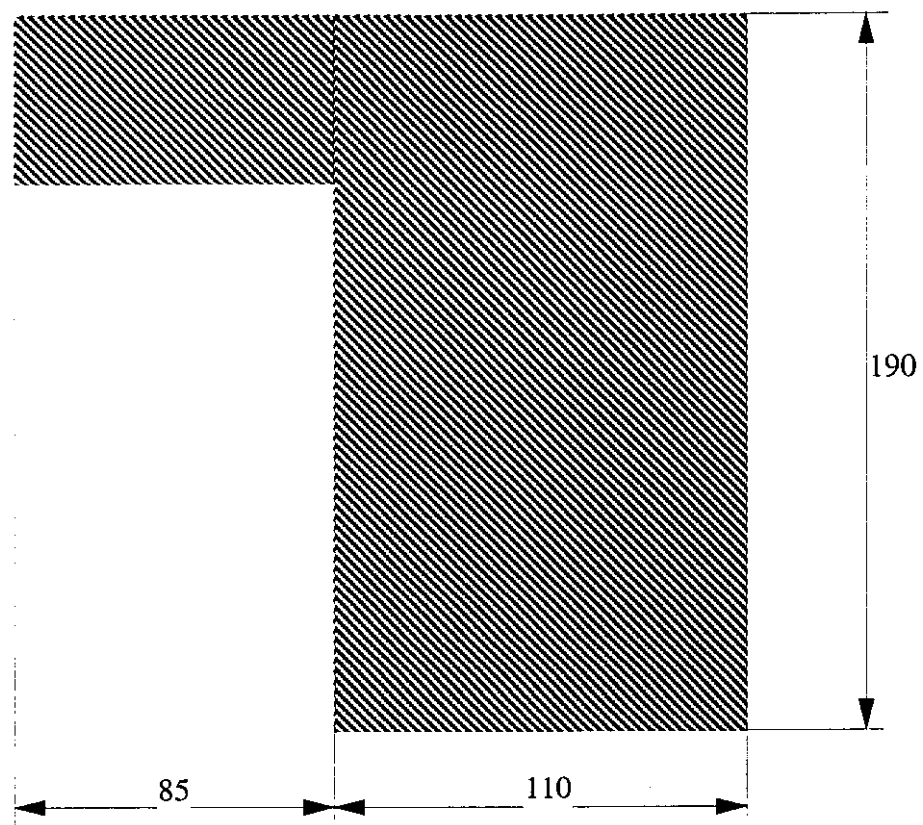
46323009/030

date 09/2/98

PART LIST

page 1/1

[illegible]



☐ a10	☐ a10	☐ a10	☐ a10	☐ a10
☐ a2c	☐ a2c	☐ a2c	☐ a2c	☐ a2c
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☐ a4c	☐ a4c	☐ a4c	☐ a4c	☐ a4c
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☐ a31c	☐ a31c	☐ a31c	☐ a31c	☐ a31c
☐ a32c	☐ a32c	☐ a32c	☐ a32c	☐ a32c

J1

J2

J3

J4

J5



CHS_2019:SCHEMA FDP42 2065X020

date 15/12/97

dessiné par BW/PG

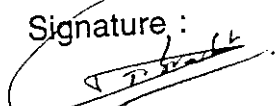
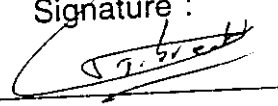
indice 02

others
alimentation

ATTACHMENT A

LML_3013 Modular Reader

GENERAL DESCRIPTION

Auteur/Author : <i>PL GOBRECHT</i>	date : <i>3/4/98</i>	Signature : 
Autorisé/Approved : <i>PL. GOBRECHT</i>	date : <i>3/4/98</i>	Signature : 

MODULAR READER - LML-3013

I - PRESENTATION

The antenna is the visible element of this reader. It is small and can be installed against a metallic wall, inside or outside of a building. The purpose of this element is to read the tags which enter the reading area.

During identification, a two-colour LED situated on the antenna front panel informs the cardholder of his access rights.

This antenna is connected to a chassis by means of coaxial cables (supplied). The chassis houses the different electronic modules which perform the signal processing and transmit the codes to the user interface.

The modular frame of the chassis coming with standard dimension Europe boards offers advantages for maintenance and product evolution.

II - OPERATING PRINCIPLE

The electromagnetic radiation characteristics in the 2.45 GHz frequency band allow high data transmission rates and directional antenna beams. Tag detection is thus very quick and relatively insensitive to environmental interference.

Outside of the reader's range, the tag is electromagnetically inactive. Its unique feature (registered patent) is its capacity to reflect incident microwaves - a tag receiving a 2.45 GHz carrier will echo this signal, modulated by its individual identification code, back to the reader.

The reader receives and processes this signal, sending the data to a host system via a standardized serial interface

III - COMMUNICATION

These products can take the place of most of the usual card-contact readers. One only has to connect them to the host system via the available standard data links. Two standard data link types come with these readers:

- TTL links (Open Collector) : ISO2, Wiegand (26 bits)
- Computer Serial Links : RS232, RS422, RS485

In the latter case, a complete dialogue can be implemented with the help of the JBUS™ /MODBUS™ protocols (by interruption from readers, or by polling from the system).

Moreover, the readers come with a relay which are operated either by the host system via JBUS™ link and protocol or automatically after each tag identification.

IV - POWER SUPPLY

The reader come with a FSM supply module. This filter modules allow use of the available secondary source (12VDC) in the installation.

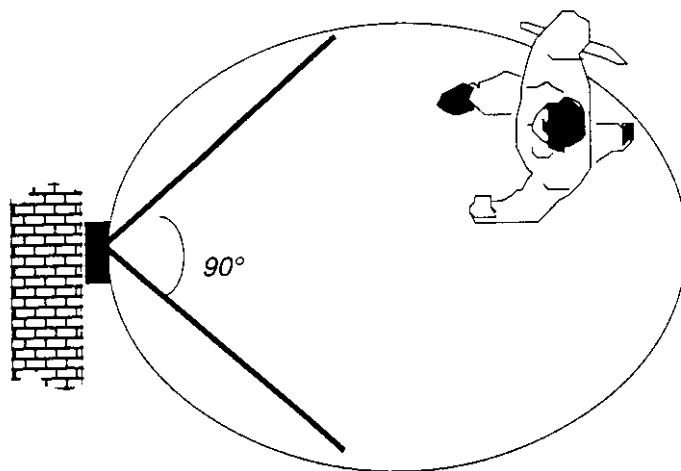
V - CHARACTERISTICS

- Hands Free Reader with a range over 2 meters;
 - Reading distance suitable for pedestrians,
- Reading distance adjustment from few centimeters to several meters using a potentiometer;
- Special features of Microwaves :
 - Identification relatively insensitive to environment,
 - Orientable reading area toward the crossing line,
 - Tag identification behind a vehicle windshield ,
 - Installation of reading antenna against metal walls without range reduction,
- Simultaneous multitag identification 5 tags in one second (Tags in Normal Mode)
 - Traffic statistics
 - Obstacle-free access control
 - Multi-tags applications - e.g.: Driver and vehicle to manage a fleet
- Coexistence of 31 readers in same zone
 - Series of gates, access control side to side

CAUTION

- Metallic surfaces or persons coming between tags and the reading antennas create shadow zones in the identification area.
- The proximity of a tag and a metallic surface or a person (<5 mm) reduces the reading distance.

VI - READER ANTENNA BEAM



VII - SPECIFICATIONS

- Chassis dim.240 x 170 x 270 mm
- Antenna dim.....108 x 174 x 29 mm
- Weight of 42E closed box reader4.200 kg
- Weight of AT1 Antenna0.750 kg

- Operating temperature range.....-20°C to +70°C
- Storage temperature range.....-25°C to +80°C
- Relative humidity90% without condensation
- Protection level.....equivalent to IP55
- Power Consumption900 mA max @ 12VDC
- Relay - Maximum power1A @ 24VDC

- Frequency band2.450 GHz
- Number of reading channels31
- Data Rate (Between Tag&Reader).....30,000 bauds
- Error detection.....HDLC
- Fault reading rate.....1 E-7
- Dected reading rate1 E-4
(In normal condition of use)
- RF power emission..... <20mW E.I.R.P.
(E.I.R.P.: Equivalent Isotropic Radiated Power)
- Suitable range up to2 meters (7 feet)

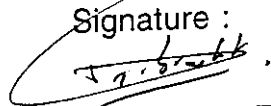
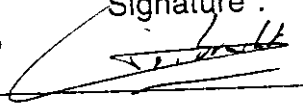
VII - TECHNICAL DESCRIPTION

see attached document: block diagram réf. 3013X091

ATTACHMENT C

FSM_2550 MODULE

GENERAL DESCRIPTION

Auteur/Author : Ph. GOBRECHT	date : 3/4/98	Signature : 
Autorisé/Approved : Ph. GOBRECHT	date : 3/4/98	Signature : 

I - EXTERNAL DESCRIPTION

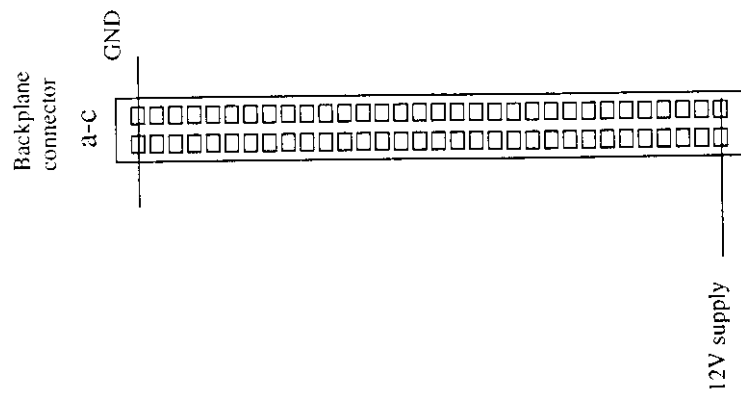
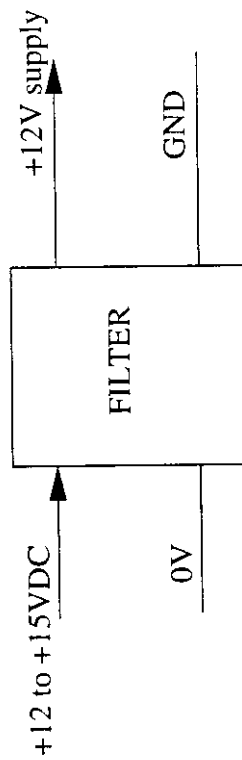
- module
 - Eurocard format for 19" rack
 - height 3U
 - width 6TE
 - metal front panel with marking
- printed circuit board
 - single europe format
 - dimensions: 160 x 100 x 1,6 mm
 - FR4 substrate
 - single layer technology with solder masks
- rear connector
 - 64 pins in 2 rows (DIN 41612)
 - 12VDC supply out
- front panel
 - microwave BNC connector
 - switch for channel selection
 - 3 leds for monitoring

II - FUNCTIONAL DESCRIPTION

- external DC supply filtering
- protection against overvoltage and polarity inversion
- 2 pins input connector
 - 12 to 15 VDC
- green led ON
 - on when 12VDC supply is present

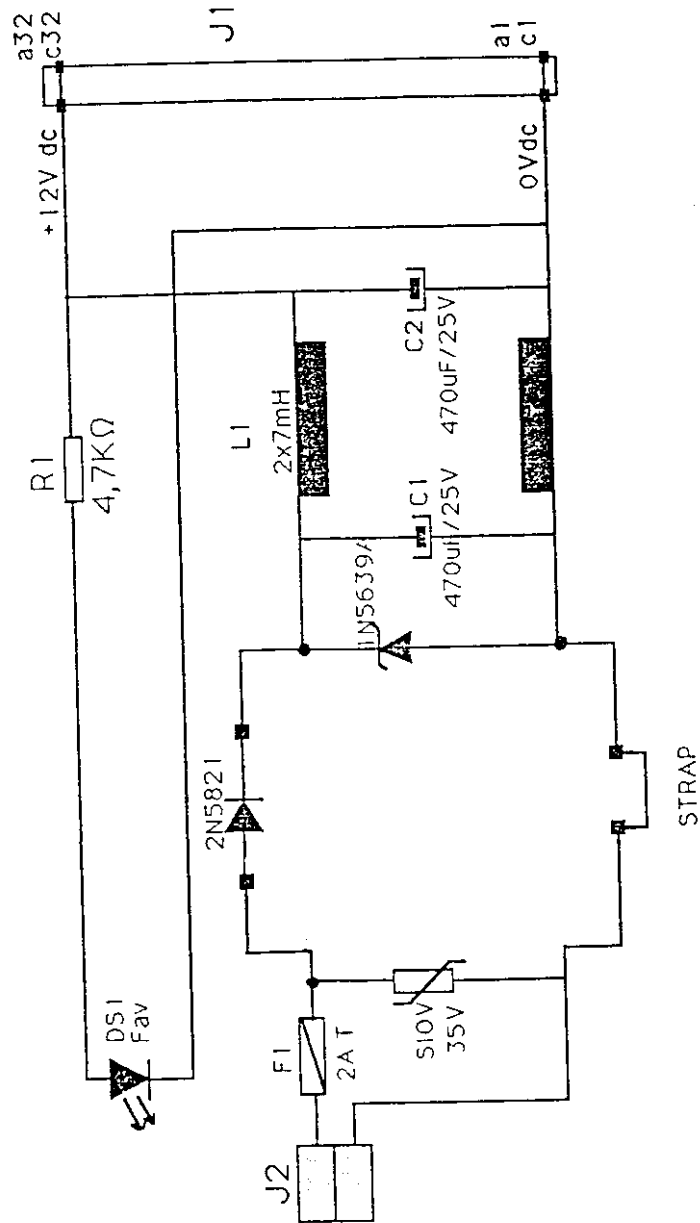
III - TECHNICAL DESCRIPTION

- see attached document
 - block diagram ref. 46323010/091
 - part list ref. 46323010/001
 - schema of circuit board ref.46323010/020
 - components location drawing ref.46323010/042



page 1/1

réf. doc.: 46323010-001-A



46323010/020

date 10/4/98

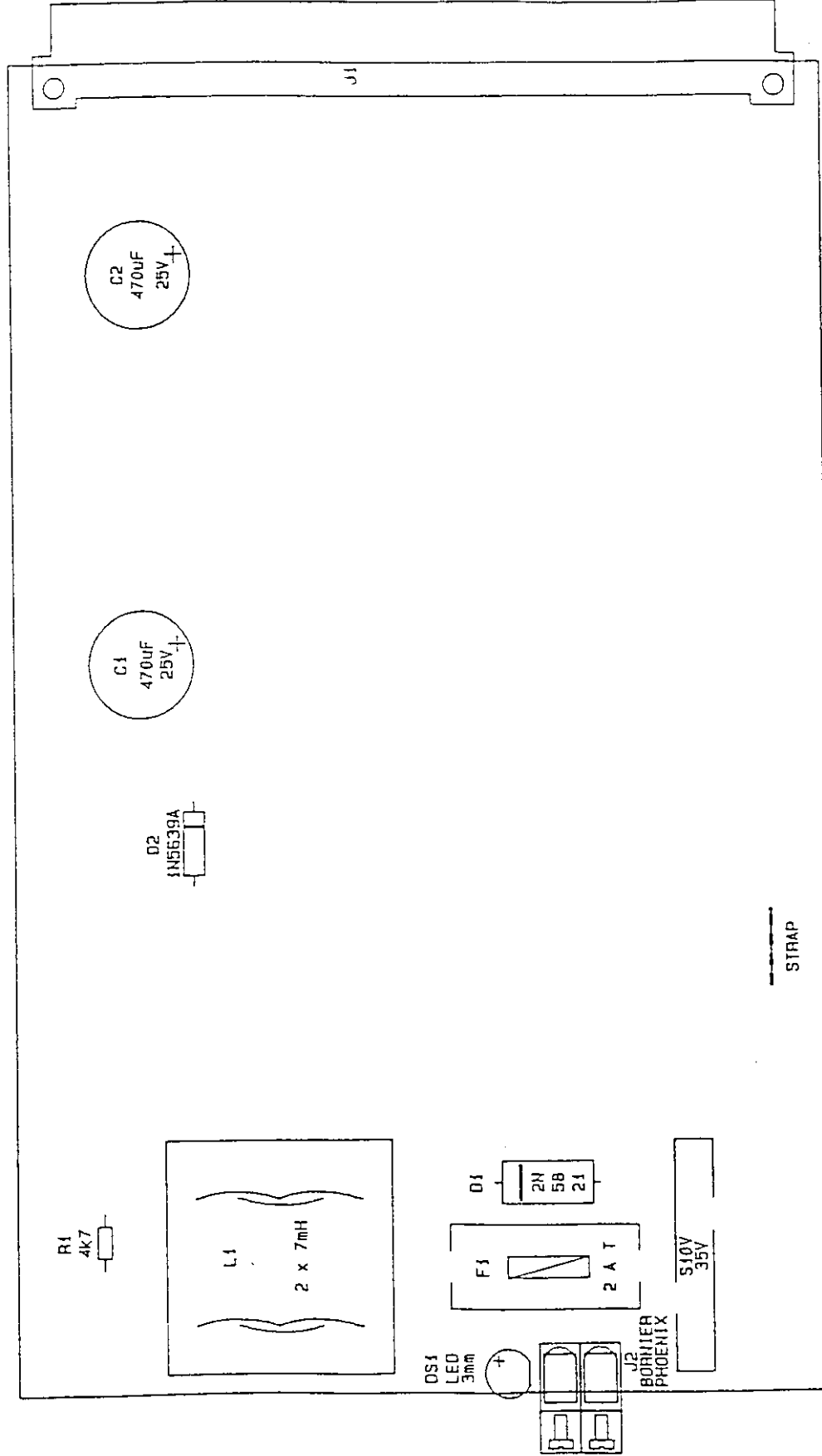
indice A page 4 / 4

FSM_2550 - SCHEMA

dessiné par JBE/PG

visa

THOMSON-CSF
COMMUNICATIONS



ATTACHMENT D

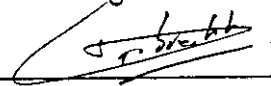
SHF_2339 MODULE
GENERAL DESCRIPTION

Auteur/Author : *Ph. GOBRECHT*

date :

3/4/98

Signature :

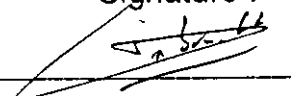


Autorisé/Approved : *Ph. GOBRECHT*

date :

3/4/98

Signature :



I - EXTERNAL DESCRIPTION

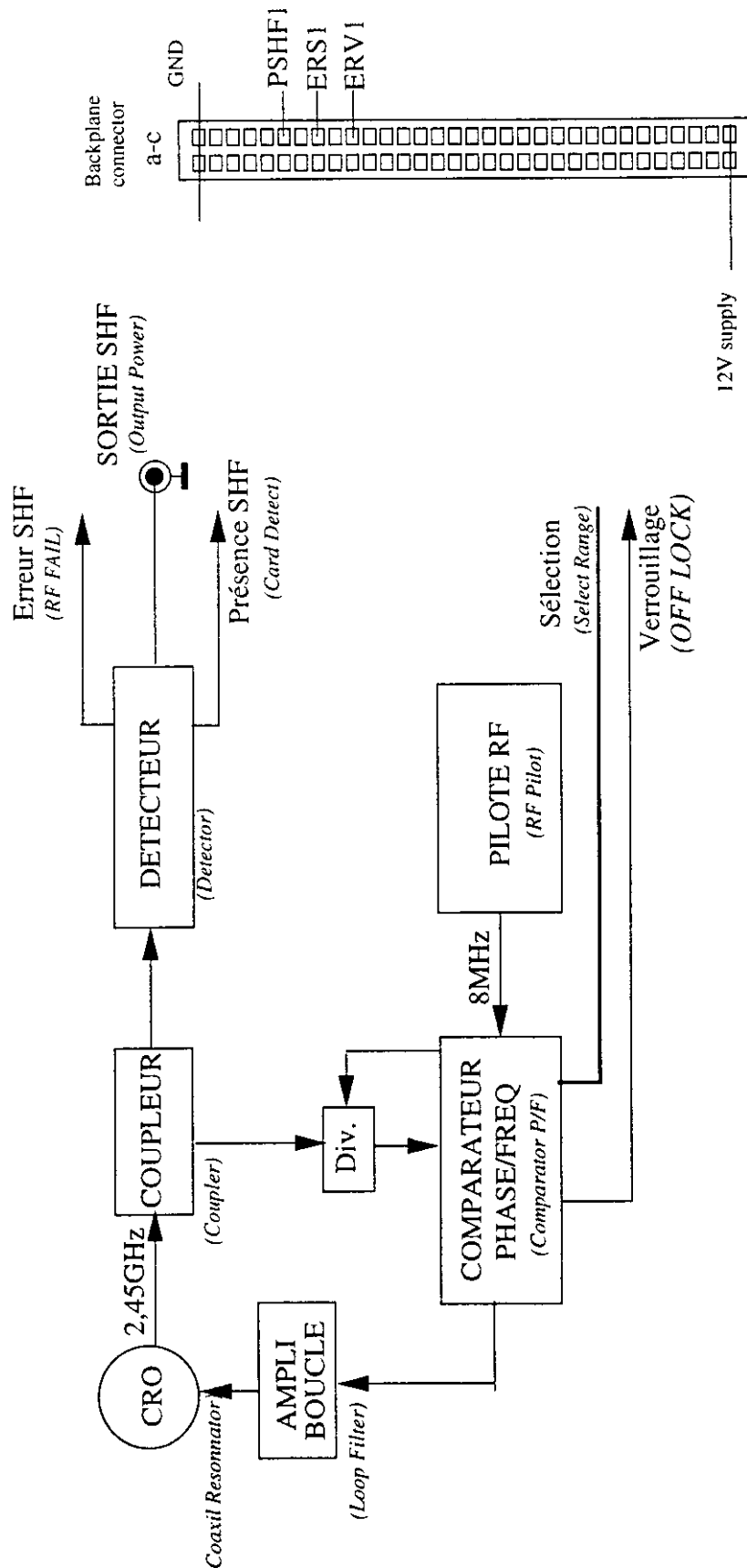
- module
 - Eurocard format for 19" rack
 - height 3U
 - width 6TE
 - metal front panel with marking
- printed circuit board
 - single europe format
 - dimensions: 160 x 100 x 1,6 mm
 - FR4 substrate
 - double side plated thru- holes technology with solder masks and silkscreen
- rear connector
 - 64 pins in 2 rows (DIN 41612)
 - 12VDC supply
 - control signals
- front panel
 - microwave BNC connector
 - switch for channel selection
 - 3 leds for monitoring

II - FUNCTIONAL DESCRIPTION

- microwave oscillator
- 31 channels in 2,44625 to 2,45375 GHz band to be selected on front panel
- BNC connector RF
 - connection to SAM module
- green led ON
 - on when 12VDC supply is present
- red led RF FAIL
 - on if low microwave power
- red led OFF LOCK
 - on if wrong frequency

III - TECHNICAL DESCRIPTION

- see attached document
 - block diagram ref. 46322880/091
 - location of microwave absorber material ref. 46322889/030
 - part list ref. 46322889/001
 - components location drawing ref. 46322880/042



1

ELISRA - ELECTRONIC SYSTEMS LTD
PARTS LIST

REPORT-NO.
ET0516-D

NEXT ASSY

	DATE	NAME	SIGN	TOL	TITLE:		
					PARTS LIST		
DRAFT	09/10/97	35981	QU				
CHECK				DWG			
				SYM	CLASS	SIZE	DWG NO
ENG						A	3N04A80002
				PL			
APPD	12.10.97	63717	Sya	DIM			SH 1 OF 6

??? מסמך לא משוחרר ???

ITEM: 3N04A80000:
PART NUMBER: 3N04A80000 :
NHA: 3ZEEV00000:

PARTS LIST		CLASS	SIZE	DRAWING NUMBER
			A	3N04A80002
		REV 0	SH	2 OF 6

??? מסמך לא משוחרר ???

PAGE: 3
#J2944

DATE: 09/10/97

ELISRA - ELECTRONIC SYSTEMS LTD
PARTS LIST

REPORT-NO.
ET0516-D

ASSY: ITEM: 3N04A80000
DESC: SYNT. 2.45GHZ 32 POSITION PART NUMBER: 3N04A80000
NHA: 3ZEEV00000

ITEM-NO.	PART-NUMBER	Q T Y	UM	DESCRIPTION	REF	DES
10	1601009303	LTL-155EHA(MF: 2.00	EA	LED RED	D1	D2
		R:LITEON)		WITH HOUSING		
11	1601009290	LTL-155GHA	1.00	EA:LED GREEN	D3	
				WITH HOUSING		
12	1182201207	SMS3988-434-0	1.00	EA:DIODE MIX(DET) KU SOT-23	D4	
		12		SER. PAIR SCHOT		
13	1182401281	KV2121-150-3	1.00	EA:DIODE VARACTOR 1.3PF@4V	D5	
				CASE 150-3		
14	3N04A80204	3N04A80204	1.00	EA:PCB SYNT. 2.45GHZ 32 POS.	H1	
15	3113306407	MS51957-4	2.00	EA:SCRW PAN P #2-56X5/16	H2	
				UNC-2A		
16	3113306709	MS51957-7	2.00	EA:SCRW PAN P #2-56X1/2	H3	
				UNC-2A		
17	3313304018	MS35649-224	4.00	EA:NUT HEX 2-56	H4	
				UNC-2B		
18	3553300028	MS15795-844	8.00	EA:WASHER FLAT NO.2	H5	
19	3553300231	98200	4.00	EA:WASHER SPRING NO.2	H6	
				LIGHT		
20	1722000460	210-93-628-41	1.00	EA:SOCKET IC 28PIN	H7	
		-001				
21	4863005073	SR8800SPH2495	1.00	EA:DIELECTRIC MATERIAL	HY1	
		BY		RESONATOR		
22	1431100041	543.05.2520.0	1.00	EA:CONN RF BNC R.A PCB RCPT.	J1	
		99 (MFR; IMS)				
23	1452106759	8609-464-71-1	1.00	EA:CONN PCB PLUG, 64 CONT.	JP1	
		3-745-000-E1		R. ANGLE PIN		
24	1613000336	1008CS-122XKB	2.00	EA:INDUCTOR 1.2UH +/-10%	L1	L2
		C		Q=20		

PARTS LIST	CLASS	SIZE	DRAWING NUMBER
		A	3N04A80002
	REV 0	SH	3 OF 6

777 מסמך לא משוחרר 777

PAGE: 4
#J2944

DATE: 09/10/97

ELISRA - ELECTRONIC SYSTEMS LTD
PARTS LIST

REPORT-NO.
ET0516-D

ASSY: ITEM: 3N04A80000
DESC: SYNT. 2.45GHZ 32 POSITION PART NUMBER: 3N04A80000
NHA: 3ZEEV00000

ITEM-NO.	PART-NUMBER	Q	T	Y	UM	DESCRIPTION	REF	DES
15	3N03A80150	ES001-001/002	1.00	EA	2450MHZ PLL RF COVER PROD	MP1		
16	3N04A80250	3N04A80250	1.00	EA	FRONT PANEL	MP2		
17	1204209801	MA4T64533	1.00	EA	TRN RF NPN L NO SI SOT-23	Q1		
					: 11DB@4GHZ			
18	1026131631	CR1206FX1001E	5.00	EA	RES FX SMT 1 KOHM	1% R1	R2	
					: T/R=5000PCS	R8	R9	
						R21		
19	1026134150	CR1206FX2211E	3.00	EA	RES FX CHIP 2.21KOHM	1% S: R7	R10	
					: IZE1206 T/R5000	R13		
20	1026191307	CR1206FX7680E	2.00	EA	RES CHIP 768 OHM 1/4W	1% R11	R14	
					: T/R=5000PCS			
21	1026131819	CR1206FX5110E	2.00	EA	RES FX SMT 511 OHM	1% R12	R16	
					: T/R=5000PCS			
22	1026134401	CRCW-1206-110	4.00	EA	RES FX CH 110 OHM 1/4W	1% R15	R22	
		: OFRT			: SMT T/R=5000PCS	R27	R32	
23	9102600034	CR1206J/100E	2.00	EA	RES FX 10 OHM 1/4W	5% R17	R26	
					: CHIP			
24	1026132335	CR1206FW51R1E	2.00	EA	RES FX SMT 51.1OHM	1% R18	R29	
					: T/R=5000 200PPM			
25	1026131690	CR1206FX2002E	1.00	EA	RES FX CHP 20 KOHM	1% R19		
					: T/R=5000PCS			
26	1026131703	RK73H2BT4751F	2.00	EA	RES FX CHP 4.75KOHM	1% R20	R24	
					: T/R=5000PCS			
27	1026134125	CR1206FX1540E	1.00	EA	RES FX CHP 154 OHM	1% R23		
					: SIZE 1206			
28	1026131584	CR1206FX1002E	6.00	EA	RES FX SMT1206 10KOHM	1% R25	R38	
					: T/R=5000PCS	R39	R40	
						R41	R42	

PARTS LIST

CLASS : SIZE : DRAWING NUMBER
: A : 3N04A80002
REV 0 : SH 4 OF 6

??? משוחרר לא מסתך ???

PAGE: 5
#J2944

DATE: 09/10/97

ELISRA - ELECTRONIC SYSTEMS LTD
PARTS LIST

REPORT-NO.
ET0516-D

: ASSY: ITEM: 3N04A80000 :
: DESC: SYNT. 2.45GHZ 32 POSITION PART NUMBER: 3N04A80000 :
: NHA: 3ZEEV00000 :
:-----

ITEM-NO.	PART-NUMBER	Q	T	Y	UM	DESCRIPTION	REF	DES
9	1027007127	CR0805FW24R9E	3.00	EA	RES	CHP 24.9 OHM .155W 1%	R28	R35
						SZ0805 T/R=5000	R37	
0	1026134672	RK73H2BTB68R1	2.00	EA	RES	FX CHP 68.1OHM 1/4W1%	R30	R36
		F				TAPE=5000PCS		
1	1027007038	CR0805FX1001E	1.00	EA	RES	CHIP 1KOHM .155W 1%	R31	
						SZ0805 T/R=5000		
2	1026191315	CR0805FX2001E	1.00	EA	RES	CHIP 2 KOHM 0.155W 1%	R33	
						T/R=5000PCS		
3	1027006953	CR0805FX2000E	2.00	EA	RES	CHIP 200 OHM .155W 1%	R34	R45
						SZ0805 T/R=5000		
4	1026190025	CR1206J/0000E	1.00	EA	RES	FX, JUMPER	R46	
						SMD T/R=5000PCS		
5	1485504962	DA-06	1.00	EA	SW	DIP 6 POS.	SW1	
						RIGHT ANGLE		
6	1241003155	LM7805CT	1.00	EA	IC	REGULATOR POS+ 5V	U1	
						TO-220		
	1241004003	L7805CV				ACCEPTABLE SUBSTITUTION		
7	1241004054	MC7808BT	1.00	EA	IC	REGULATOR 8V 1.5A	U2	
						TO-220		
8	1240605666	OP27GS	1.00	EA	IC	OP-AMP	U3	
9	1240401262	MC145152DW2	1.00	EA	IC	PLL FREQ/ SYNTHESIZER	U4	
0	1240605496	LM358D	1.00	EA	IC	OP-AMP	U5	
1	1240401491	MC12034AD	1.00	EA	IC	PRESCALAR 32/33&64/65	U6	
						2GHZ SO8 TUB-98		
2	1220162326	HD74HC08FPEL(	1.00	EA	IC	GATE, AND 2-IN SO-14	U7	
		T/R=2500)				SMT		
3	1240401483	UPB584G	1.00	EA	IC	PRESCALAR DIV BY 2	U8	
						2.5GHZ SO-8		

PARTS LIST

CLASS : SIZE : DRAWING NUMBER :
: : A : 3N04A80002 :
: : : : :
: : REV 0 : SH 5 OF 6 :

PAGE: 6
#J2944

DATE: 09/10/97

ELISRA - ELECTRONIC SYSTEMS LTD
PARTS LIST

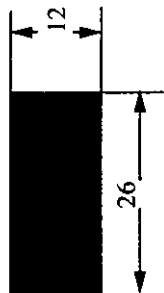
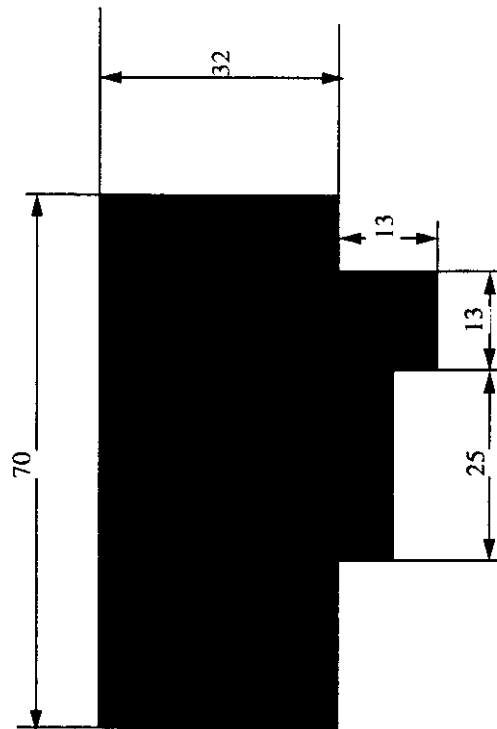
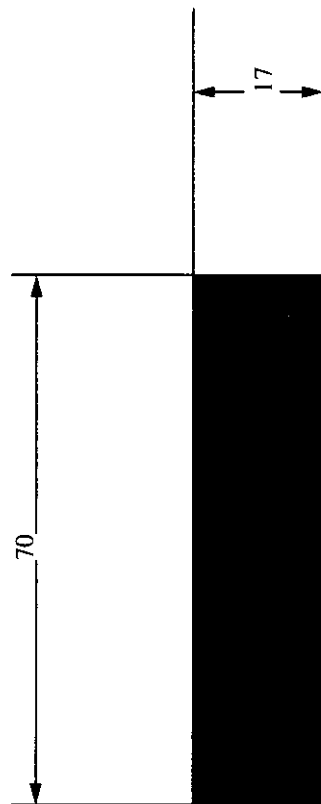
REPORT-NO.
ET0516-D

ASSY: ITEM: 3N04A80000
DESC: SYNT. 2.45GHZ 32 POSITION PART NUMBER: 3N04A80000
NHA: 3ZEEV00000

ITEM-NO.	PART-NUMBER	Q	T	Y	UM:	DESCRIPTION	REF	DES
34	1510903940	VNA-25	1.00	EA	AMP.	5-2.5GHZ 17DB SO-8	U9	
						:17DBM SI MMIC		
35	1250412974	AT27C256R-12P	1.00	EA	IC EPROM	32K X 8 120 NS	U10	
		:I				:OTP		
36	1512209111	3SCDA10018 (TX	1.00	EA	OSCILLAT	6MHZ 2.5PPM SMT	Y1	
		:O-2605A..)				:CMOS ADJ+/-3PPM		
37	920	ECOSORB LS-26 SA-1/8"	1			Microwave absorber Emerson Cuming		

PARTS LIST	CLASS	SIZE	DRAWING NUMBER
		A	3N04A80002
	REV 0	SH	6 OF 6

??? מסמך לא משוחרר ???



Microwave absorber : ref. ECOSORB LS-26-SA-1/8" from Emerson & Cuming

THOMSON - CSF		Microwave absorber	920/030
COMMUNICATIONS		dessiné par PG	date 20/3/98
DEPARTEMENT COMMUNICATIONS HYPERFREQUENCES		visa	indice A page 1/1

ATTACHMENT E

SAM_2419 MODULE

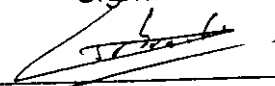
GENERAL DESCRIPTION

Auteur/Author : *Ph. GOBRECHT*

date :

3/4/98

Signature :

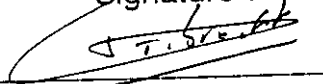


Autorisé/Approved : *Ph. GOBRECHT*

date :

3/4/98

Signature :



I - EXTERNAL DESCRIPTION

- module
 - Eurocard format for 19" rack
 - height 3U
 - width 12TE
 - metal front panel with marking
- printed circuit boards
 - 2 boards single europe format
 - dimensions: 160 x 100 x 1,6 mm
 - FR4 substrate
 - double side plated thru- holes technology with solder masks and silkscreen
- rear connector
 - 64 pins in 2 rows (DIN 41612)
 - 12VDC supply
 - control signals
- front panel
 - 2 microwave BNC connectors
 - jack connector for monitoring
 - trimmer for reading distance adjustment
 - 2 leds for monitoring

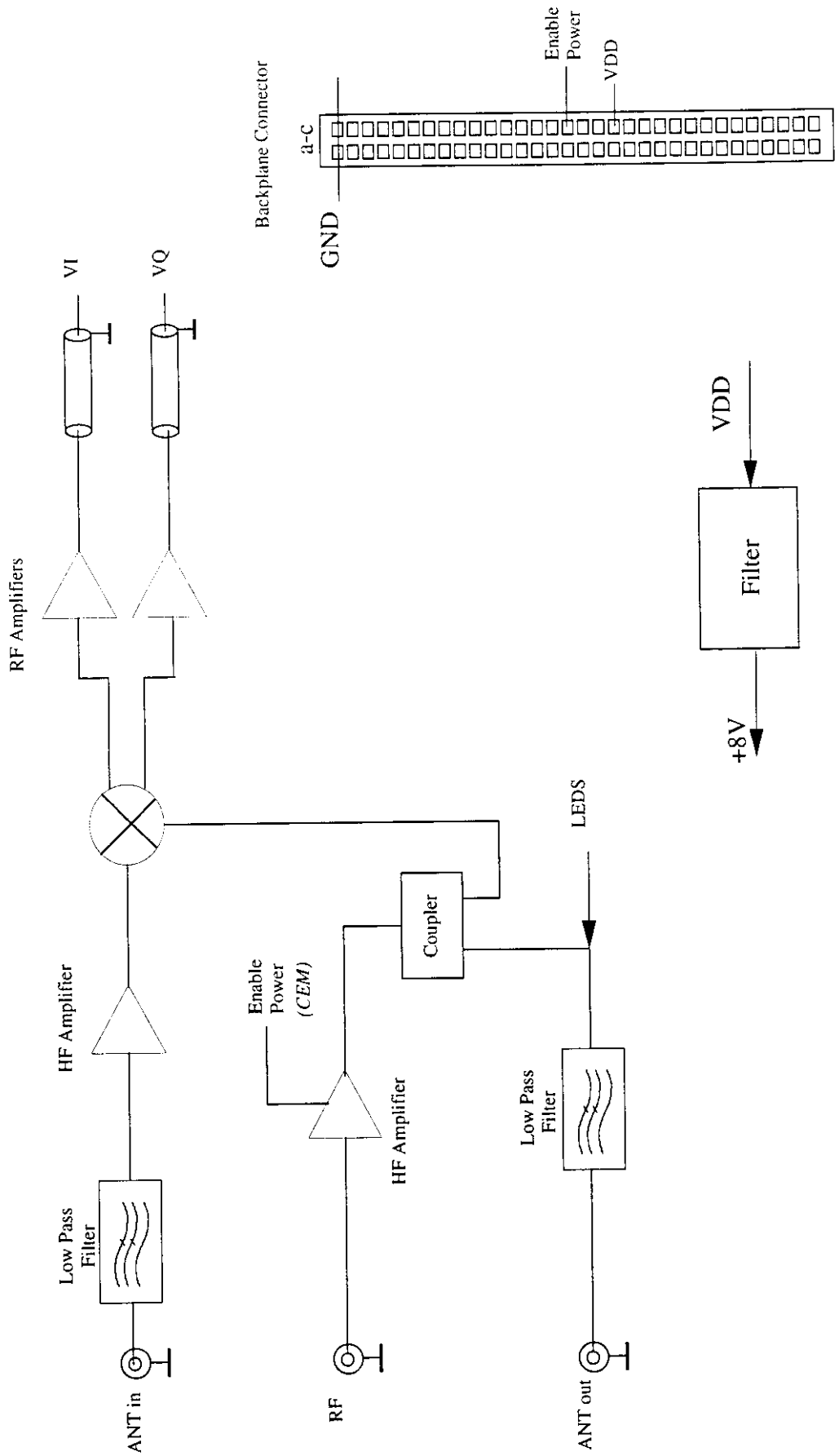
II - FUNCTIONAL DESCRIPTION

- microwave amplification and transmission to emitter antenna
- modulated signal amplification coming from reception antenna
- modulation extraction
- amplification and filtering of modulation

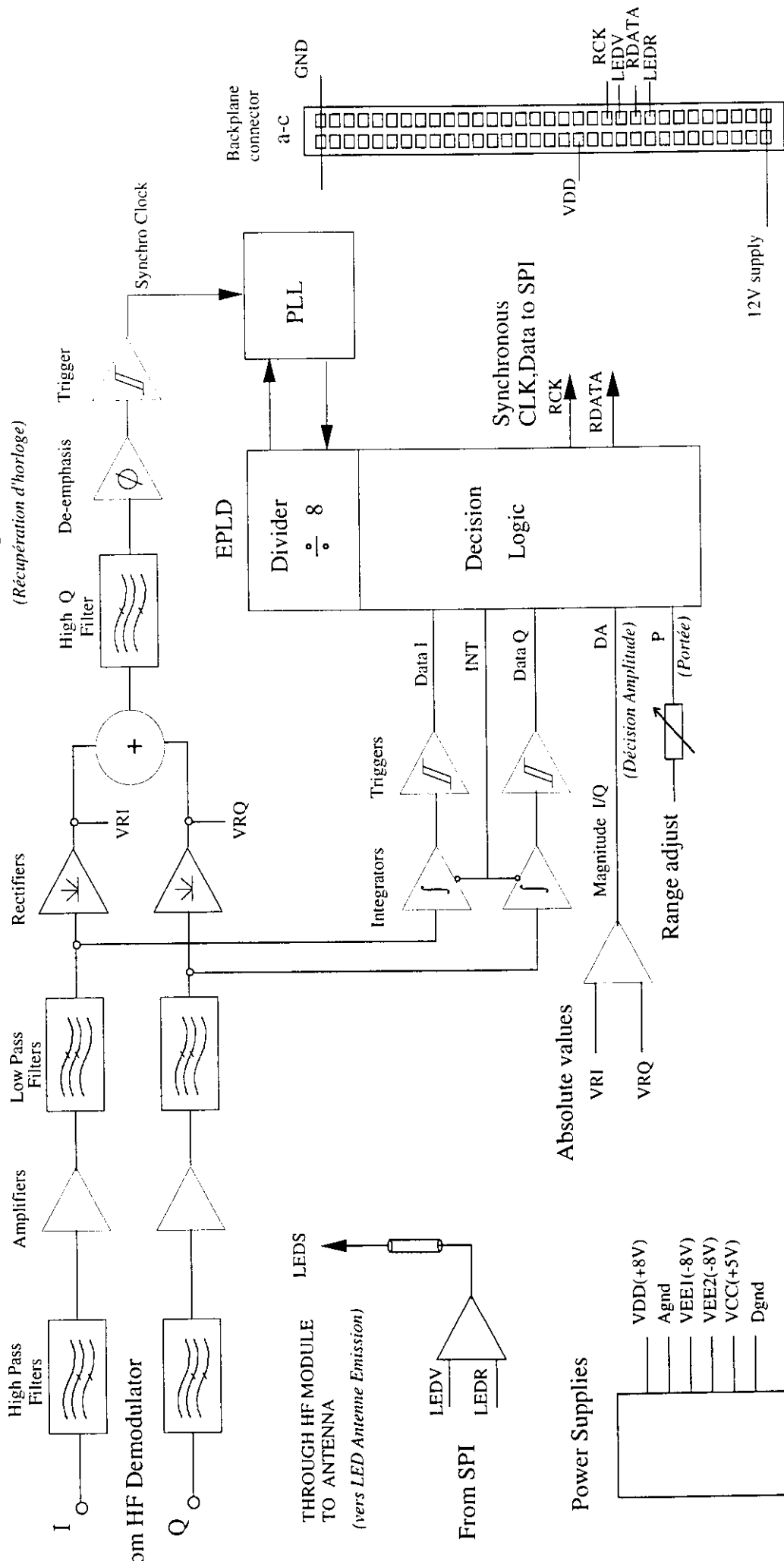
- BNC connector RF to be connected to SHF module
- BNC connectors ANT IN and ANT OUT to be connected to antenna
- green led ON on when 12VDC supply is present
- red led DATA on if signal present
- jack connector access to analog internal signals for maintenance purpose
- trimmer DISTANCE allows reducing reading distance : this adjustment doesn't change the power radiated but only the receive sensitivity .
- the SAM_2419 module is equipped with circuit board HF_2439 and circuit board SAM-BF_2480.

III - TECHNICAL DESCRIPTION

- see attached documents
 - HF_2439 block diagram réf.46322988/091
 - SAM-BF_2480 block diagram réf. 46322981/091
 - HF_2439 part list ref. 46322988/001
 - SAM-BF_2480 part list ref. 46322981/001
 - schema HF_2439 circuit board ref.46322988/020
 - schema SAM-BF_2480 circuit board ref.46322981/020
 - components location drawing for HF_2439 circuit board ref.46322988/042
 - components location drawing for SAM-BF_2480 circuit board ref.46322981/042



CLK signal Recovery (Récupération d'horloge)



SAM-BF_2480 - BLOCK DIAGRAM 46322981 / 091

date 10/4/98
indice A page 1/1

dessiné par JBE / PG
visa

THOMSON-CSF
COMMUNICATIONS

quantité	code	référence	désignation	boîtier	repère topo
circuit intégré	1	832 ERA-2-SM	amplificateur hyperfréquence	WW107	A201
	2	444 MSA-0686	amplificateur hyperfréquence	type 86	A202,A203
	1	533 LM311-SO8	comparateur	SO8	A101
transistor	2	548 BSR 14	BSR 14	SOT23	Q101,Q102
	8	549 BSR 16	BSR 16	SOT23	Q103,Q104,Q201,Q202
					Q203,Q204,Q205,Q206
	1	446 AT 42086	AT 42086	type 86	Q105
diode	1	456 HSMS-2825	double diode	SOT143	D101
	2	445 HSMS-2822	diode schottky (équ=BAT-17-04)	SOT23	D201,D202
cond. 0805	1	899 1,5 pF	céramique CMS 0805 20% NPO	0805	C202
	26	534 47 pF	céramique CMS 0805 20% NPO	0805	C2,C101,C102,C103,C104
					C105,C106,C107,C110,C111
					C112,C113,C114,C115,C116
					C117,C118,C119,C201,C203
					C206,C211,C212,C214
					C220,C222
cond. 1206	4	535 6,8 nF	céramique CMS 1206 20% X7R	1206	C108,C109,C217,C218
	4	536 100 nF	céramique CMS 1206 20% 100V X7F	1206	C208,C210,C215,C216
cond.	2	537 1µF - 16V	tantale polarisé CMS 1206	1206	C3,C4
	3	447 33 µF	tantale polarisé CMS boîtier D	293D-D	C1,C207,C209

PART LIST

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	quantité	code référence	désignation	boîtier	repère topo
rés. 0805	3	540 51 Ω	NFC RC11 CMS 0805 5% 0,25W	0805	R108,R112, R110
	2	541 100 Ω	NFC RC11 CMS 0805 5% 0,25W	0805	R205,R206
	2	407 110 Ω	NFC RC11 CMS 0805 1% 0,25W	0805	R109,R111
rés. 1206	1	752 0 Ω	strap CMS 1206	1206	R118
	1	833 12 Ω	NFC RC01 CMS 1206 5% 0,25W	1206	R201
	1	406 22 Ω	NFC RC01 CMS 1206 5% 0,25W	1206	R104
	2	544 27 Ω	NFC RC01 CMS 1206 5% 0,25W	1206	R207,R211
	2	576 220 Ω	NFC RC01 CMS 1206 5% 0,25W	1206	R1,R2
	8	272 1 K Ω	NFC RC01 CMS 1206 5% 0,25W	1206	R102,R103,R105,R107
					R120,R202,R208,R212
	9	546 8,2 K Ω	NFC RC01 CMS 1206 5% 0,25W	1206	R101,R106,R113,R203,R204
					R209,R210,R213,R214
	4	547 180 K Ω	NFC RC01 CMS 1206 5% 0,25W	1206	R114,R115,R116,R119
	1	901 220 K Ω	NFC RC01 CMS 1206 5% 0,25W	1206	R117
self	5	442 68 nH	20% 68 nH NL322522T-068M		L101,L102,L103,L201,L202
	1	443 120 μ H	10% 120 μ H NLC565050T-121K		L1
connecteur	1	410 DIN41612 mâle coudé 64 points a+c			J1
	3	251 BNC femelle droit à souder			J2,J3,J4
	1	519 connecteur femelle 8pts pas 2,54 pour fil jauge 22 AWG			
circuit imprimé	1	2432 100 x 160 x 1,6 mm	CIRCUIT IMPRIME DFTM		
mécanique	1	2434 capot de blindage			
	1	2435 couvercle de blindage			
	1	2436 plaque de blindage			
	34	514 vis	TRC M3 x 6		
	2	261 vis	TRC M2,5 x 10		
	2	516 écrou	H M2,5		
	6	515 vis	TRC M2,5 x 6		
	0,10	550 fil jauge 22			
	0,12	551 fil blindé	RG178B/U		

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quantité	code référence	désignation	boîtier	repère topo	
CONDENSATEURS	6	740 22PF	COND. 22PF X7R CMS	1206	C303,C304 C205,C212,C402,C404
	2	273 100PF	COND. 100PF X7R CMS	1206	C305,C306
	1	741 180PF	COND. 180PF X7R CMS	1206	C507
	2	880 820PF	COND. 820PF X7R CMS	1206	C203,C210
	11	698 1500 PF	COND. 100PF NPO CMS	0805	C201,C202,C208,C209 C310,C311,C312,C313 C401,C403,C502
	2	881 2,2NF	COND. 2,2NF X7R CMS	1206	C116,C123
	2	399 10NF	COND. 10NF X7R CMS	1206	C514,C515
	1	742 47NF	COND. 47NF X7R CMS	1206	C505
	52	536 100NF	COND. 100NF X7R CMS	1206	C101,C105,C106,C109 C110,C120,C127,C129 C130 C206, C213 C217,C218,C221,C222 C307,C308,C309,C314 C315,C316,C317,C318 C319,C320,C321,C322 C323,C324,C325,C326 C405,C406 C407,C408,C409,C410 C411,C412,C413,C414 C501,C504,C506,C508 C509,C510,C511,C512 C513,C516,C517
	6	882 4,7UF-16V	COND. TANTALE 4,7UF 16V CMS	293D-B	C103,C104,C111 C112,C113,C114
	8	743 10UF-16V	COND. TANTALE 10UF 16V CMS	293D-C	C115,C121,C122,C128 C215,C216,C219,C220
	4	538 33UF-16V	COND. TANTALE 33UF 16V CMS	293D-D	C100,C102,C107,C108
	6	883 47UF-16V	COND. TANTALE 47UF 16V CMS	293D-D	C117,C118,C119 C124,C125,C126

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quantité	code référence	désignation	boîtier	repère topo
RESISTANCES 1%	4	752 RES-0	RESL 0 OHMS JUMPER [1206]	1206 R236,R237,C204,C211 *
	2	715 RES-86,6-1%	RESL 86,60HMS 1/4W 1% [1206]	1206 R325,R328
	2	857 RES-100-1%	RESL 100 OHMS 1/4W 1% [1206]	1206 R207,R222
	1	576 RES-220-1%	RESL 220 OHMS 1/4W 1% [1206]	1206 R111
	1	716 RES-270-1%	RESL 270 OHMS 1/4W 1% [1206]	1206 R331
	2	717 RES-301-1%	RESL 301OHMS 1/4W 1% [1206]	1206 R511,R518
	1	718 RES-464-1%	RESL 464OHMS 1/4W 1% [1206]	1206 R517
	10	719 RES-1K-1%	RESL 1.00KOHMS 1/4W 1% [1206]	1206 R105,R110,R204,R219,R330 R510,R513,R514,R515,R516
	11	721 RES-2,21K-1%	RESL 2.21KOHMS 1/4W 1% [1206]	1206 R208,R223,R404,R405 R410,R411,R501,R502 R503,R504,R512
	4	722 RES-2,43K-1%	RESL 2.43KOHMS 1/4W 1% [1206]	1206 R401,R402,R407,R408
	4	723 RES-3,01K-1%	RESL 3.01KOHMS 1/4W 1% [1206]	1206 R203,R218,R508,R509
	5	724 RES-5,11K-1%	RESL 5.11KOHMS 1/4W 1% [1206]	1206 R106,R107 R406,R412,R507
	2	725 RES-8,25K-1%	RESL 8.25KOHMS 1/4W 1% [1206]	1206 R324,R327
	14	726 RES-10K-1%	RESL 10.0KOHMS 1/4W 1% [1206]	1206 R108,R109,R210,R213 R225,R228,R311,R312 R315,R316,R317,R320 R403,R409
	2	860 RES-20,0K-1%	RESL 20.0KOHMS 1/4W 1% [1206]	1206 R101,R103
	6	727 RES-22,1K-1%	RESL 22.1KOHMS 1/4W 1% [1206]	1206 R313,R314 R318,R319,R321,R322
	2	728 RES-27,4K-1%	RESL 27.4KOHMS 1/4W 1% [1206]	1206 R201,R216
	6	862 RES-30,1K-1%	RESL 30.1KOHMS 1/4W 1% [1206]	1206 R234,R235 R304,R305,R309,R310
	2	729 RES-35,7K-1%	RESL 35.7KOHMS 1/4W 1% [1206]	1206 R326,R329
	6	730 RES-40,2K-1%	RESL 40.2KOHMS 1/4W 1% [1206]	1206 R301,R302,R303 R306,R307,R308
	1	863 RES-47,5K-1%	RESL 47.5KOHMS 1/4W 1% [1206]	1206 R323
	2	865 RES-57,6K-1%	RESL 57.6KOHMS 1/4W 1% [1206]	1206 R205,R220
	2	731 RES-82,5K-1%	RESL 82.5KOHMS 1/4W 1% [1206]	1206 R202,R217
	1	732 RES-100K-1%	RESL 100KOHMS 1/4W 1% [1206]	1206 R521 *
	1	733 RES-150K-1%	RESL 150KOHMS 1/4W 1% [1206]	1206 R520 *
	2	884 RES-160K-1%	RESL 160KOHMS 1/4W 1% [1206]	1206 R102,R104
	1	734 RES-243K-1%	RESL 243KOHMS 1/4W 1% [1206]	1206 R519
	2	870 RES-1,2M-1%	RESL 1.2MOHMS 1/4W 1% [1206]	1206 R206,R221

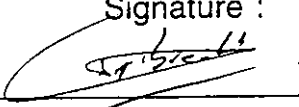
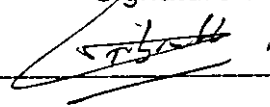
PART LIST

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ATTACHMENT F

SPI_2110 MODULE
GENERAL DESCRIPTION

Auteur/Author : <i>Ph. GOBRECHT</i>	date : <i>3/4/98</i>	Signature : 
Autorisé/Approved : <i>Ph. GOBRECHT</i>	date : <i>3/4/98</i>	Signature : 

I - EXTERNAL DESCRIPTION

- module
 - Eurocard format for 19" rack
 - height 3U
 - width 6TE
 - metal front panel with marking
- printed circuit board
 - single europe format
 - dimensions: 160 x 100 x 1,6 mm
 - FR4 substrate
 - 4 layers plated thru-holes technology with solder masks and silkscreen
- rear connector
 - 64 pins in 2 rows (DIN 41612)
 - 12VDC supply
 - control signals
- front panel
 - 5 pins connector to external application
 - 3 pins connector for relay
 - 4 leds for monitoring
 - push-button for reset

II - FUNCTIONAL DESCRIPTION

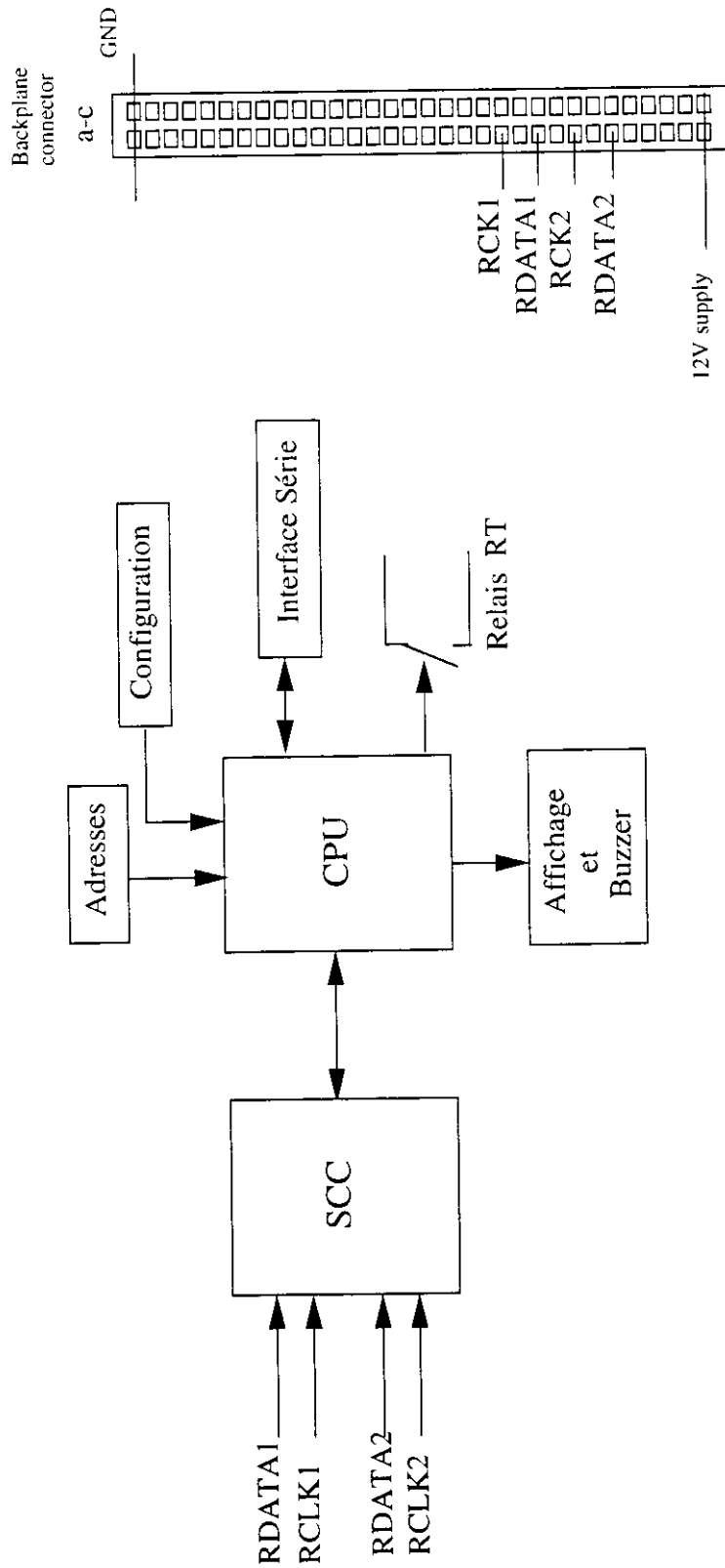
- 8-bit CPU for baseband signal processing
- transmission interface
- monitoring of other modules and fault detection
- configuration for software and hardware by switches on board

- interface connector to external application using electrical protocols RS232, RS422, RS485, open collector, and logical protocols JBUS™-MODBUS™, half-duplex, full-duplex, ISO2, WIEGAND
- relay connector 12 VDC, 1 A max
- green led CPU
 - slow flashing for normal operation
 - fast flashing if fault detected
- red led BURST
 - on if tag signal detected
- red leds RX and TX
 - to monitor electrical interface
- push-button RESET
 - reset of the reader

III - TECHNICAL DESCRIPTION

- see attached documents
 - block diagram ref.46322770/091
 - part list ref.46322770/001
 - schema ref. 46322770/020
 - components location drawing ref. 46322770/42

see also user Interface Manual ref. 46322790/104



46322770/091

date 14/04/97

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SPI_2110 - BLOCK DIAGRAM

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COMMUNICATIONS

PART LIST

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quantité		code référence	désignation	boîtier	repère topo
CIRCUIT INTEGRE	1	825 74HC00	QUAD 2-INPUT NAND GATES	SO14	MN12
	1	783 74HC04	HEX INVERTERS	SO14	MN3
	1	240 L7805ABV	REGULATEUR -5V 1A	TO220	MA1
	2	826 74HC08	QUAD 2-INPUT AND GATES	SO14	MN2,MN7
	1	789 Z85C30-08	SCC	PLCC44	MN8
	1	788 80C31BH	CHIP 8BIT MICROCONTROLLER	PLCC44	MN19
	2	827 74HC32	QUAD 2-INPUT OR GATES	SO14	MN1,MN15
	1	784 74HC138AN	DECODER/DEMULTIPLEXER	SO16	MN11
	1	787 75ALS180	DIFFERENTIAL DRIVER AND RECEIVER PAIRS	SO16	MN14
	1	794 MAX232	-5V POWERED RS-232 DRIVERS/RECEIVERS	SO16	MN13
	1	828 74HC245	OCTAL BUS TRANCEIVER W/ 3 STATE OUTS	SO20	MN5
	1	453 27C256	32KX8 CMOS EPROM ou OTPROM	DIL/sup	MN16
	1	790 62256A	RAM 256KB 100NS	SO28	MN17
	4	785 74HC541N	OCTAL BUFFERS AND LINE DRIVERS	SO20	MN6,MN9, MN18,MN20
	2	786 74HC573N	OCTAL D-TYPE LATCH WITH 3-STATE OUTPUTS	SO20	MN4,MN21
	1	791 H6060-16	WATCHDOG	SO8	MN10
TRANSISTORS	8	548 BSR14	LOW POWER NPN TRANSISTOR	SOT23	Q1-Q8
DIODES	1	461 LED-VERTE	LED VERTE 3 mm SUR SUPPORT	TH	DS1
	3	462 LED-ROUGE	LED ROUGE 3 mm SUR SUPPORT	TH	DS2-DS4
	6	797 BAS16	DIODE SILICON HIGH-SPEED	SOT23	CR1-CR4, CR13,CR14
	4	835 BZX84C9V1	DIODE ZENER 9.1V (SOT23)	SOT23	CR6, CR8, CR10, CR12
	4	834 BZX84C12V	DIODE ZENER 12V (SOT23)	SOT23	CR5, CR7, CR9, CR11
QUARTZ	1	803 3.84MHZ	3.84 MHZ CRYSTAL (CP12A)	CP12A	Y1
		830 3.84MHZ	3.84 MHZ CRYSTAL (HC18U)	HC18U	Y3
	1	804 11.059MHZ	11.059 MHZ CRYSTAL (CP12A)	CP12A	Y2
		531 11.059MHZ	11.059 MHZ CRYSTAL (HC18U)	HC18U	Y4

PART LIST

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quantité	code référence	désignation	boîtier	repère topo
CONDENSATEURS	1	776 22PF	COND. 22PF X7R CMS (0805)	0805 C5
	2	777 33PF	COND. 33PF X7R CMS (0805)	0805 C31,C32
	2	534 47PF	COND. 47PF X7R CMS (0805)	0805 C7,C8
	1	779 100PF	COND. 100PF X7R CMS (0805)	0805 C6
	4	399 10NF	COND. 10NF X7R CMS (1206)	1206 C1-C4
	22	536 100NF	COND. 100NF X7R CMS (1206)	1206 C10,
				C16-C27,
				C29,
				C33-C40
	2	537 1UF-16V	COND. TANTALE 1UF 16V CMS 293D	293D-A C11,C30
	4	743 10UF-16V	COND. TANTALE 10UF 16V 20%	293D-C C12-C15
	2	829 UR-100UF-25V	COND. 100UF 25V UR-08X6	CMS C41,C42
	528	100UF-25V	COND. CHIMIQUE 100UF 25V	RADIAL C9,C28
RESISTANCES	4	752 RES-0	RESI. 0 OHMS JUMPER (1206)	1206 R53, R54,
				R81, R82
	1	755 RES-100	RESI. 100 OHMS 1/4W 5% (1206)	1206 R49
	7	759 RES-1.2K	RESI. 1.2KOHMS 1/4W 5% (1206)	1206 R1-R3,R6,
				R9,R10,R78
	1	764 RES-4.7K	RESI. 4.7KOHMS 1/4W 5% (1206)	1206 R5
	6	765 RES-10K	RESI. 10KOHMS 1/4W 5% (1206)	1206 R7,R24,R50,
				R73,R75,
				R77
	4	766 RES-33K	RESI. 33KOHMS 1/4W 5% (1206)	1206 R72,R74,
				1206 R76,R79
	1	767 RES-39K	RESI. 39KOHMS 1/4W 5% (1206)	1206 R4
	1	730 RES-40.2K-1%	RESI. 40.2KOHMS 1/4W 1% (1206)	1206 R51
	1	773 RES-48.7K-1%	RESI. 48.7KOHMS 1/4W 1% (1206)	1206 R52
	46	769 RES-100K	RESI. 100KOHMS 1/4W 5% (1206)	1206 R8,R11,
				R20-R23,
				R25-R48,
				R56-R71
PROTECTIONS	4	807 SMD030-2	CTP CMS OVERCURRENT PROTECT (POLYSWITCH)	CMS R13,R15,R17,R19
		687 RXE010	CTP RXE 100-200mA (POLYSWITCH)	TH R12,R14,R16,R18

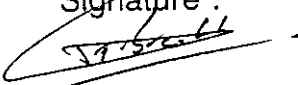
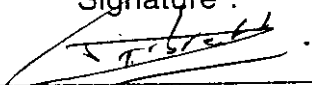
page 3/3

 THOMSON-CSF COMMUNICATIONS	article: SPI_2110	réf. article : 46322770
	document: PART LIST	réf. doc.: 46322770/001/B

ATTACHMENT G

AT1_2709 ANTENNA

GENERAL DESCRIPTION

Auteur/Author : Ph. GOBRECHT	date : 3/4/98	Signature : 
Autorisé/Approved : Ph. GOBRECHT	date : 3/4/98	Signature : 

I - EXTERNAL DESCRIPTION

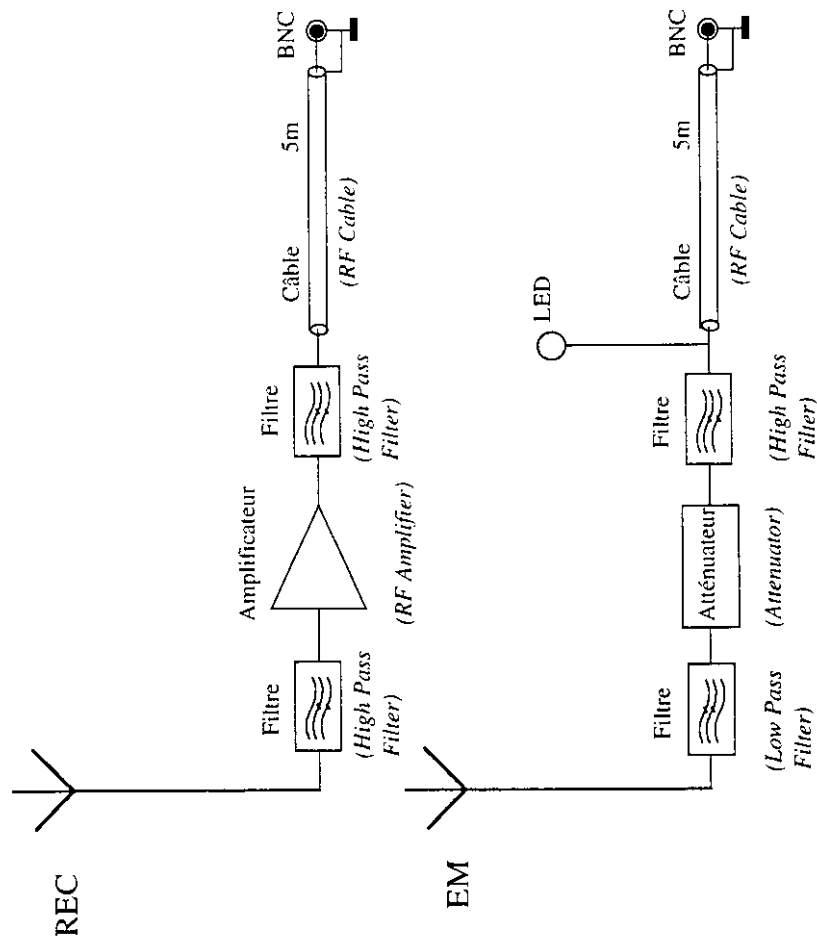
- case
 - front light grey ABS
 - dimensions: 174 x 108 x 29 mm
 - protection level equivalent to IP55
- operating temperature: -20°C to +70°C
- weight: 0,75 kg
- wall installation with metal plate
- 2 attached coaxial cables
 - length: 5 m
 - with BNC termination
 - marked ANT IN and ANT OUT
- bi-color led (red / green)

II - FUNCTIONAL DESCRIPTION

- emission antenna for microwave carrier (ANT OUT signal)
 - coming from SHF module and amplified by SAM module
 - beamwidth: 90°
 - maximum radiated power: 10dBm
- reception antenna for signal reflected from tag (ANT IN signal)
 - amplification and transmission to SAM module
 - beamwidth: 90°
- BNC connectors ANT IN and ANT OUT
 - to be connected to corresponding sockets on SAM module . The SAM module is inside the locked box with key and the connectors cannot remove or replace by an other antenna without the key of the locked box .
- bi-color led
 - regular green flashing: normal performance
 - irregular green flashing: degraded performance
 - off during tag detection

III - TECHNICAL DESCRIPTION

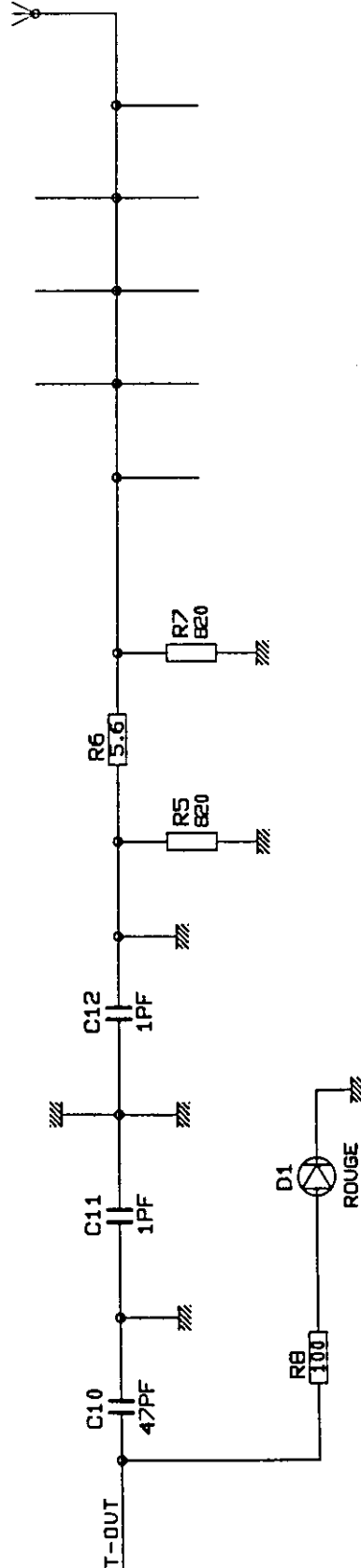
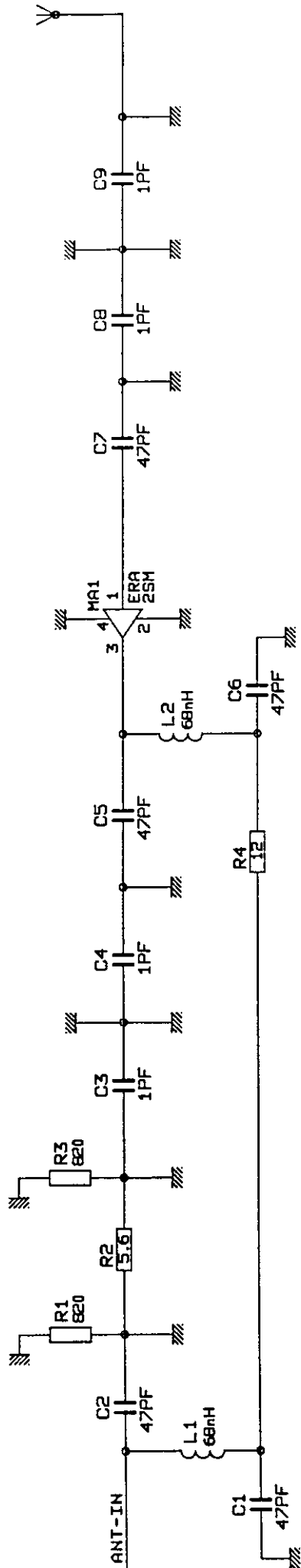
- see attached document
 - block diagram réf. 46322859/091
 - part list ref. 46322859/001
 - schema of circuit board ref.46322851/030
 - components location drawing ref. 46322851/042
 - definition drawing of cable ref. 46322848/030

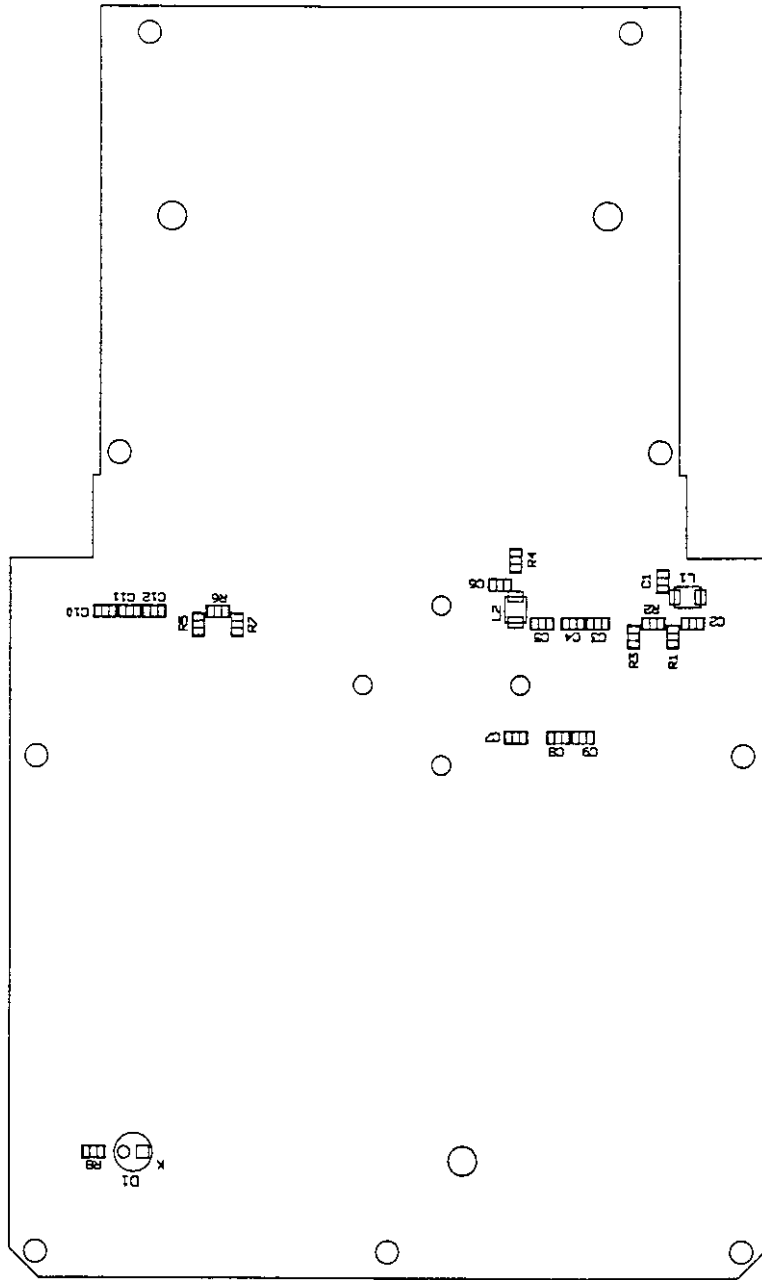


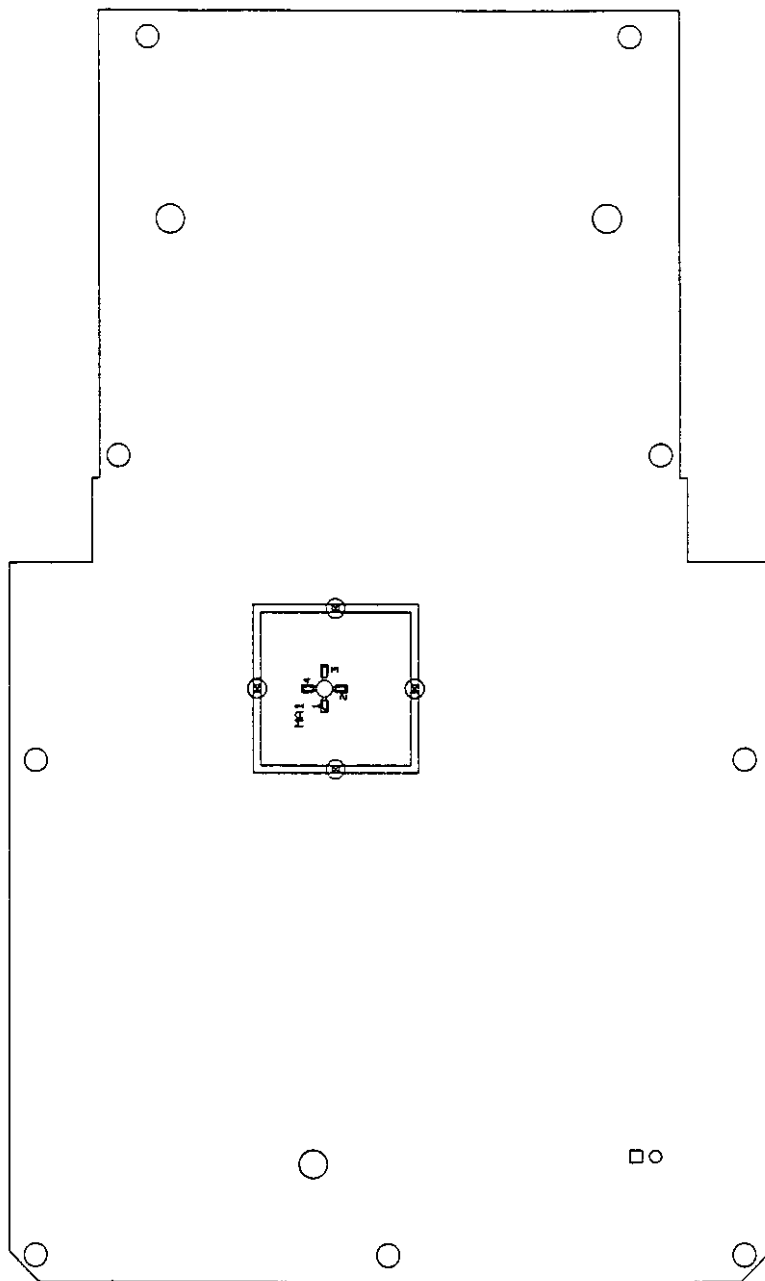
PART LIST

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quantité	code référence	désignation	boîtier	repère topo
circuit intégr	1	832 ERA-2-SM	amplificateur hyperfréquence	MA1
diode	1	574 led bicolore	2 pattes	D1
cond. 0805	6	744 1 pF - 99187742	céramique CMS 0805 NPO ±0,25pF	0805 C3,C4,C8,C9,C11,C12
	6	534 47 pF	céramique CMS 0805 20% NPO	0805 C1,C2,C5,C6,C7,C10
rés. 0805	2	898 5,6 Ω	NFC RC11 CMS 0805 5% 0,25W	0805 R2,R6
	1	541 100 Ω	NFC RC11 CMS 0805 5% 0,25W	0805 R8
	1	895 120 Ω	NFC RC11 CMS 0805 5% 0,25W	0805 R4
	4	696 820 Ω	NFC RC11 CMS 0805 5% 0,25W	0805 R1,R3,R5,R7
self	2	442 68 nH	20% 68 nH NL322522T-068M	L1,L2
connectique	1	2747 46322847	cable IN RG58 , longueur 5m avec tricot et gaine thermo-rétractable noire	
	1	2748 46322848	cable OUT RG58 , longueur 5m avec tricot et gaine thermo-rétractable rouge	
blindage	1	896 boîtier de blindage 20x20x11mm	TH	
PCB	1	46322851 circuit imprimé	fentes et ampli	
	1	46322852 circuit imprimé	patches	
visserie	3	569 vis nylon	TRM3 x 12	
	3	570 écrou nylon	M3	
	3	571 entretoise	nylon Ø3,2 - L=5	
méca	1	2711 radôme		
	1	2714 serre cable	marqué ANT IN	
	1	2715 serre cable	marqué ANT OUT	
	5	572 vis	autotaraudeuse N°4 (Ø2,9) L=6,4	
	6	601 vis	autotaraudeuse N°4 (Ø2,9) L=9,7	
	1	2719 plaque de montage en acier zingué bichromaté		
	1	575 vis	TFHc M3 x 6	
		584 mastie silicone		
	1	912 étiquette numéro de série		







46322859/042

date 3/4/98

indice A page 2/2

AT1_2709 - Components location

dessiné par JBE / PG

visa

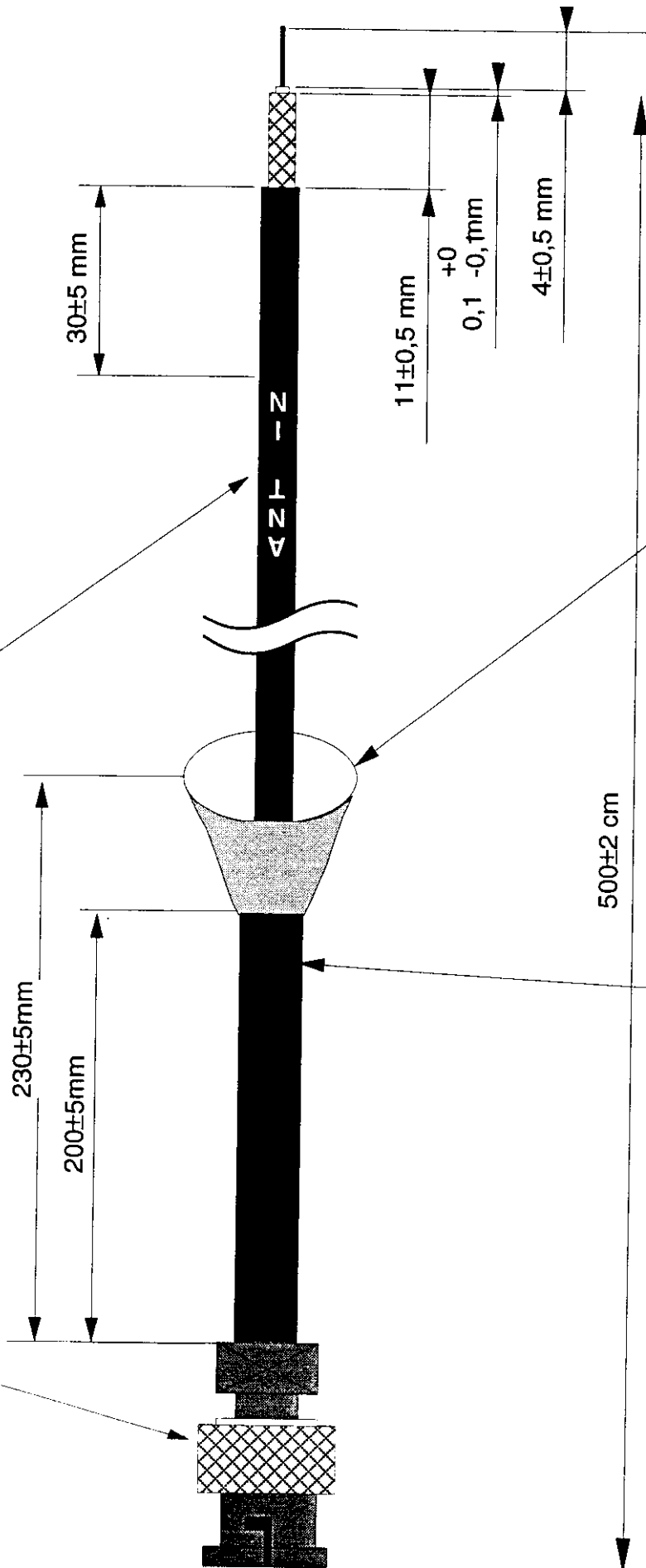
 **THOMSON-CSF**
COMMUNICATIONS

CONNECTOR BNC 50Ω MALE

REFERENCES RADIAL R 141 007
OR R 141 082

COAXIAL CABLE
Ø5mm - 50Ω - SINGLE SHIELD

REFERENCES RG58
KX 15



HEAT SHRINKABLE TUBE

REFERENCE : RNF-3000 18/6-0 RAYCHEM
COLOR : BLACK L=200mm

SHIELDING KNITTED WIRE MESH

REFERENCE : GO24A114M3 ALTOFLEX
L=230mm

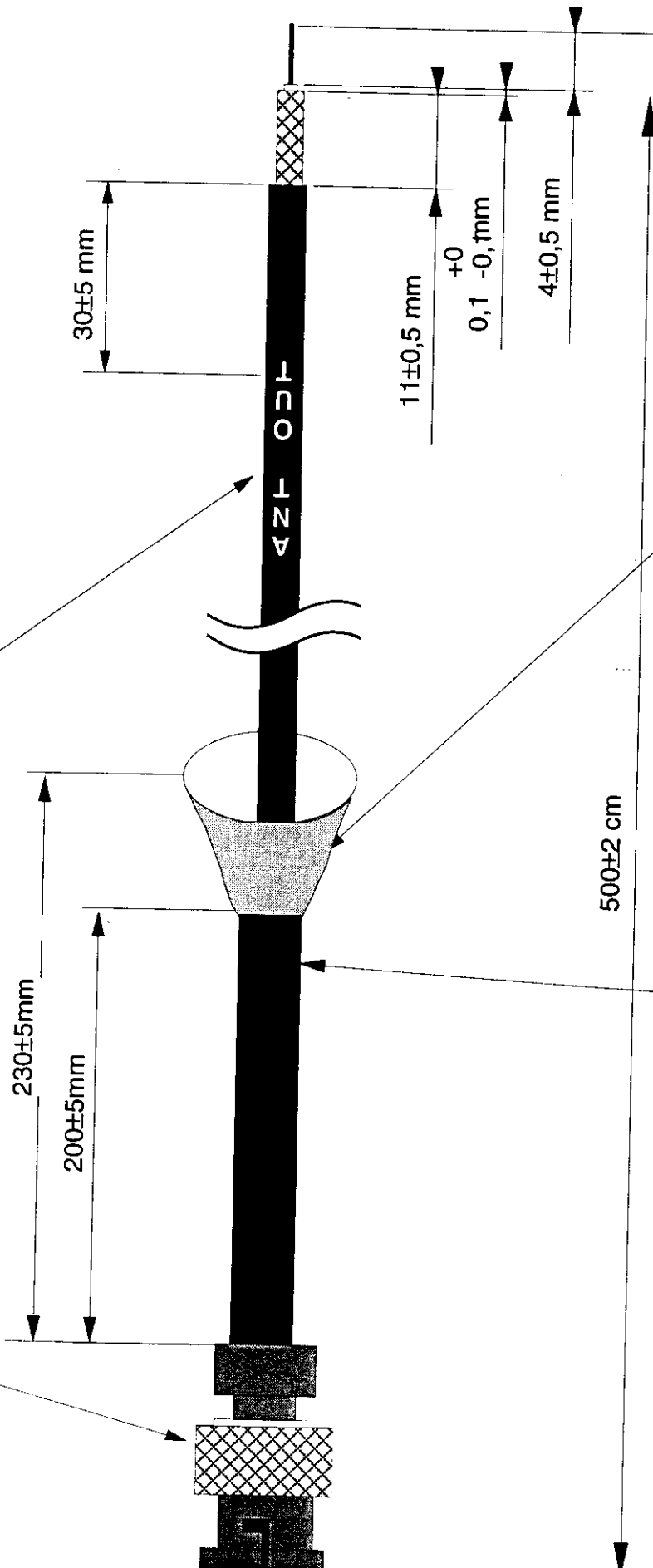
PART LIST

[illegible]

CONNECTOR BNC 50Ω MALE

REFERENCES R 141 007
OR R 141 082

COAXIAL CABLE
Ø5mm - 50Ω - SINGLE SHIELD
REFERENCES RG58
KX 15



HEAT SHRINKABLE TUBE
REFERENCE : RNF-3000 18/6-2 RAYCHEM
COLOR : RED L=200mm

SHIELDING KNITTED WIRE MESH
REFERENCE : GO24A114M3 ALTOFLEX
L=230mm

THOMSON-CSF
COMMUNICATIONS

COAXIAL CABLE 2748 : DESCRIPTION

46322848/030

dessiné par JBE/PG

date 3/4/98

visa

indice A

page 1/1

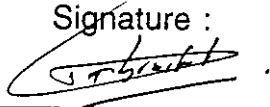
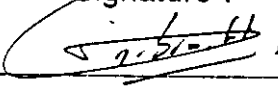
PART LIST

page 1/1

[illegible]

ATTACHMENT H

BDG_1020 TAG
GENERAL DESCRIPTION

Auteur/Author : Ph. GOBRECHT	date : 3/4/98	Signature : 
Autorisé/Approved : Ph. GOBRECHT	date : 3/4/98	Signature : 

BDG-1020 TAG

I - EXTERNAL DESCRIPTION

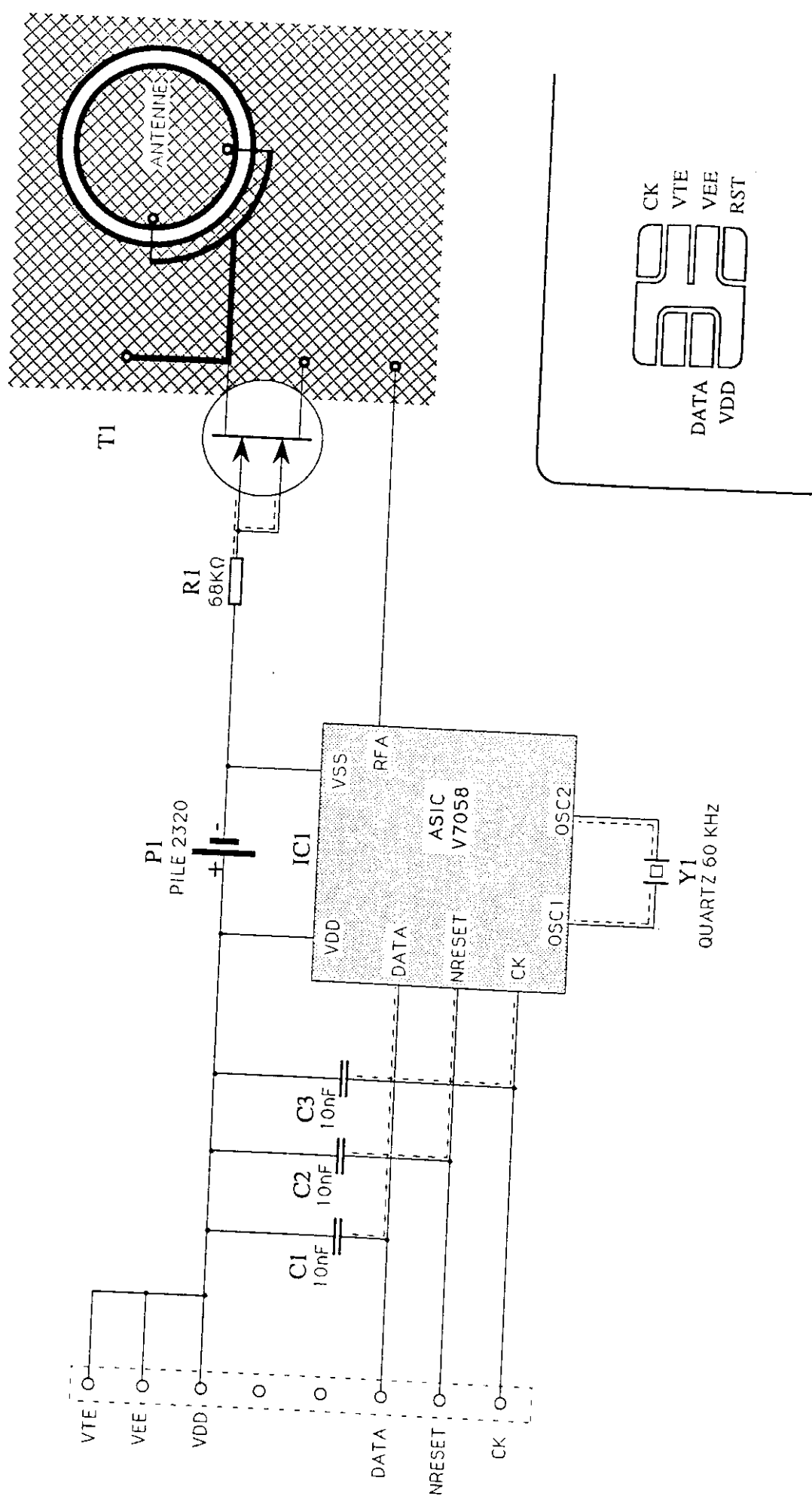
- case
 - body light grey ABS
 - coverlay of white PVC or polycarbonat sheet
 - dimensions: 85,6 x 54 x 3,5 mm
 - protection level equivalent to IP65
- operating temperature: -20°C to +70°C
- weight: 0,015 kg
- connector for encoding purpose
- typical service lifetime: 7 years

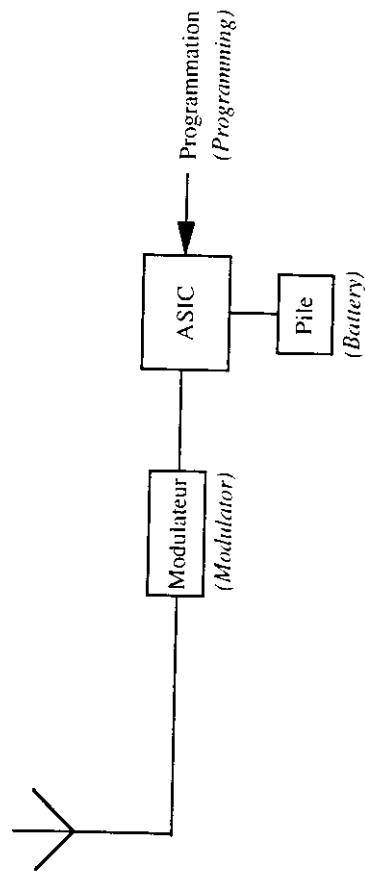
II - FUNCTIONAL DESCRIPTION

- 180 bit internal memory with serial synchronous access
- incident microwave carrier modulation by passive reflection
- double sided antenna with 180° beamwidth
- encoding connector
 - to be used with adapted programming kit

III - TECHNICAL DESCRIPTION

- see attached document
 - block diagram réf. 46322810/091
 - schema ref. 46322810/020

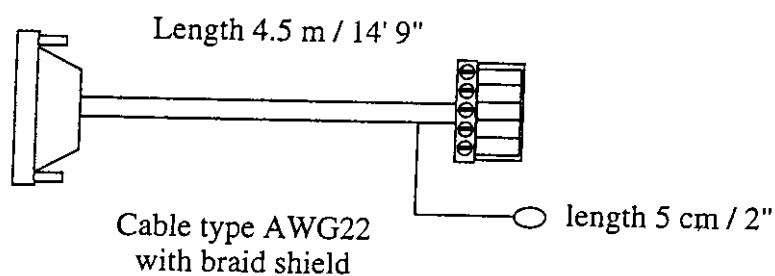




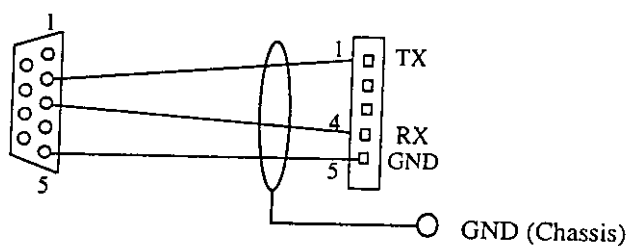
Cable 46322865

for modular readers

SUBD-9 pin Fem. /Phoenix 5 pin Fem.



Wiring diagram



INTERFACE BOX
for
RS-422 INTERFACE
Technical Notice

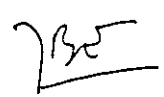
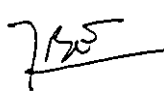
Auteur / Author:	JB EGALOW	date	9/12/97	Signature	
Autorisé / Approved:	Po. P. GOSNIGHT	date	9/12/97	Signature	

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1. General Information

1.1. Overview

1.2. External connections

2. Internal Wiring Diagram

3. Description

4. Parts list

5. Connecting HYPERX readers with an RS-422 interface to a PC

Appendices :

-Description of cable n°46322871	1 page
-Description of cable n°46322872	1 page
-Description of cable n°46322873	1 page



Interface Box RS-422

Technical Notice

1. General Information

The RS-422 Interface box is used to connect HYPERX readers, both modular and compact, presenting an RS-422 interface, to a PC. The interface box performs data conversion to RS-232 which then connects to the PC serial port. Communication with the reader is established using the proprietary DOS program "COMSPI 3.22"

1.1 Overview

The interface box contains a data-conversion module LDM35 (RS-232 / RS-422). This module is powered by the RS-232 lines from the PC.

The metallic housing is equipped with two 9-pin subD-M connectors.

1.2 Electrical Connections

On the reader side, the connector is a 9-pin subD-M. The cables 46322872 and 46322873 connect between this connector and the 5-pin PHOENIX-type connector on the HYPERX modular or compact readers respectively.

On the PC side, the connector is a 9-pin subD-M. The cable 46322871 connects between this connector and the 9-pin PC serial port.

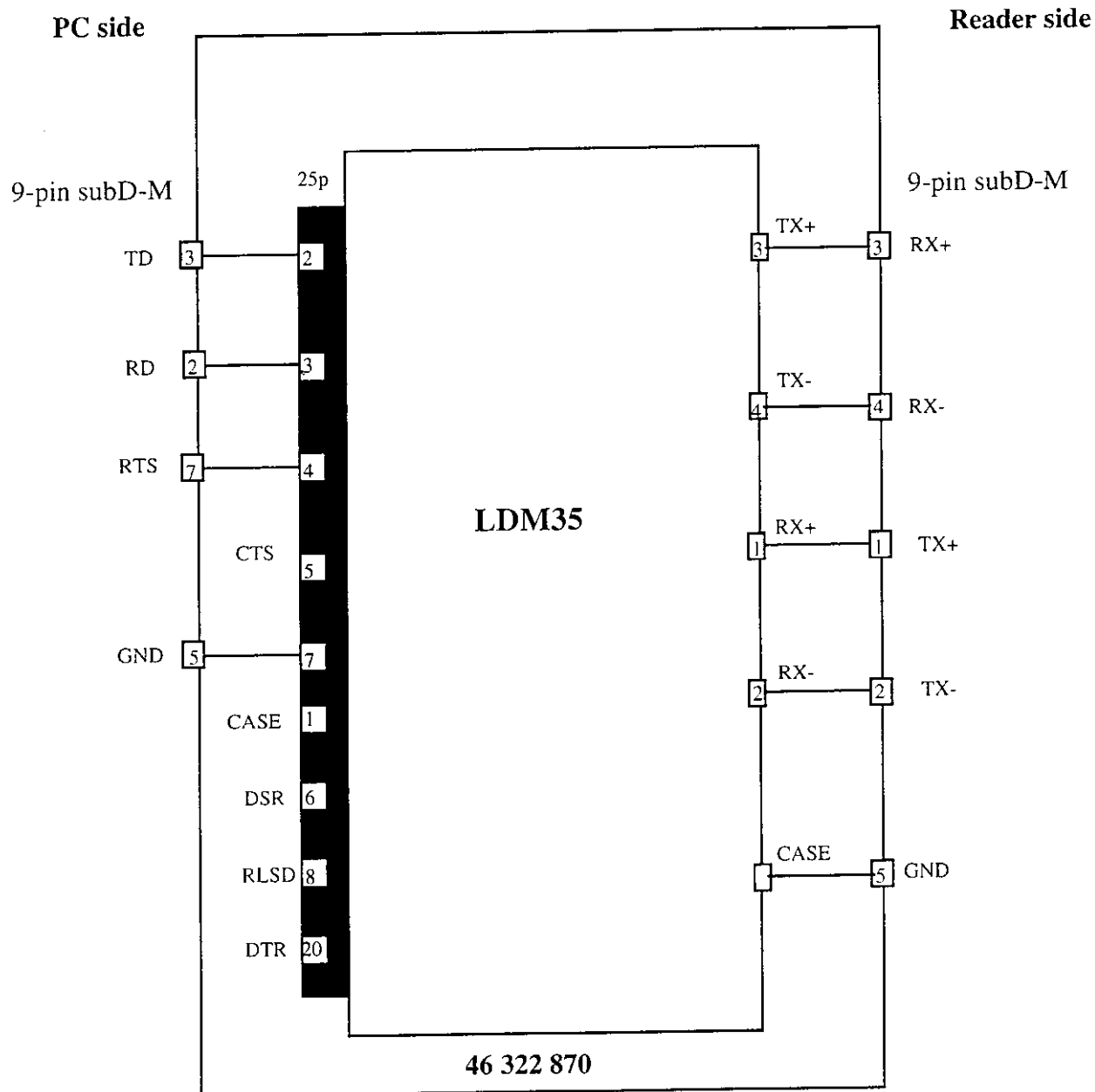
Reader pinout

TX+	1
TX-	2
RX+	3
RX-	4

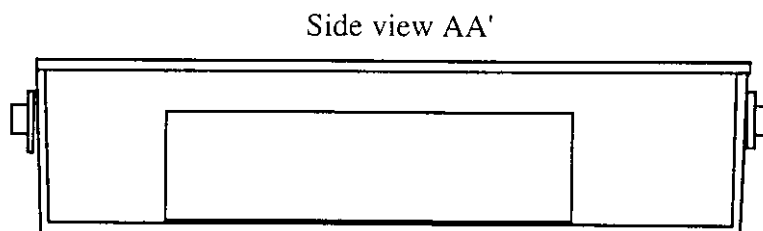
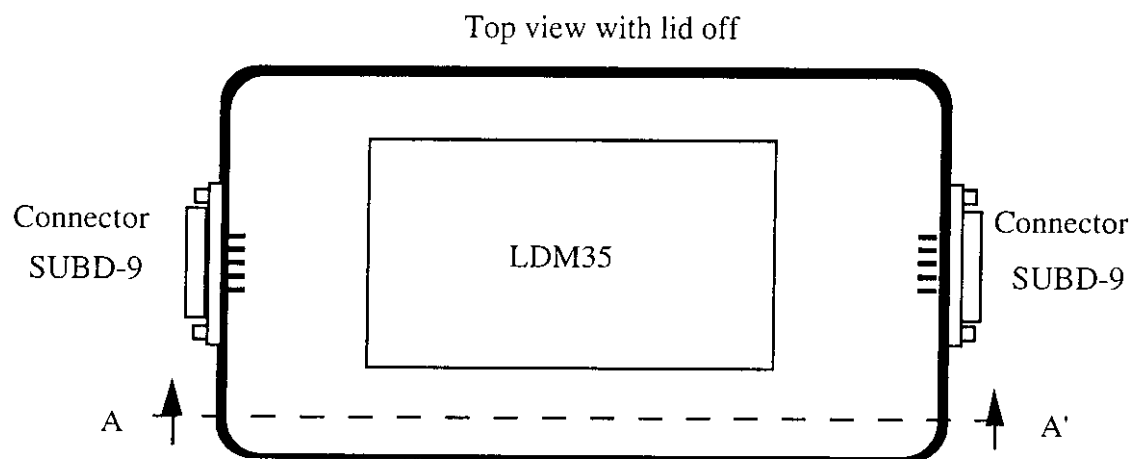
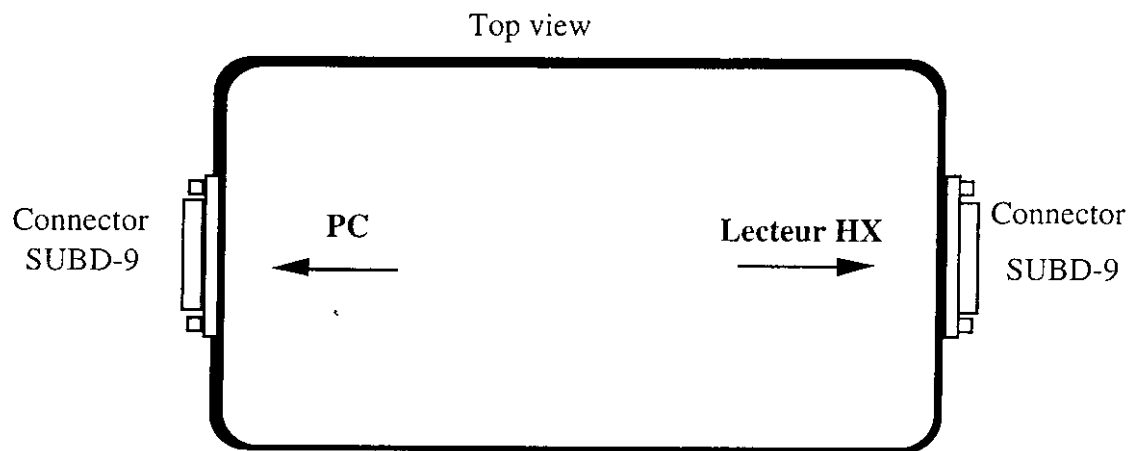
subD-9P (PC)

RX	2
TX	3
RTS	7
GND	5

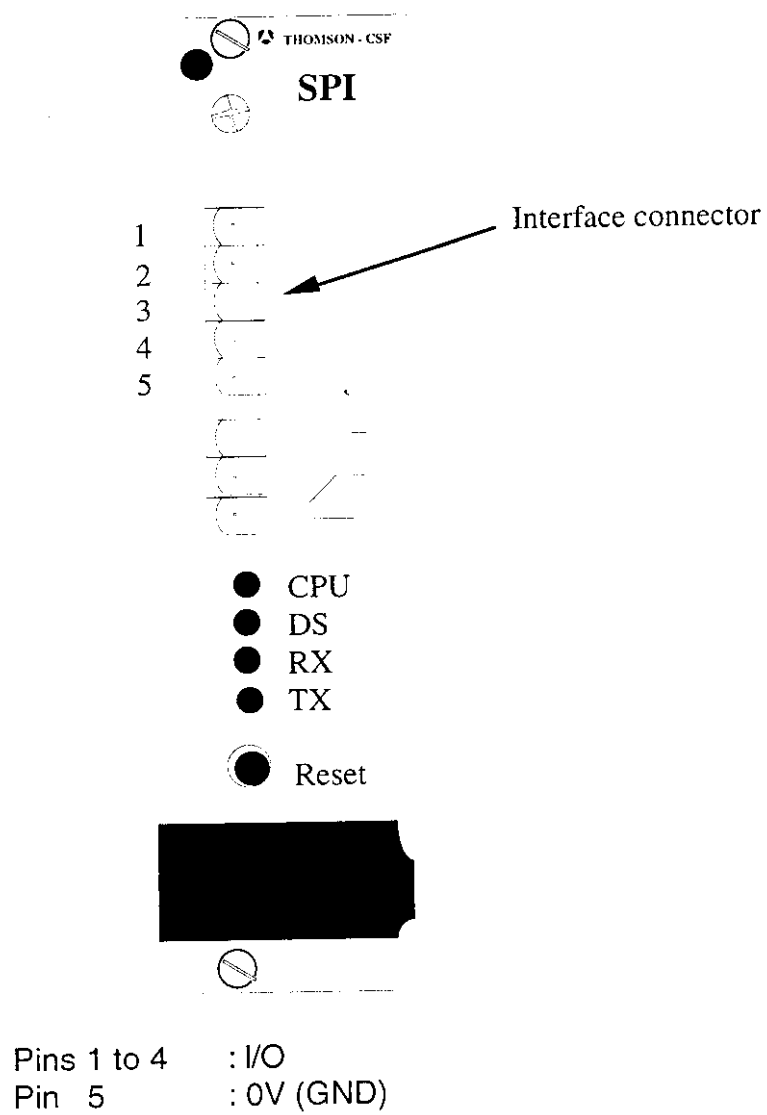
2. Wiring diagram



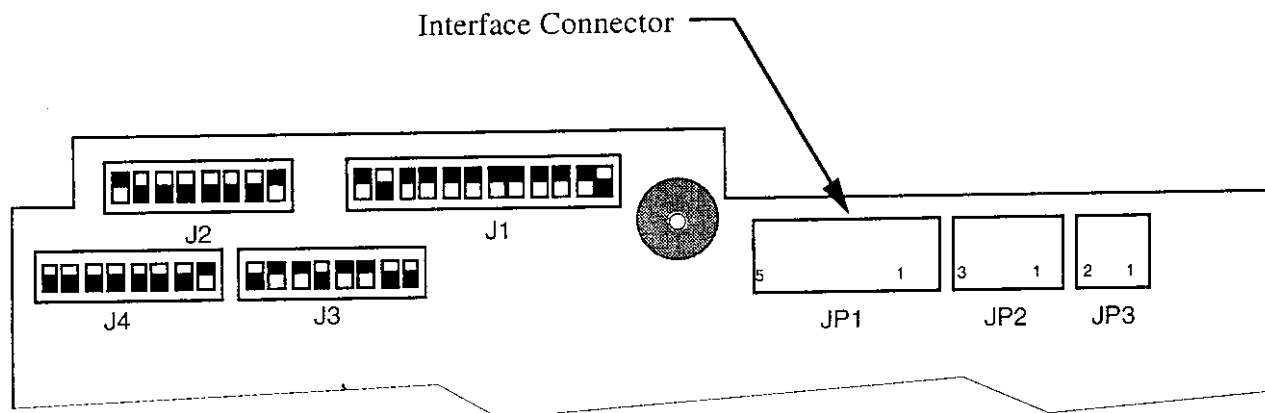
3. Description



Interface connector on modular reader (front panel of SPI module)



Interface connector on compact readers (JP1)



Pins 1 to 4 : I/O
Pin 5 : 0V (GND)

4. Parts list

The box comprises :

Housing : Make ZETTOX, Material : Aluminium alloy LM6 - IP65
Dimensions : 125 x 80 x 57 mm

Data converter : Make BURR-BROWN, model LDM35

Connector SUBD-9p M, solder on board

Correct use of the box requires :

- cable assembly SUBD-25p F-F for PC side, ref 46322871
- cable assembly SUBD-9p F/PHOENIX 5p for reader side, ref 46322872 for modular readers or ref. 46322873 for compact readers.
- a PC compatible, MSDOS 3.0 or later with serial port
- DOS program "COMSPI 3.22"

5. Connecting HYPERX readers with an RS-422 interface to a PC

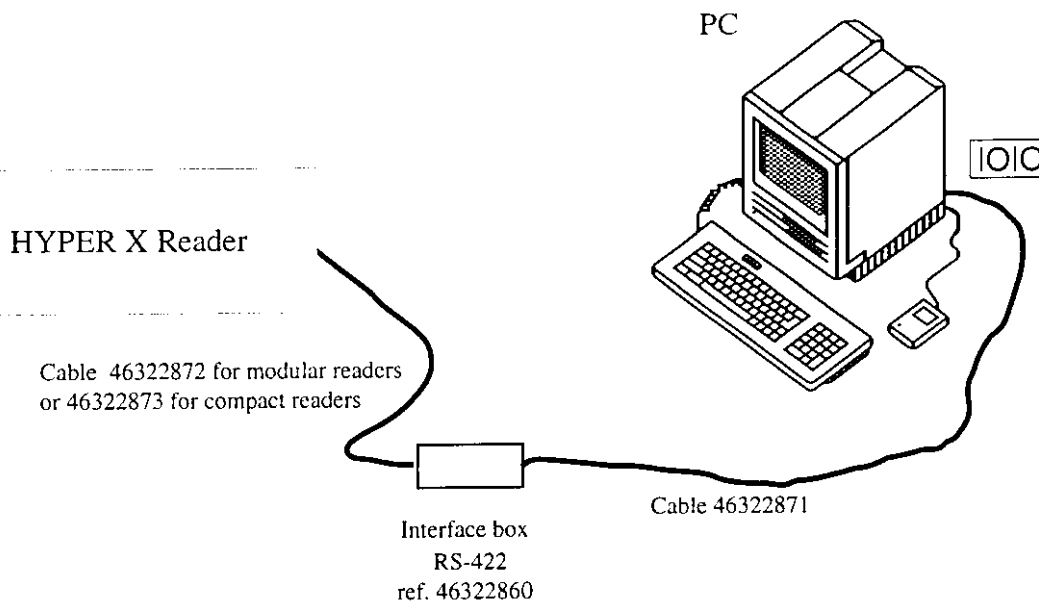
A HYPERX reader using the RS-422 interface can be connected to a PC using this interface box and appropriate PC software.

On the reader side, the connector is a 9-pin subD-M. The cables 46322872 and 46322873 connect between this connector and the 5-pin PHOENIX-type connector on the HYPERX modular or compact readers respectively.

On the PC side, the connector is a 9-pin subD-M. The cable 46322871 connects between this connector and the 9-pin PC serial port.

Before using the PC software, the HYPERX reader interface must be correctly configured for the RS-422 interface (see HYPERX Readers Interface Notice 46322890-104).

- 1 : configure reader
- 2 : turn on reader
- 3 : run program "COMSPI" .

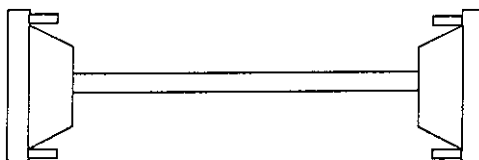


APPENDIX

Cable 46 322 871

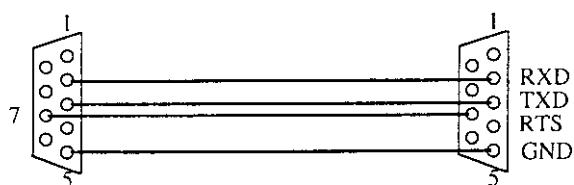
SUBD 9-Pin F /F

Length 4.5 m / 14'9"



Cable type AWG22
braid shield

Wiring diagram

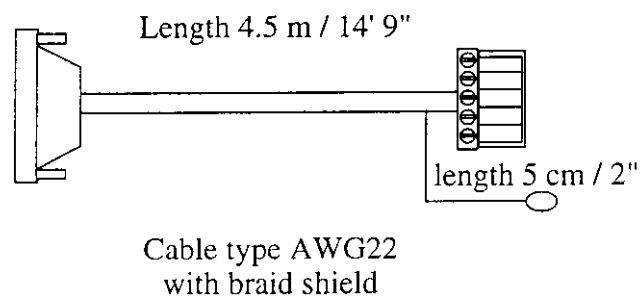


APPENDIX

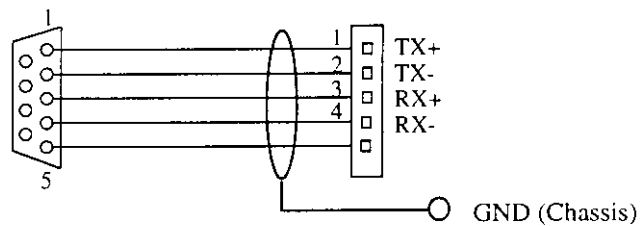
Cable 46322872

for modular readers

SUBD-9 pin Fem. /Phoenix 5 pin Fem.



Wiring diagram

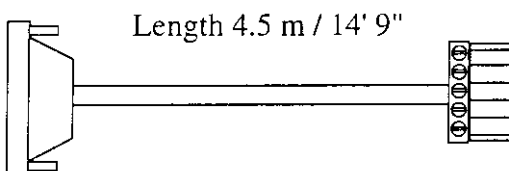


APPENDIX

Cable 46322873

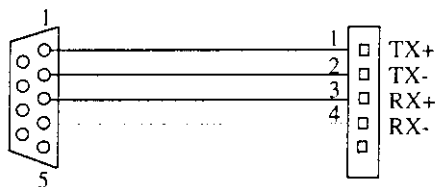
for compact readers

SUBD-9 pin Fem. /Phoenix 5 pin Fem.



Cable type AWG22
with braid shield

Wiring diagram



INTERFACE BOX
for
ISO2 - WIEGAND INTERFACES
Technical Notice

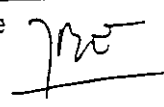
Auteur / Author:	JB EGALOW	date	9/12/97	Signature	
Autorisé / Approved:	P.O. P. GOMBERT	date	9/12/97	Signature	

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1. General Information

1.1. Overview

1.2. External connections

2. Internal Wiring Diagram

3. Description

4. Parts list

5. Connecting HYPERX readers with a ISO2/WIEGAND interface to a PC

Appendices :

-Description of cable n°46322862 1 page

-Description of cable n°46322863 1 page

-Description of cable n°46322864 1 page

1. General Information

The ISO2/WIEGAND Interface box is used to connect HYPERX readers, both modular and compact, presenting either an ISO2 or a WIEGAND type interface, to a PC, in order to visualise the data transmitted across the interface. Both ISO2-coded and WIEGAND-coded tags can thus be visualised using the proprietary DOS programs "READISO 1.6" and "WIEGAND 1.5", respectively.

1.1 Overview

The interface box contains a printed circuit board reference 46322861 comprising a 5VDC regulator, three 1K Ω pull-up resistors, a 9V / 550 mAh 6LR1-type battery, an ON-OFF switch and two connectors (subD 9-pin and subD 25-pin).

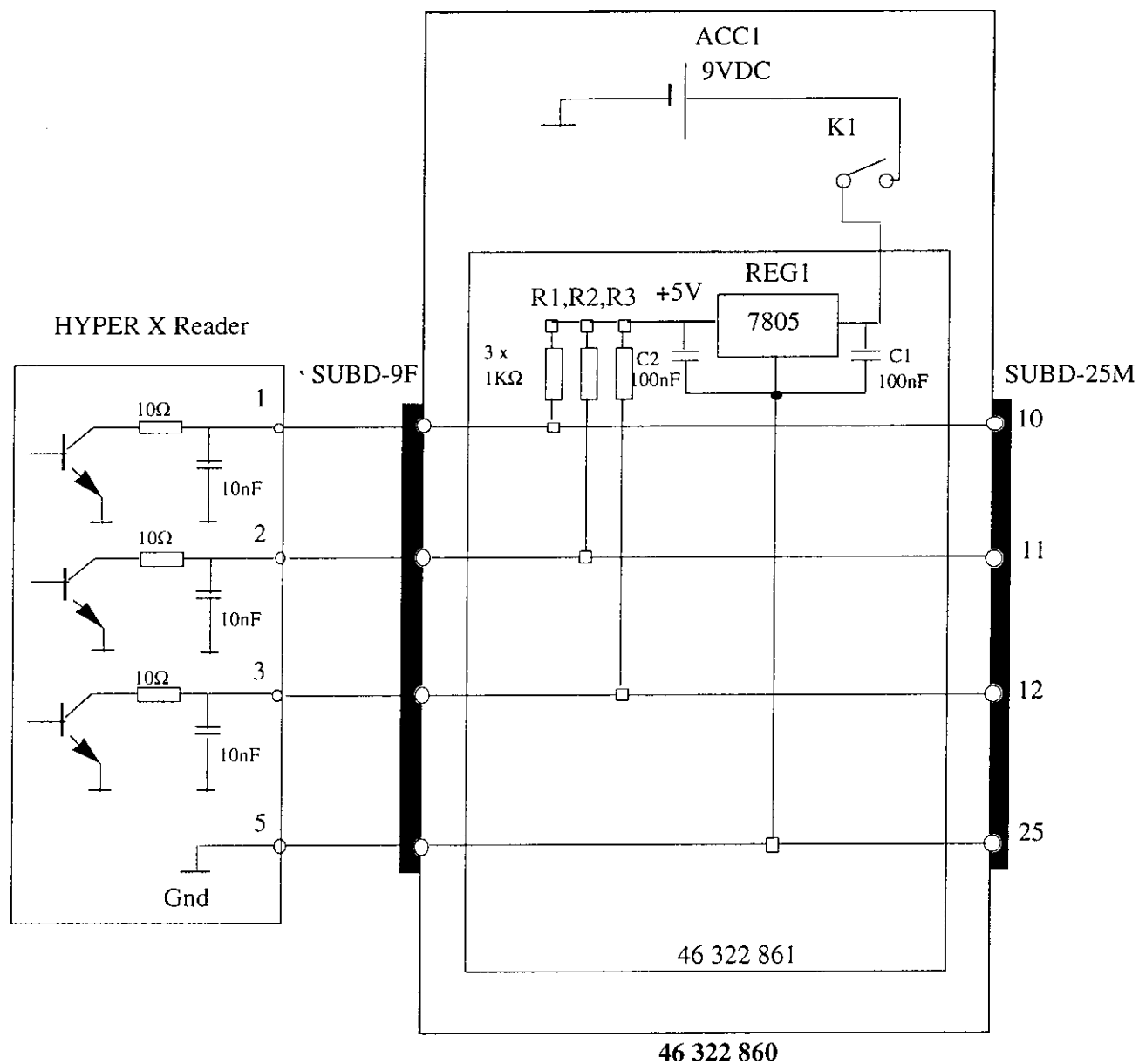
1.2 Electrical Connections

On the reader side, the connector is a subD 9-pin male. The cables 46322863 and 46322864 connect between this connector and the 5-pin PHOENIX-type connector on the HYPERX modular or compact readers respectively.

On the PC side, the connector is a subD 25-pin male. The cable 46322862 connects between this connector and the 25-pin PC printer port.

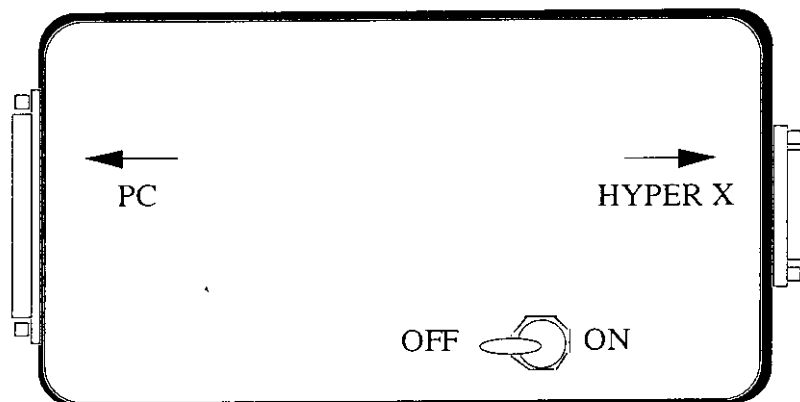
ISO2 signal	WIEGAND signal	Reader pin	SUBD-25P (PC)
STROBE	DATA"1"	1	10
MDATA	DATA"0"	2	11
PRES. BADGE		3	12
GND	GND	5	25

2. Wiring diagram

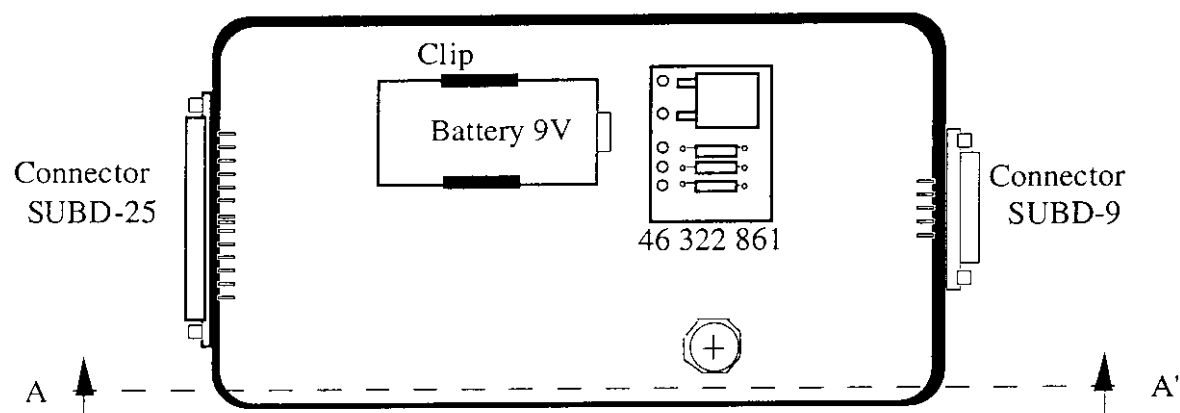


3. Description

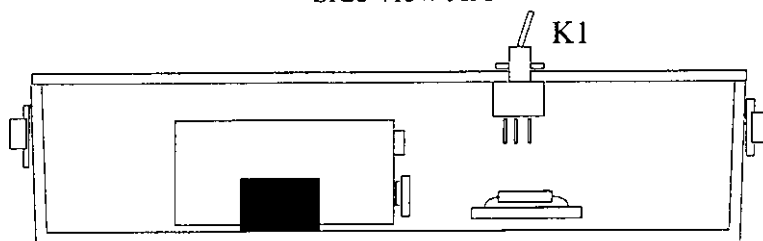
Top view



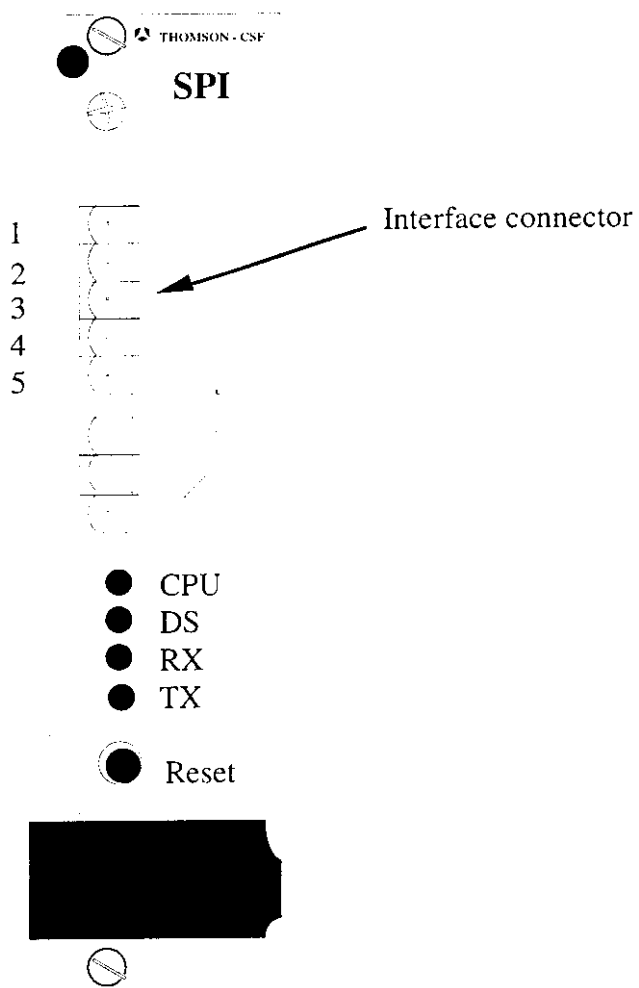
Top view with lid off



Side view AA'

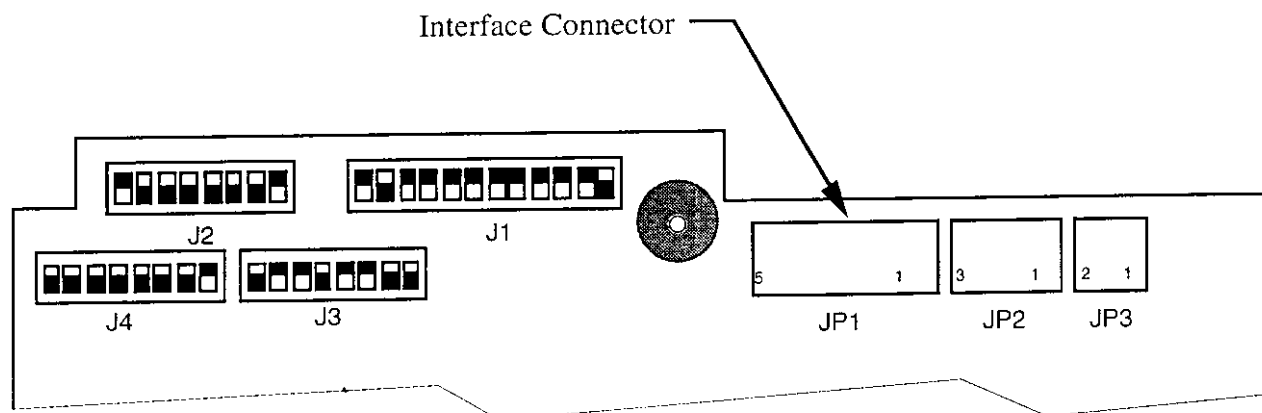


Interface connector on modular reader (front panel of SPI module)



Pins 1 to 4 : I/O
Pin 5 : 0V (GND)

Interface connector on compact readers (JP1)



Pins 1 to 4 : I/O
Pin 5 : 0V (GND)

4. Parts list

The box comprises :

Housing : Make ZETTOX, Material : Aluminium alloy LM6 - IP65
Dimensions : 125 x 80 x 57 mm

ACC1 : Manganese/Titanium battery
Make DURACELL, ref MN1604
Standard IEC : PP3 / 6LR1 9V 550mAh

Battery clip : Make KEYSTONE
Carbon steel , ref 79 horizontal.

Battery connection : Make KEYSTONE
Ref 233. Separate 26-gauge wires.

Single pole switch ON-ON
Make : APEM, ref : 5636A9

PCB 46 322 861 comprising :
REG1 : Regulator 78M05ABDT SGS-THOMSON Package DPAK
R1,R2,R3 : 1K Ω 5% 1/4W
C1,C2 : 100nF 63V

Connector SUBD-25pin F, solder on board
Connector SUBD-9p M, solder on board

Correct use of the box requires :

- cable assembly SUBD-25p M-M for PC side, ref 46322862
- cable assembly SUBD-9p F for reader side, ref 46322863 for modular readers or ref. 46322864 for compact readers.
- a PC compatible, MSDOS 3.0 or later with printer port
- DOS program "READISO 1.6" or "WIEGAND 1.5"

5. Connecting HYPERX readers with a ISO2/WIEGAND interface to a PC

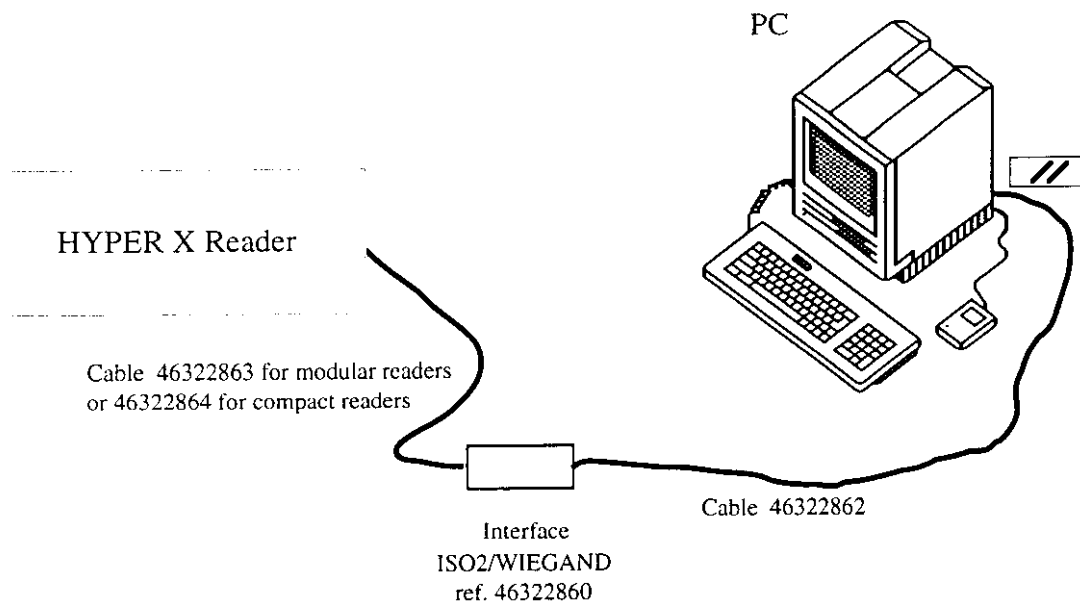
A HYPERX reader using the ISO2 or WIEGAND interfaces can be connected to a PC using this interface box and appropriate PC software.

On the reader side, the connector is a subD 9-pin male. The cables 46322863 and 46322864 connect between this connector and the 5-pin PHOENIX-type connector on the HYPERX modular or compact readers respectively.

On the PC side, the connector is a subD 25-pin male. The cable 46322862 connects between this connector and the 25-pin PC printer port.

Before using the PC software, the HYPERX reader interface must be correctly configured for either the ISO2 or the WIEGAND interface (see HYPERX Readers Interface Notice 46322890-104).

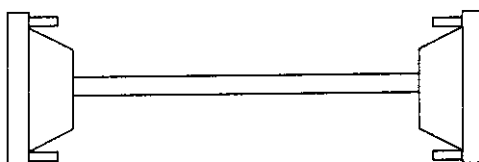
- 1 : configure reader
- 2 : turn on reader
- 3 : run program "READISO" or "WIEGAND" .



APPENDIX

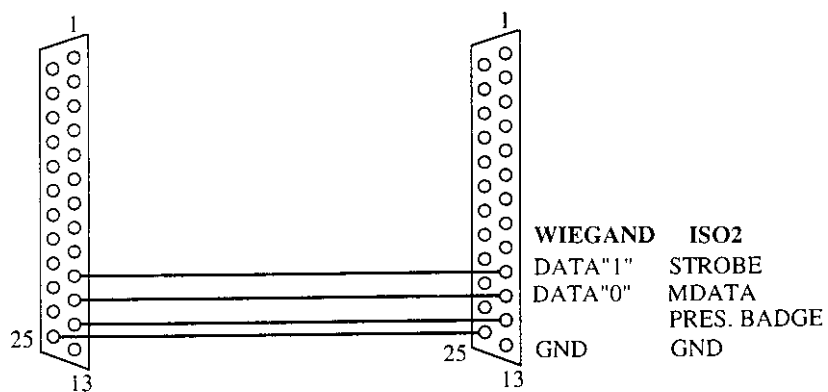
Cable 46322862

SUBD-25 Pin Fem. /Fem.



Cable type AWG22
with braid shield

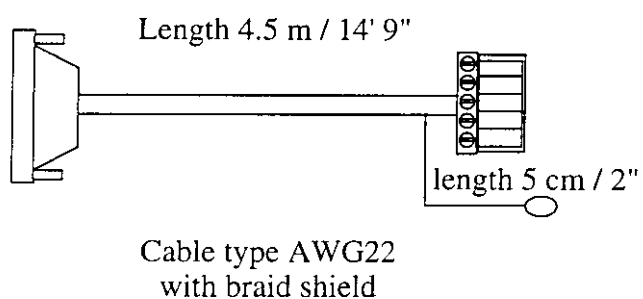
Wiring diagram



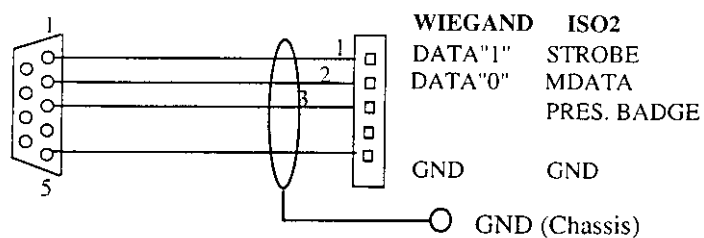
APPENDIX

Cable 46322863

SUBD-9 pin Fem. /Phoenix 5 pin Fem.



Wiring diagram

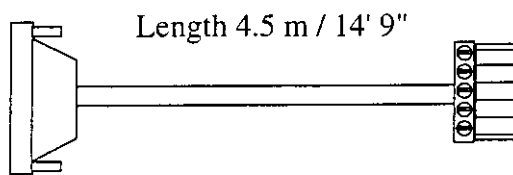


APPENDIX

Cable 46322864

for compact readers

SUBD-9 pin Fem. /Phoenix 5 pin Fem.



Cable type AWG22
with braid shield

Wiring diagram

