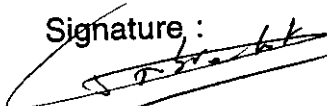
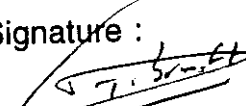


ATTACHMENT A

LVM_4033 Modular Reader

GENERAL DESCRIPTION

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

MODULAR READER - LVM_4033

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.

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.

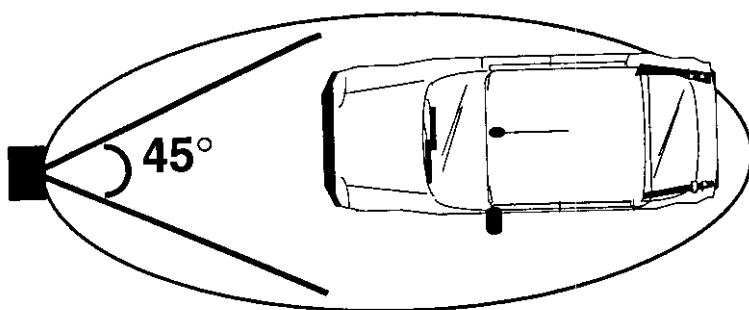
V - CHARACTERISTICS

- 5 meters range reader
 - reading distance suitable for vehiclesl.
- Reading distance adjustment from few centimeters to several meters, using of potentiometer
- Simultaneous multitag identification 5 tags in one second (Tags Normal Mode)
 - Traffic statistics
 - Obstacle-free access control
 - Multi-tags applications - e.g.: Driver and vehicle to manage a fleet
- Identification of a tag inside a moving vehicle at the speed up to 60 Km/h
 - Automatic vehicle identification
 - Easy access to sites or car parks
 - Burst identification calculation
- Coexistence of 31 readers in same zone
 - Series of gates, access control side to side
- Directivity due to 2.45 GHz frequency band :
 - Identification relatively insensitive to environment
 - Reading area can be fitted to tag trajectory,
 - Tag identification behind a windshield of a moving vehicle

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.380 x 280 x 30 mm
- Weight of 42E closed box reader4.200 kg
- Weight of AT3 Antenna3.000 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 the normal conditions of use)
- RF power emission.....<75mWE.I.R.P.
(E.I.R.P.: Equivalent Isotropic Radiated Power)
- Suitable range up to5 meters (16 feet)

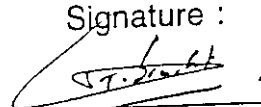
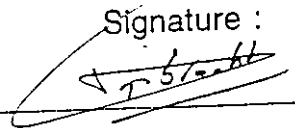
VII - TECHNICAL DESCRIPTION

see attached document: block diagram réf. 4033X091

ATTACHMENT B

CHS_2019 LOCKED BOX

GENERAL DESCRIPTION

Auteur/Author : <i>Pl. GEBRECHT</i>	date : <i>3/4/94</i>	Signature : 
Autorisé/Approved : <i>Pl. GEBRECHT</i>	date : <i>3/4/94</i>	Signature : 

I - EXTERNAL DESCRIPTION

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

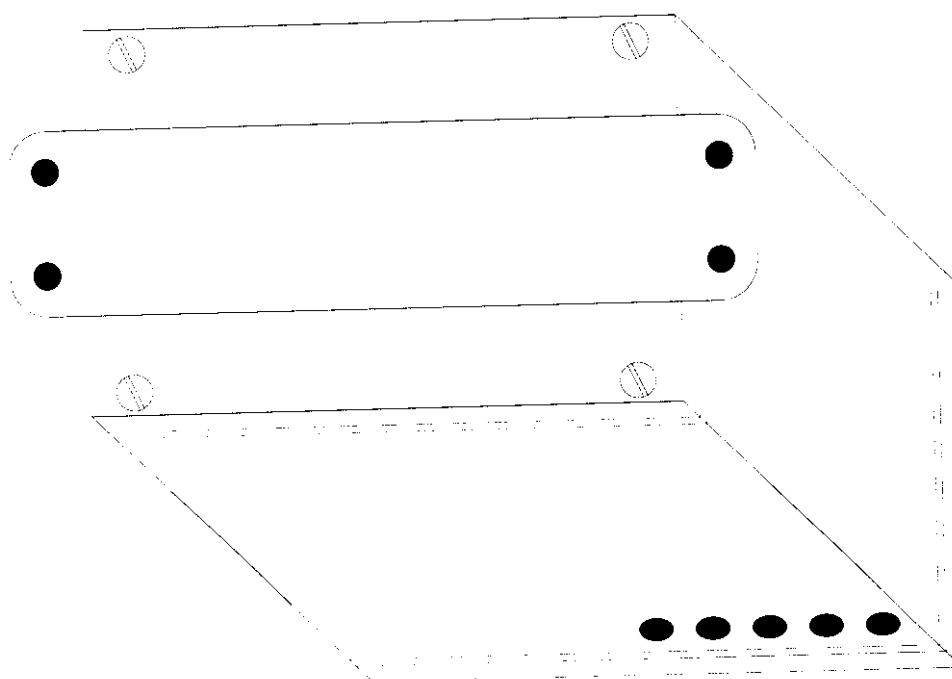
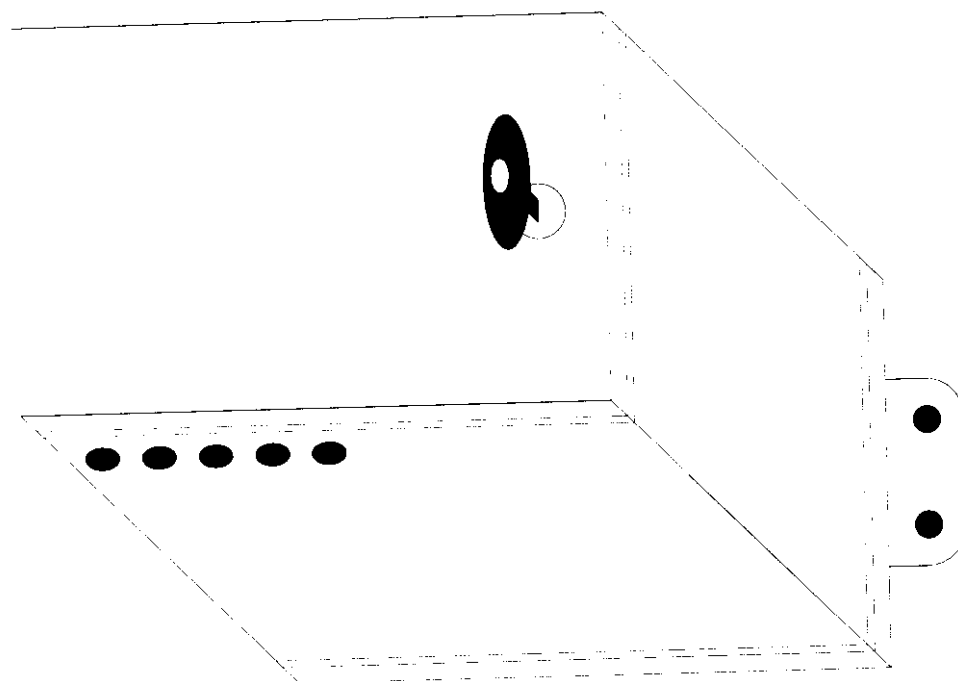
II - FUNCTIONAL DESCRIPTION

- this box is equipped with printed circuit board (ref.2065) which connects together each module.
- this box is equipped 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

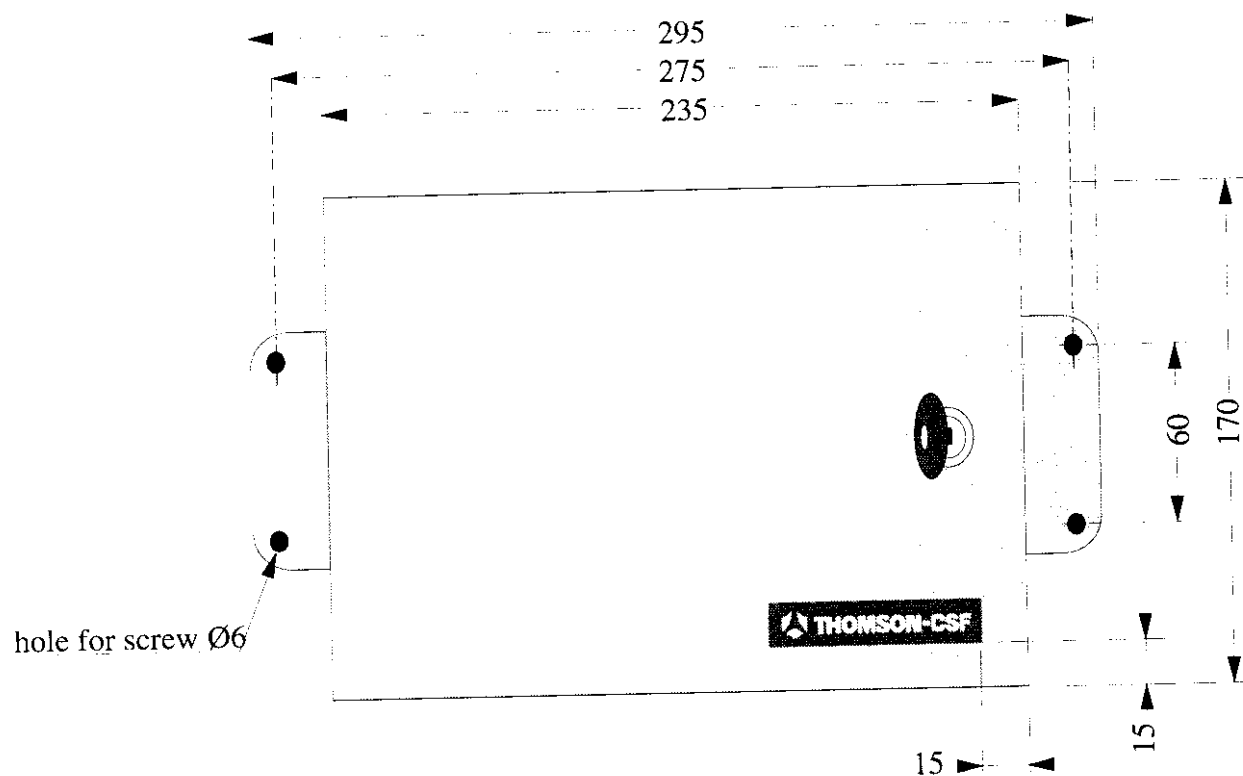
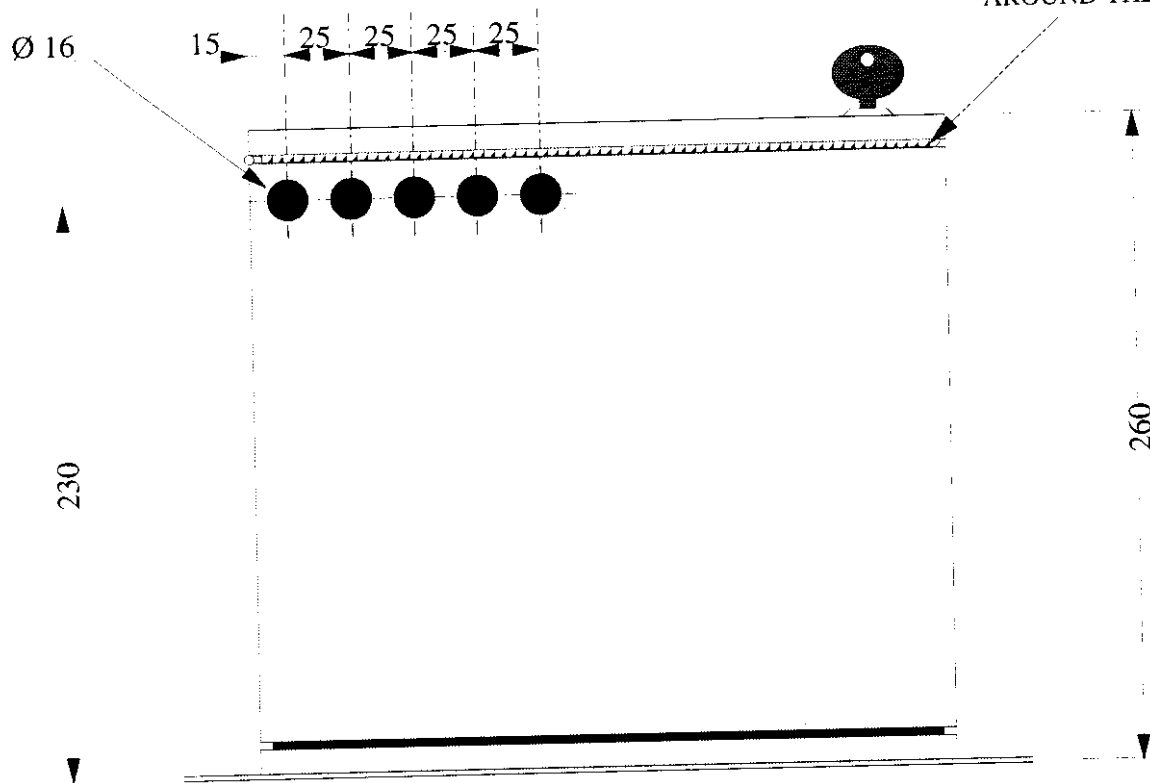
FRONT VIEW



BACK VIEW

ECHELLE 1/3 ENV.

STRIP OF BERYLIUM
AROUND THE DOOR



MATERIAL:
STEEL

FINISHED:
EPOXY PAINTING
COLOR GREY RAL 7035

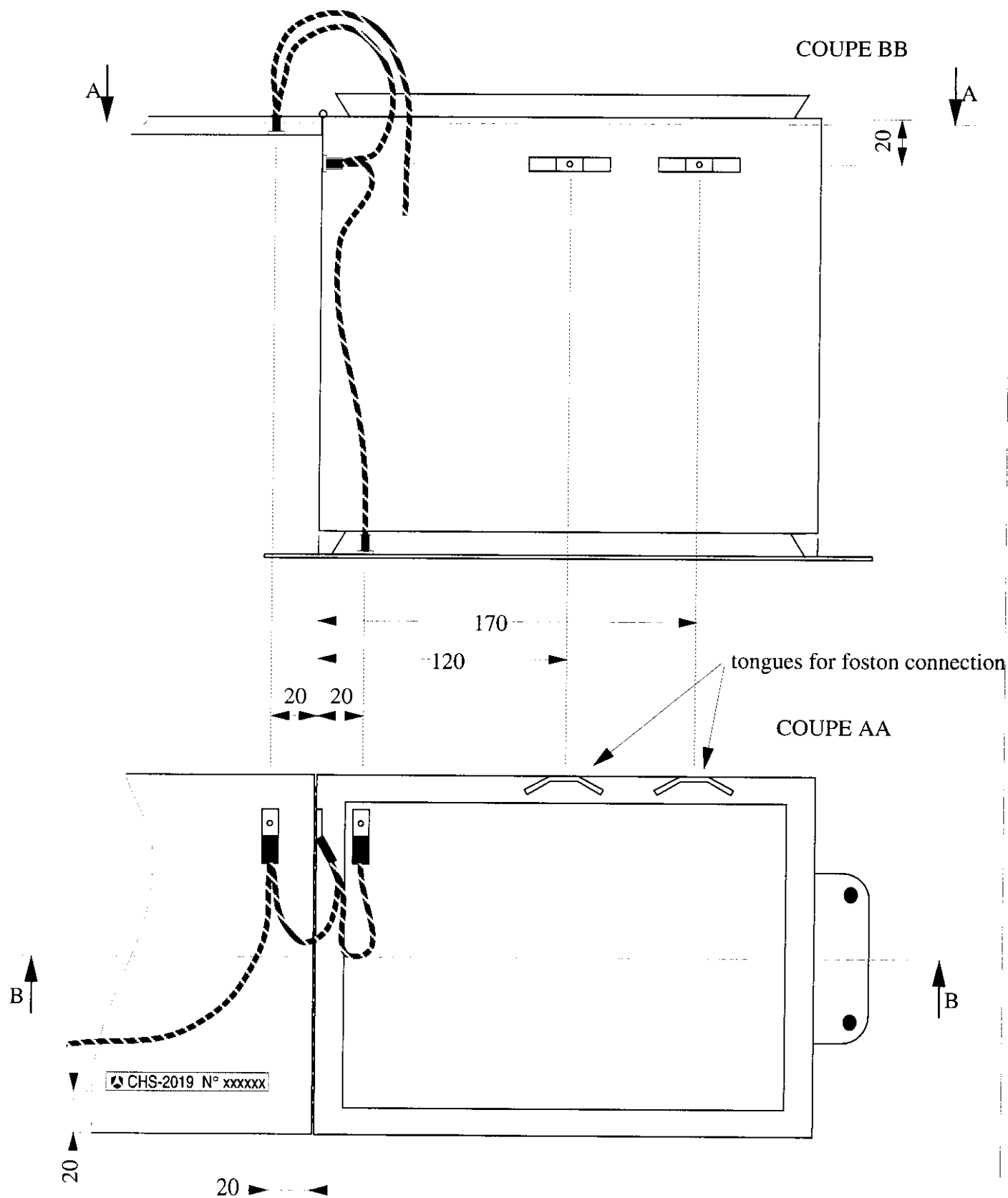
THOMSON-CSF

CHS-2019: external dimension

46323009/030

BW

date 09/2/98

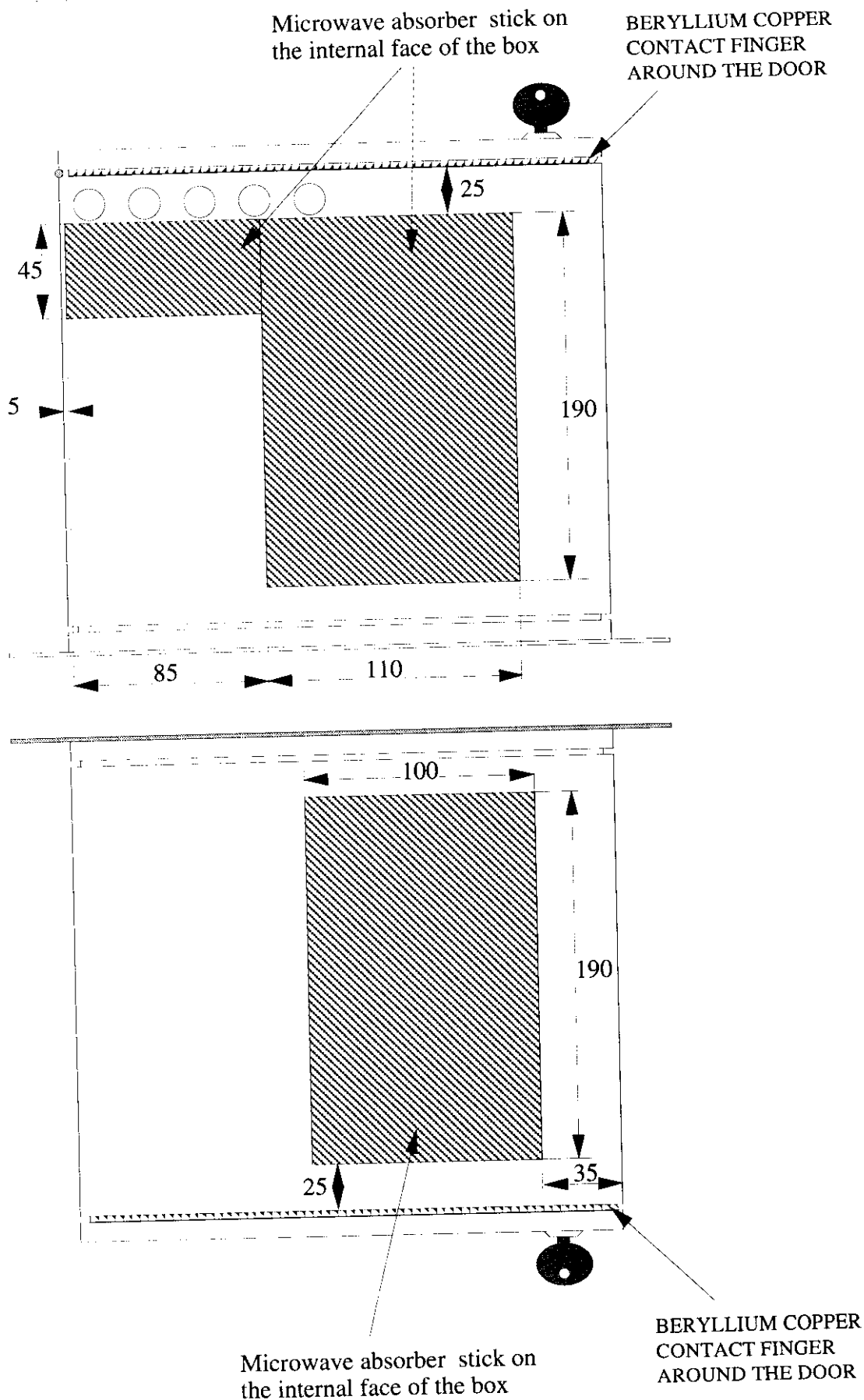


FASTON CONNECTION :
 3 SIMPLES AND 2 DOUBLES
 WIDTH 5mm ET THICKNESS 0,8 mm
 ANGLE OF THE TONGUE: 30°

EARTH WIRE:
 FLEXIBLE MULTIWIRES 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

Location of microwave absorber

CHS-2019:

46323009/030

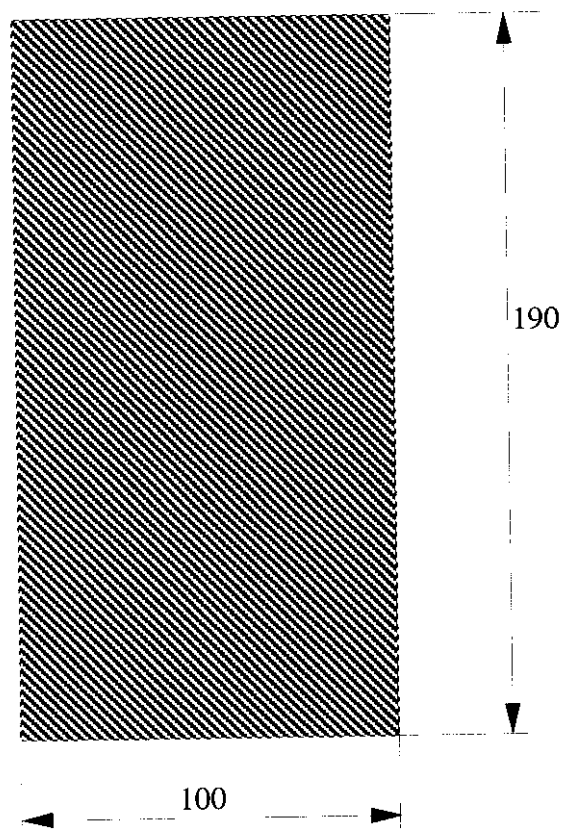
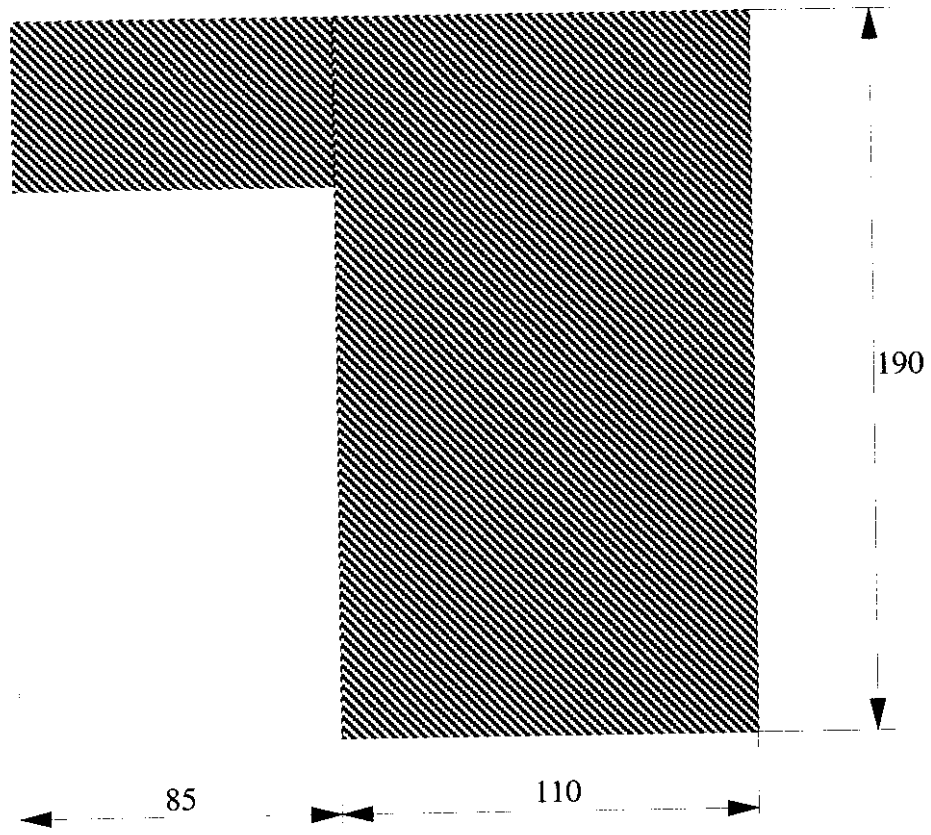
THOMSON-CSF

date 09/2/98

PART LIST

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[illegible]



others
alimentation



CHS_2019:SCHEMA FDP42

2065X020

date 15/12/97

indice 02

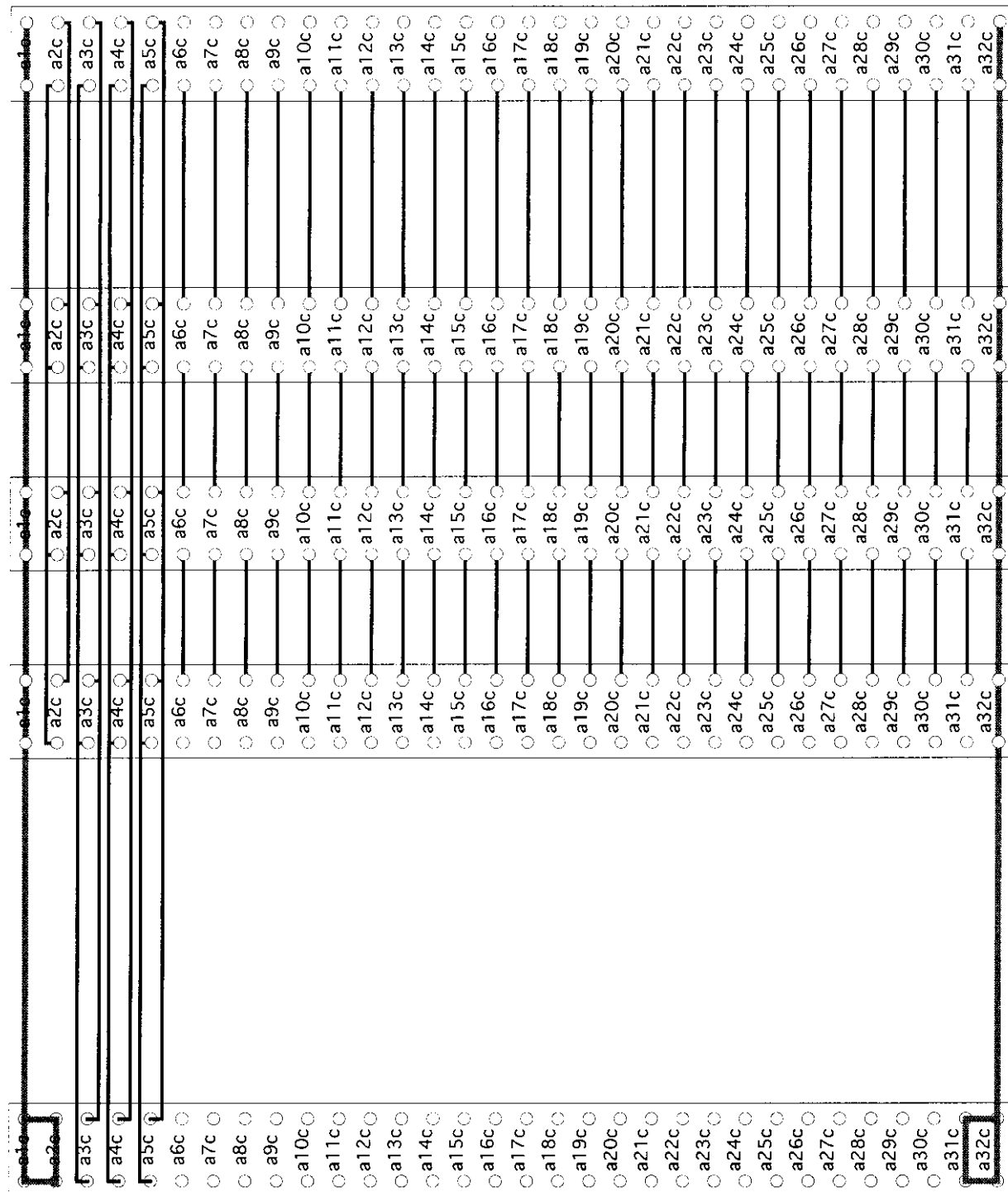
J1

J2

J3

J4

J5



ATTACHMENT C

FSM_2550 MODULE

GENERAL DESCRIPTION

Auteur/Author : *Ph. GOBRECHT*

date :
3/4/98

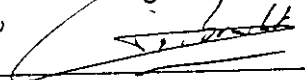
Signature :



Autorisé/Approved : *Ph. GOBRECHT*

date :
3/4/98

Signature :



I - EXTERNAL DESCRIPTION

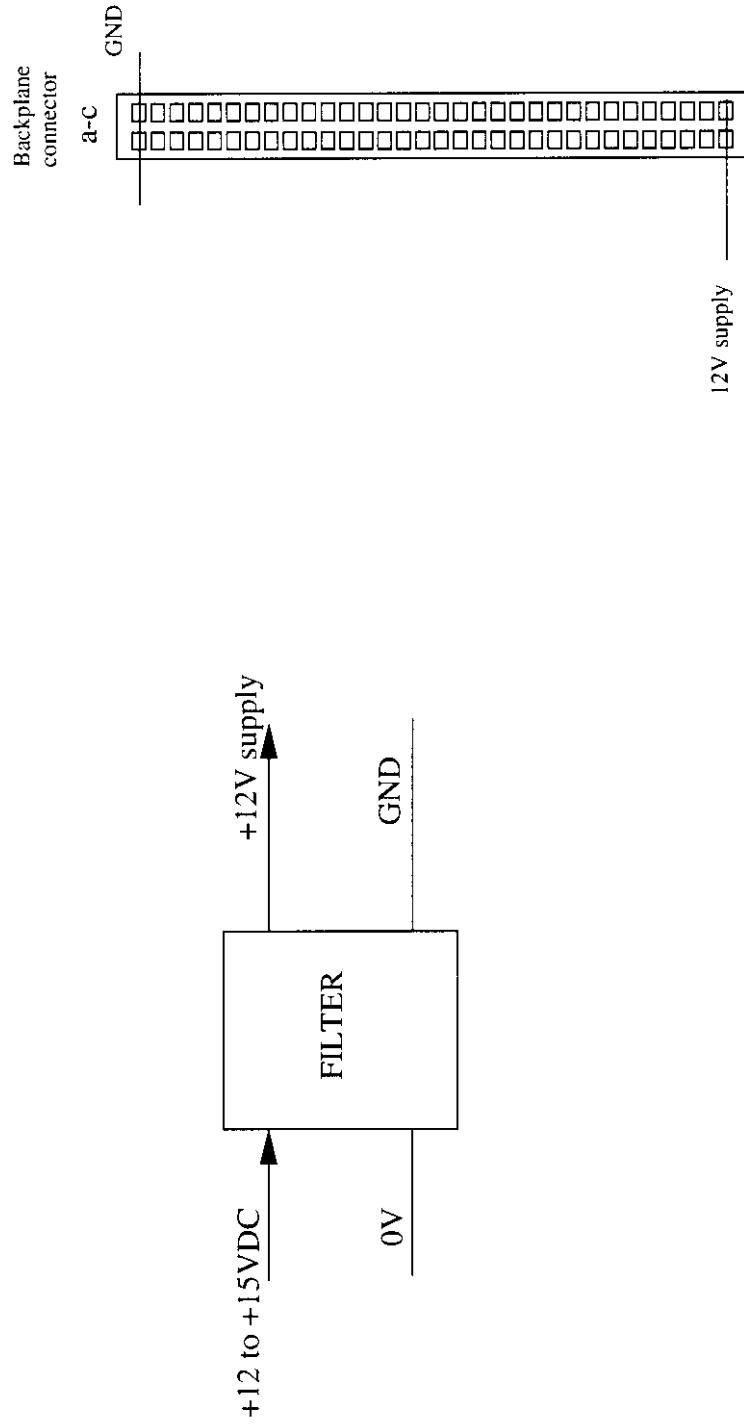
- module
 - Eurocard format for 19" rack
 - height 3U
 - width 6TE
 - metal front panel with marking
- printed circuit board
 - single europe format
 - dimensions: 160 x 100 x 1,6 mm
 - FR4 substrate
 - single layer technology with solder masks
- rear connector
 - 64 pins in 2 rows (DIN 41612)
 - 12VDC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

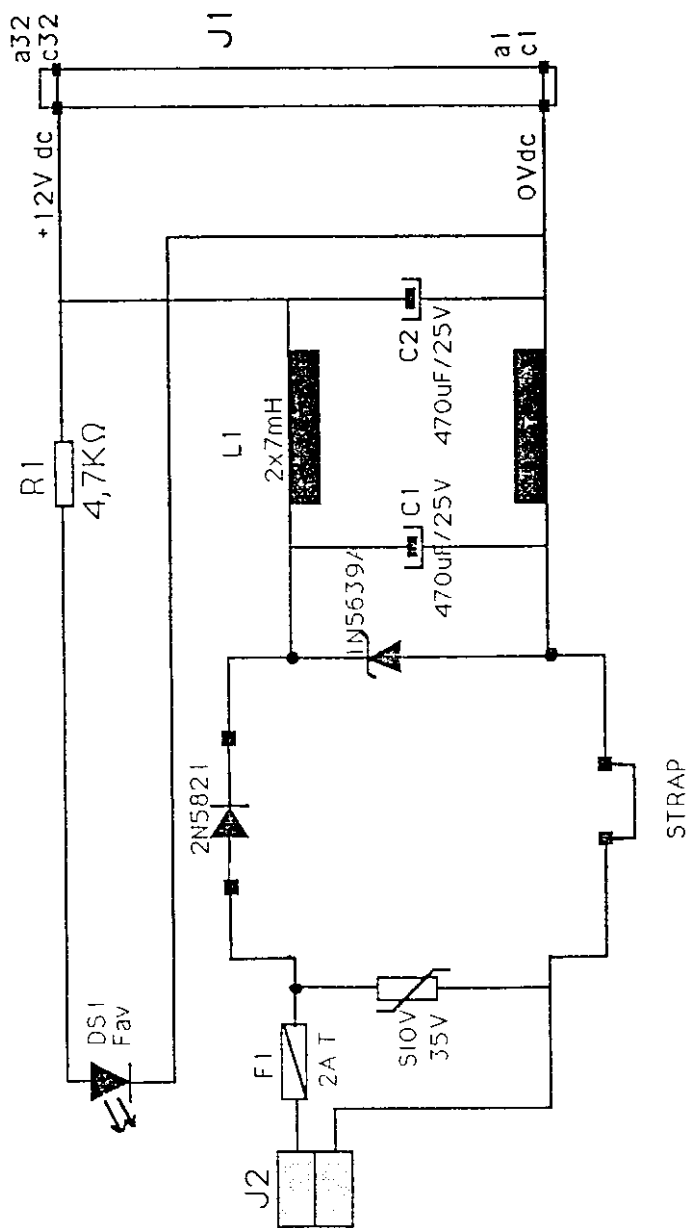
- see attached document
 - block diagram ref. 46323010/091
 - part list ref. 46323010/001
 - schema of circuit board ref.46323010/020
 - components location drawing ref.46323010/042

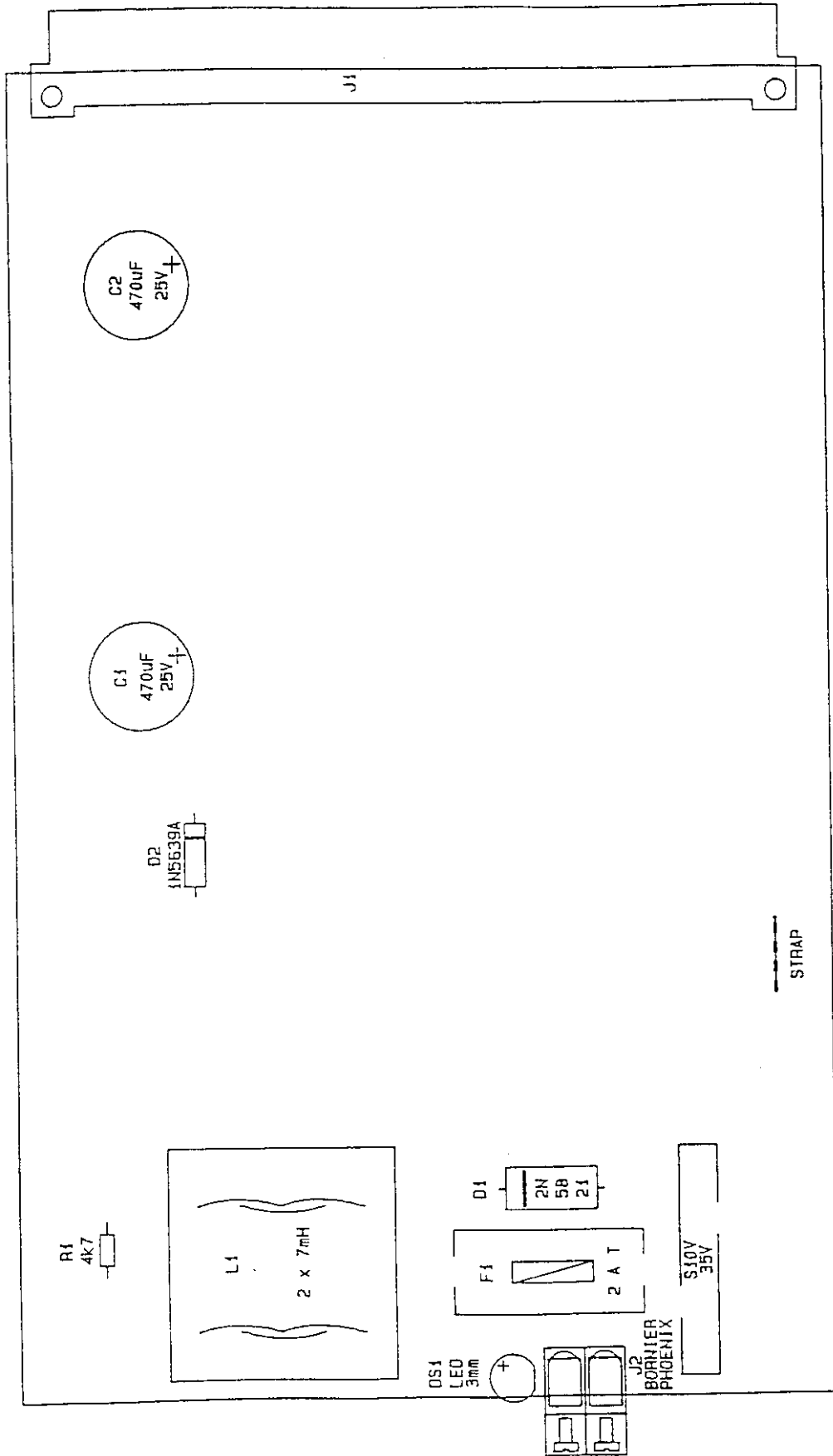


PART LIST

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quantité	code	référence	désignation	boîtier	repère topo
connecteur	1	410	DIN 41612 type c 64 contacts mâle a+c		J1
	1	2521	débrochable 5,08 à 2 pts mâles à souder		J2
	1	2523	débrochable 5,08 à 2 pts femelles pour fil		
sell	1	622	contrarotative FE 2x07-5-3		L1
embase	1	168	porte fusible RDI 600241		
fusible	1	621	temporisé 5x20 3,15A		F1
diode	1	623	1N5821		CR1
	1	624	1N5369A		CR2
gsmov	1	589	SIOV-S20K35	Siemens	SIOV
strap	1		fil		
condensateur	2	431	470µF 25V radial pas 5,08		C1, C2
led	1	461	led dia. 3mm coudée sur support verte HP		DS1
résistance	1	154	47kΩ 0,25W 5%	classique	R1
Circuit . imp.	1	2552		100x160mm	
équerre	2	418		fixation CI sur FA	
face avant	1	2551			





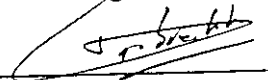
ATTACHMENT D

SHF_2339 MODULE
GENERAL DESCRIPTION

Auteur/Author : *Pl. GÖBRECHT*

date :
3/4/98

Signature :



Autorisé/Approved : *Pl. GÖBRECHT*

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

REPORT-NO.
ET0516-D

REVISIONS

[illegible]

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PAGE: 2 DATE: 09/10/97
#J2944

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
1:1159939215	VJ0805Y104KXX	22.00	EA	CAP F CHIP 0.1MF 25V 10%	C6	C7
	T			SMD T/R=4000PCS	C8	C9
					C10	C11
					C14	C20
					C23	C24
					C31	C32
					C38	C42
					C43	C44
					C45	C48
					C53	C59
					C61	C62
2:1159940647	TMK316F105Z-T	12.00	EA	CAP F CHP 1UF 25V SMT1206	C12	C19
				+80/-20%T/R3000	C21	C22
					C25	C26
					C27	C33
					C34	C39
					C46	C49
3:1119900308	GRT-1000uF-16	4.00	EA	CAP F EL 1000UF 16V	C15	C16
	V-13X22				C28	C40
4:1159942399	ATC100A120JW1	1.00	EA	CAP F CHIP 12PF 150V 5%	C17	
	50XT			T/R=1000		
5:1159940671	UMK212CG102M	5.00	EA	CAP F CHP 1000PF 50V 20%	C29	C30
				SMT0805 T/R3000	C51	C52
					C54	
6:1159941732	UMK212B222K-T	3.00	EA	CAP F CHIP 2200PF 50V 10%	C41	C47
				T/R=4000PCS	C50	
7:1159942364	ATC100A1ROBW1	2.00	EA	CAP F CHP 1PF 150V +/-	C55	C56
	50XT			0.1PF T/R=1500		
8:1159942372	ATC100A1R8BW1	2.00	EA	CAP F CHIP 1.8PF 150V +/-	C57	C58
	50XT			0.1PF T/R=1500		
9:1159942356	ATC100A0R3BW1	1.00	EA	CAP F CHP 0.3PF 150V +/-	C60	
	50XT			0.1PF T/R=1000		

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

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#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	2.00	EA: LED RED D1 D2
	: R: LITEON)		: WITH HOUSING
11	1601009290	1.00	EA: LED GREEN D3
			: WITH HOUSING
12	1182201207	1.00	EA: DIODE MIX (DET) KU SOT-23 D4
	: 12		: SER. PAIR SCHOT
13	1182401281	1.00	EA: DIODE VARACTOR 1.3PF@4V D5
			: CASE 150-3
14	3N04A80204	1.00	EA: PCB SYNT. 2.45GHZ 32 POS. H1
15	3113306407	2.00	EA: SCRW PAN P #2-56X5/16 H2
			: UNC-2A
16	3113306709	2.00	EA: SCRW PAN P #2-56X1/2 H3
			: UNC-2A
17	3313304018	4.00	EA: NUT HEX 2-56 H4
			: UNC-2B
18	3553300028	8.00	EA: WASHER FLAT NO.2 H5
19	3553300231	4.00	EA: WASHER SPRING NO.2 H5
			: LIGHT
20	1722000460	1.00	EA: SOCKET IC 28PIN H7
	: -001		
21	4863005073	1.00	EA: DIELECTRIC MATERIAL HY1
	: BY		: RESONATOR
22	1431100041	1.00	EA: CONN RF BNC R.A PCB RCPT. J1
	: 99 (MFR; IMS)		
23	1452106759	1.00	EA: CONN PCB PLUG, 64 CONT. JP1
	: 3-745-000-E1		: R. ANGLE PIN
24	1613000336	2.00	EA: INDUCTOR 1.2UH +/-10% L1 L2
	: C		: Q=20
PARTS LIST			
		CLASS	SIZE
			A
		DRAWING NUMBER	
		3N04A80002	
		REV 0	SH 3 OF 6

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#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: 3ZEEV000000:
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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

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

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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/000E: 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: HD74HC08FPPEL(: 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 :
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#J2944

DATE: 09/10/97

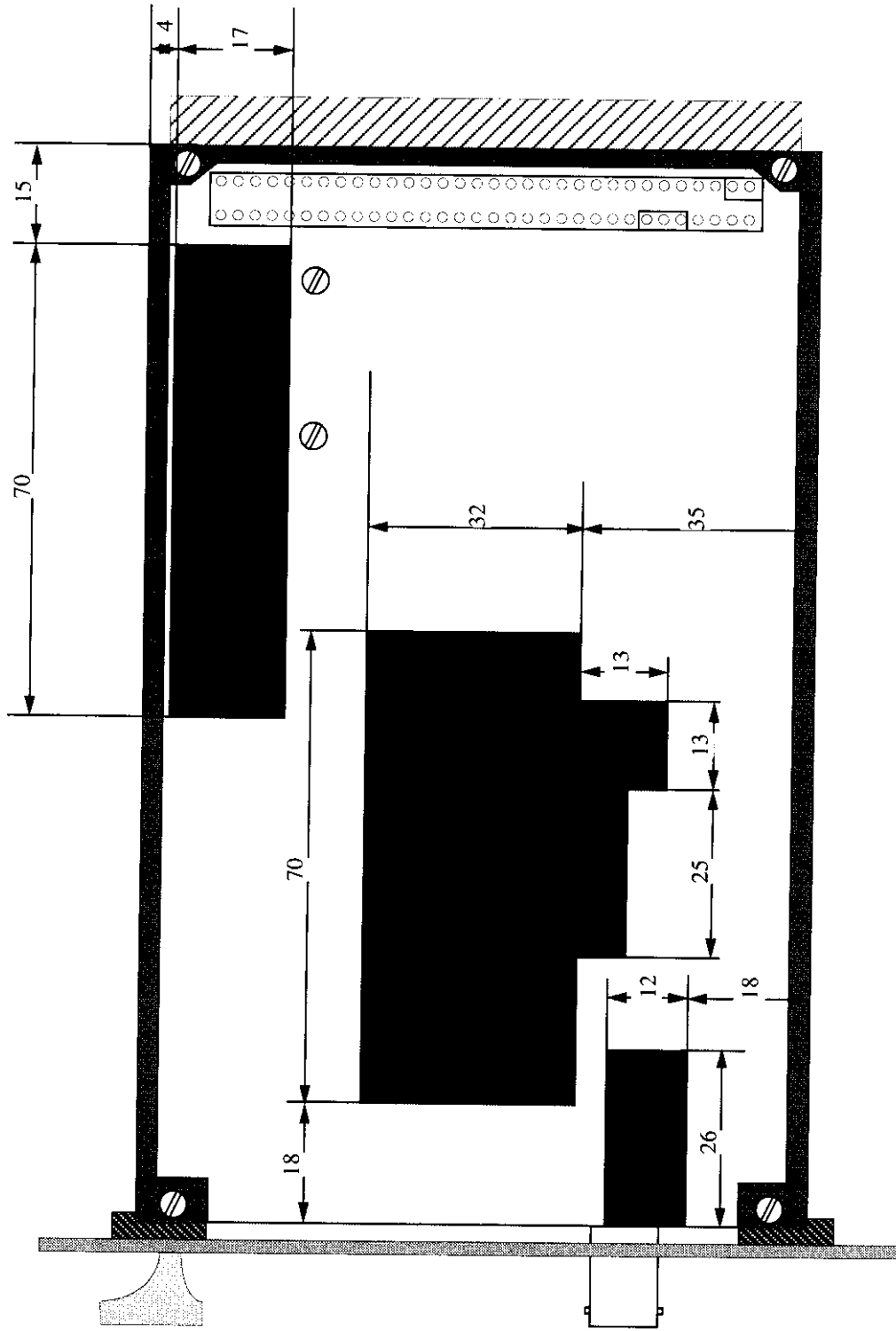
ELISRA - ELECTRONIC SYSTEMS LTD
PARTS LIST

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. 15-2.5GHZ 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 8MHZ 2.5PPM SMT :Y1
	: O-2605A..)		: CMOS ADJ+/-3PPM :
37: 920	ECOSORB LS-26.5A-1/8"	1	Microwave absorber Emerson Cuming

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

??? משוחרר לא מסתך ???

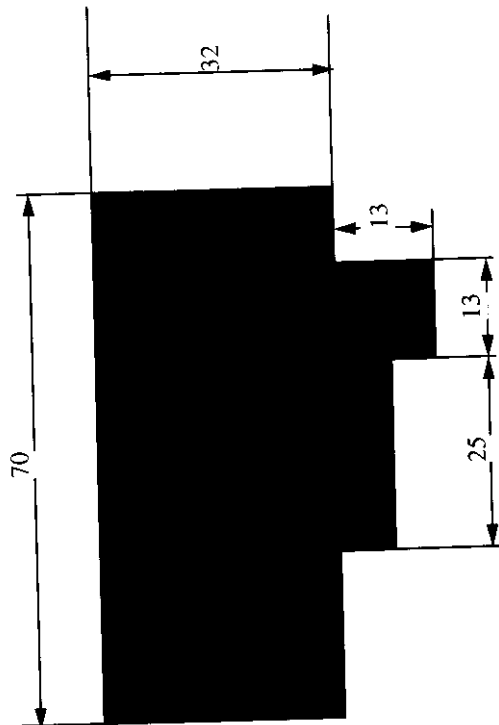
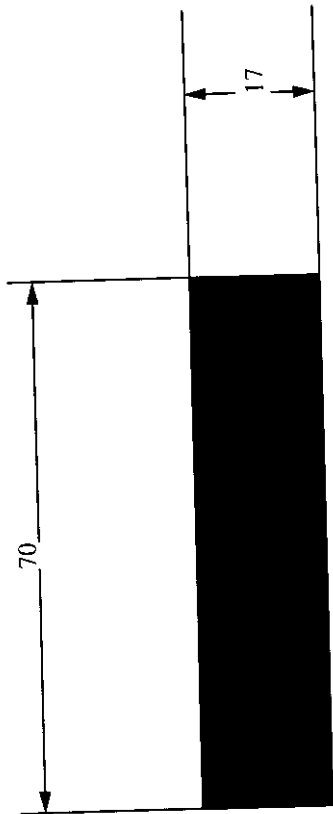


Microwave absorber : ref. ECOSORB LS-26-SA-1/8" from Emerson & Cuming

Location margin : ± 2 mm

Location of microwave absorber

THOMSON - CSF COMMUNICATIONS DEPARTEMENT COMMUNICATIONS HYPERFREQUENCES	SHF_2339 dessin� par PG visa	46322889/030 date 20/3/98	indice A page 1/1
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Microwave absorber : ref. ECOSORB LS-26-SA-1/8" from Emerson & Cuming

920/030

Microwave absorber

date 20/3/98

PG

dessiné par

indice A page 1/1

visa

THOMSON - CSF
COMMUNICATIONS

DEPARTEMENT COMMUNICATIONS HYPERFREQUENCES

ATTACHMENT E

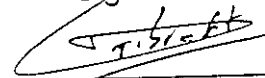
LAM_2429 MODULE
GENERAL DESCRIPTION

Auteur/Author : *Ph. GOBRECHT*

date :

3/4/98

Signature :

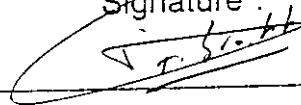


Autorisé/Approved : *Ph. GOBRECHT*

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 ajustment
 - 2 leds for monitoring

II - FUNCTIONAL DESCRIPTION

- microwave amplification and transmission to emitter antenna
- modulated signal amplification coming from reception antenna
- modulation extraction
- additional Doppler filtering
- 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 maintenace purpose
- trimmer DISTANCE allows reducing reading distance : this adjustment doesn't change the power radiated but only the receive sentivity .
- the LAM_2429 module is equiped with circuit board HF_2439 and circuit bord LAM-BF_2490.

III - TECHNICAL DESCRIPTION

- see attached documents
 - HF_2439 block diagram réf.46322988/091
 - LAM-BF_2490 block diagram réf. 46322991/091
 - HF_2439 part list ref. 46322988/001
 - LAM-BF_2490 part list ref. 46322991/001
 - schema HF_2439 circuit board ref.46322988/020
 - schema LAM-BF_2490 circuit board ref.46322991/020
 - components location drawing for HF_2439 circuit board ref.46322988/042
 - components location drawing for LAM-BF_2490 circuit board ref.46322991/042

PART LIST

page 1/2

	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
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 10 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		

PART LIST

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quantité		code référence	désignation	boîtier	repère topo
CIRCUIT INTEGRE	2	872 LT1054CS8	CONVERTISSEUR DC-DC	SO8	MA103,MA104
	1	240 7805	REGULATEUR +5V	TO220	MA102
	2	420 7808	REGULATEUR +8V	TO220	MA100,MA101
	1	709 ADG201AK	ANALOG SWITCH	SO16	U405
	6	701 LT1213	5 MHZ SINGLE-SUPPLY AMPLI-OP.	SO8	U201,U202,U301 U305,U401,U402
	3	703 LF351	AMPLI-OP.	SO8	U101,U304,U501
	4	702 LF353	AMPLI-OP.	SO8	U302,U303,U306,U503
	1	708 EP610	EPLO 3D ns	SO24W	U505
	1	707 74HC4046A	CMOS PLL PHILIPS	SO16	U504
	3	533 LM311	DIFFERENTIAL COMPARATORS WITH STROBES	SO8	U403,U404,U502
	1	871 LTC1064CSW	FILTRE A CAPAS COMMUTEES	SO24W	U203
	1	874 74HC4060	COMPTEUR	SO16	U204
DIODES	1	461 LED-VERTE	LED VERTE 3 mm COUDEE SUR SUPPORT	TH	LED101
	1	462 LED-ROUGE	LED VERTE 3 mm COUDEE SUR SUPPORT	TH	LED301
	1	751 MMSZ3V3-T1	DIODE ZENER 3,3V	SOD123	D501
	2	750 MMSZ5V1-T1	DIODE ZENER 5.1V	SOD123	D502,D503
	2	749 BAS31	DIODE COMMUTATION RAPIDE	SOT23	D301,D302
	2	891 BAS85	DIODE SCHOTTKY	SOD80	D105,D107
QUARTZ	1	875 5 MHz	QUARTZ 5 MHZ 200ppm CMS (NOK)	CP12A	X201

PART LIST

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quantité	code référence	désignation	boîtier	repère topo
CONDENSATEURS	2	876 3,3 PF	COND. 3.3PF NPO CMS	1206 C207,C214
	2	877 15 PF	COND. 15PF X7R CMS	1206 C303,C304
	5	740 22PF	COND. 22PF X7R CMS	1206 C205,C212,C223,C402,C404
	1	878 39PF	COND. 39PF X7R CMS	1206 C224
	1	741 180PF	COND. 180PF X7R CMS	1206 C507
	4	879 330PF	COND. 330PF X7R CMS	1206 C206,C213,C305,C306
	2	880 820PF	COND. 820PF X7R CMS	1206 C203,C210
	11	698 1500 PF	COND. 1500PF 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
	55	536 100NF	COND. 100NF X7R CMS	1206 C101,C105,C106,C109 C110,C120,C127,C129,C130 C217,C218 C221,C222,C226,C227,C228 C301,C302,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
	11	743 10UF-16V	COND. TANTALE 10UF 16V CMS	293D-C C115,C121,C122,C128 C215,C216,C219,C220 C225,C229,C230
	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

PART LIST

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quantité	code référence	désignation	boîtier	repère topo
RESISTANCES 1%	2	752 RES-0	RESL 0 OHM 1/4W [1206]	1206 C204, C211
	2	715 RES-86,6-1%	RESL 86,6OHMS 1/4W 1% [1206]	1206 R325,R328
	2	857 RES-100-1%	RESL 100 OHMS 1/4W 1% [1206]	1206 R207,R222
	1	716 RES-274-1%	RESL 274 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,R233,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
	1	858 RES-4,75K-1%	RESL 4.75KOHMS 1/4W 1% [1206]	1206 R231
	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
	12	727 RES-22,1K-1%	RESL 22.1KOHMS 1/4W 1% [1206]	1206 R301,R302,R303,R306
				R307,R308,R313,R314
				R318,R319,R321,R322
	2	861 RES-25,5K-1%	RESL 25.5KOHMS 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
	1	863 RES-47,5K-1%	RESL 47.5KOHMS 1/4W 1% [1206]	1206 R323
	2	864 RES-53,6K-1%	RESL 53.6KOHMS 1/4W 1% [1206]	1206 R212,R227
	4	865 RES-57,6K-1%	RESL 57.6KOHMS 1/4W 1% [1206]	1206 R202,R205,R217,R220
	1	732 RES-100K-1%	RESL 100KOHMS 1/4W 1% [1206]	1206 R521
	2	866 RES-137K-1%	RESL 137KOHMS 1/4W 1% [1206]	1206 R211,R226
	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

PART LIST

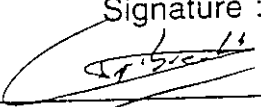
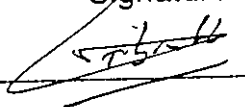
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quantité	code référence	désignation	boîtier	repère topo	
	4	867 RES-316K-1%	RESL 316KOHMS 1/4W 1% (1206)	1206	R209,R215,R224,R230
	2	868 RES-374K-1%	RESL 374KOHMS 1/4W 1% (1206)	1206	R214,R229
	2	870 RES-1,2M-1%	RESL 1,2MOHMS 1/4W 1% (1206)	1206	R206,R221
RESISTANCES 5%	1	885 RES-10M-5%	RESL 10MOHMS 1/4W 5% (1206)	1206	R232
	1	576 RES-220-5%	RESL 220 OHMS 1/4W 1% (1206)	1206	R111
POTENTIOMETRE	2	735 POT-10K-15T	MULTITOURS 15T 10% 0,75W 100PPM	TH	R505,R506
SELS	5	886 22UH	LQH30220K04 (MURATA)	CMS	L102,L103,L104,L106,L108
	1	443 120UH	NLC565050T-121K (TDK)	CMS	L101
ELECTROMECHANIQUE	1	410 DIN41612-AC	CONNECTEUR MALE DIN41612	TH	J1
	1	760 EMB MALE 8PTS	CONNECTEUR CMS 8PTS 2,54MM	CMS	J2
	1	761 JACK 3,5MM POUR CI	EMBASE JACK 3,5 MJ156L	TH	J301
MECANIQUE	1	2492 DFTM 100 x 160 x 1,6	CIRCUIT IMPRIME COMPOSANTS		
	1	2421	FACE AVANT LAM SERIGRAPHIEE		
	1	565	POIGNEE POUR FA		
	2	418	EQUERRE DE FIXATION		
			ETIQUETTE NUMERO SERIE		
VISSERIE	3	514 VIS TR M3 x 6	VIS ACIER TETE RONDE		
	3	520 ECROU H M3	ECROU ACIER HEXAGONAL		
	4	561 VIS TR M2,5 x 10	VIS ACIER TETE RONDE		
	3	562 VIS TF M2,5 x 8	VIS ACIER TETE FRAISEE		
	7	516 ECROU H M2,5	ECROU ACIER HEXAGONAL		
	2	563 VIS CHC M2,5 x 10	VIS NOIRE POUR POIGNEE FA		
	4	560 VIS M2,5 x 12	VIS IMPERDABLE		

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

	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	CHP 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

	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. CHIMIE 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, 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 (POLY SWITCH)	CMS	R13,R15,R17,R19
		687 RXE010	CTP RXE 100-200mA (POLY SWITCH)	TH	R12,R14,R16,R18

PART LIST

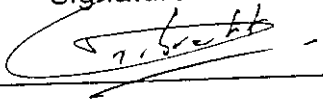
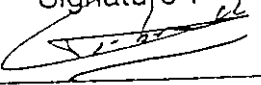
page 3/3

quantité	code référence	désignation	boîtier	repère topo	
ELECTROMECHANIQUE	1	2121 MSTBA-2.5/3-G-5,08	EMBASE 3PTS REF:1757255 (PHOENIX CONTACT)	TH	JP1
	1	2122 MSTBA-2.5/5-G-5,08	EMBASE 5PTS REF:1757271 (PHOENIX CONTACT)	TH	JP2
	1	2123 MSTB-2.5/3-ST-5,08	CNT 3PTS A VIS REF:1757022 (PHOENIX CONTACT)		XJP1
	1	2124 MSTB-2.5/5-ST-5,08	CNT 5PTS A VIS REF:1757035 (PHOENIX CONTACT)		XJP2
	1	410 DIN41612-AC	CONNECTEUR MALE DIN41612	TH	P1
	1	813	SUPPORT TULPE OIL 28 CMS	CMS28	XMN16
	1	814	DIPSWITCH 4 INTER. CMS	CMS8	J2
	3	815	DIPSWITCH 8 INTER. CMS	CMS16	J1,J3,J4
	1	816 V23026D1021B201	RELAIS CMS TYPE P1 (SIEMENS)	CMS	K1
	1	2136 KPE 242	BUZZER PIEZO (KINGSTATE)	TH	BZ1
	1	2134 1846.6031	BOUTON-POUSSOIR (ORBITEC)	TH	S1
	1	2137 1840.8031	CABOCHON NOIR (ORBITEC)		XS1
MECANIQUE	1	2117 MC4 100 x 160 x 1,6	CIRCUIT IMPRIME		
	1	2111	FACE AVANT USINEE SERIENNE		
	1	564	POIGNEE POUR FACE AVANT		
	2	418 173-232669L	EQUERRE PLASTIQUE (BICC-VERO)		
	1		ETIQUETTE NUMERO DE SERIE		
VISSERIE	2	560 Vis imperdable M2,5			
	4	561 Vis TR M2,5 x 10			
	1	562 Vis TF M2,5 x 8			
	2	563 vis noire pour Face avant			
	7	516 Erou HM2,5			
	1	514 Vis TRM3 x 6			
	1	520 Erou HM3			

ATTACHMENT G

AT3_2749 ANTENNA

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

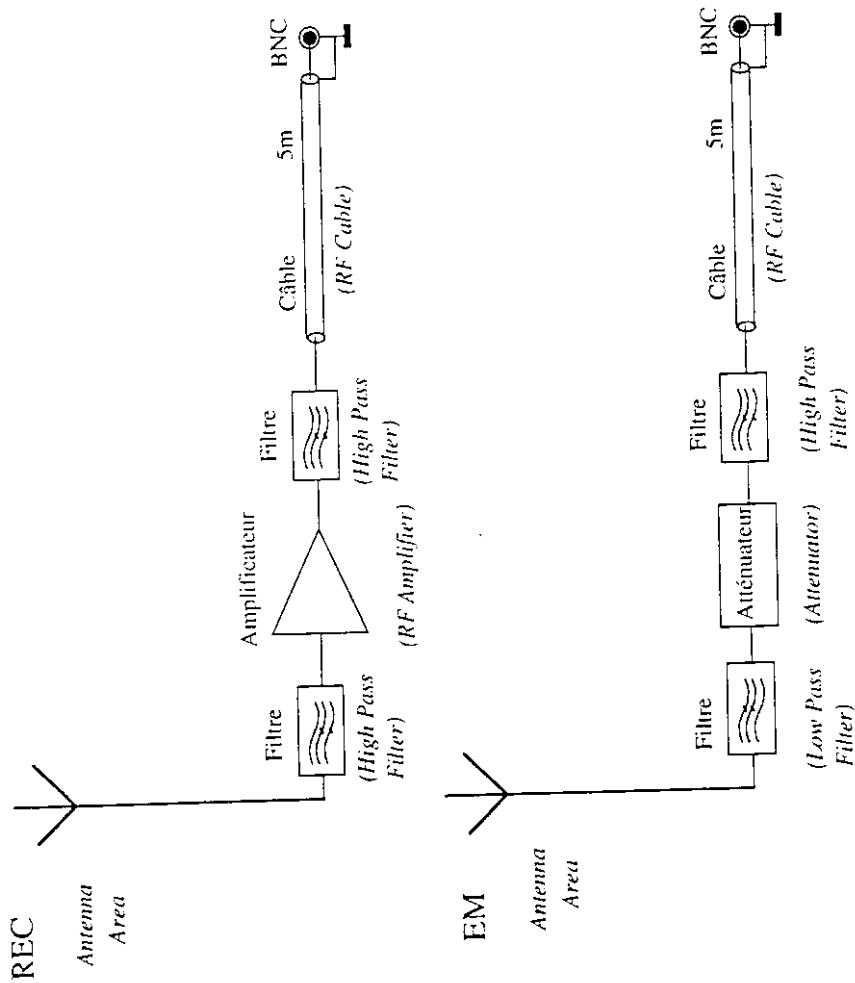
- case
 - front light grey polycarbonat
 - rear of protected steel
 - dimensions: 380 x 280x 30 mm
 - protection level equivalent to IP55
- operating temperature: -20°C to +70°C
- weight: 3 kg
- installation with 4 screws or option swivel
- 2 attached coaxial cables
 - length: 5 m
 - with BNC termination
 - marked ANT IN and ANT OUT

II - FUNCTIONAL DESCRIPTION

- emission antenna for microwave carrier (ANT OUT signal)
 - coming from SHF module and amplified by SAM or LAM module
 - beamwidth: 45°
 - maximum radiated power: 15 dBm
- reception antenna for signal reflected from tag (ANT IN signal)
 - amplification, filtering and transmission to SAM or LAM module
 - beamwidth: 45°
- BNC connectors ANT IN and ANT OUT
 - to be connected to corresponding sockets on SAM or LAM module. The SAM or LAM 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 .

III - TECHNICAL DESCRIPTION

- see attached document
 - block diagram réf. 46322845/091
 - part list ref. 46322845/001
 - schema of circuit board ref. 46322841/030
 - components location drawing ref. 46322841/042
 - definition drawing of cable ref. 46322847/030
 - definition drawing of cable ref. 46322848/030



46322849/091

date 10/4/98

indice A page /

AT3_2749 - BLOCK DIAGRAM

JBE / PG

dessiné par

visa

THOMSON-CSF
COMMUNICATIONS

PART LIST

page 1/1

quantité	code référence	désignation	boîtier	repère topo
circuit intégré	2	832 ERA-2-SM		MA1,MA2
cond. 0805	6	744 1 pF - 99187742	0805	C2,C3,C7,C8,C14,C15
	12	534 47 pF	0805	C1,C4,C5,C6,C9,C10, C11,C12,C13,C16,C17,C18
rés. 0805	1	898 5,6 Ω	0805	R3
	2	895 120 Ω	0805	R1,R2
	2	696 820 Ω	0805	R4,R5
self	6	442 68 nH		L1,L2,L3,L4
connectique	1	2746 46322846		
	1	2748 46322848		
blindage	1	896 boîtier de blindage 20x20x11mm	TH	
PCB	1	46322841 circuit imprimé		
	1	46322842 circuit imprimé		
visserie	8	638 vis nylon		
	8	680 vis inox		
	8	569 vis nylon		
	8	570 écrou nylon		
	4	674 vis inox		
	4	675 vis inox		
	4	677 écrou inox		
	4	676 écrou inox		
	8	571 entretoise		
	8	892 entretoise		
méca	1	2732 plaque de montage en acier zingué blanc		
	2	911 presse-étoupe		
	4	2737 écrou borgne anodisé noir		
	1	921 radôme		
	1	686 étiquette autocollante polycarbonate "THOMSON-CSF"		
	1	912 étiquette numéro de série		
		581 mastic silicone		

PART LIST

page 1/1

[illegible]

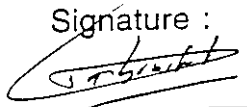
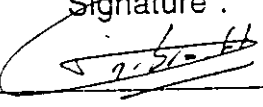
PART LIST

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

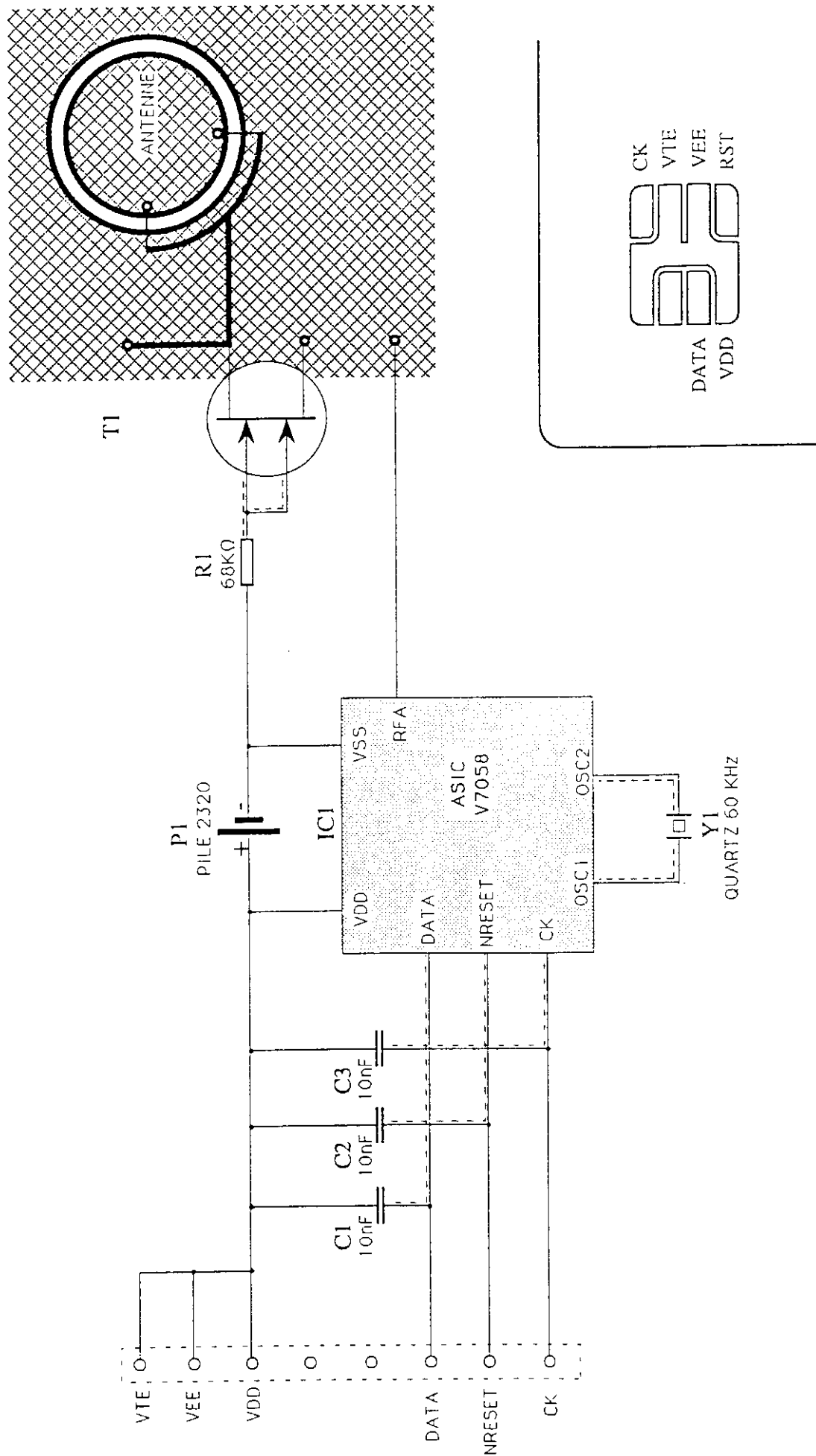
II - FUNCTIONAL DESCRIPTION

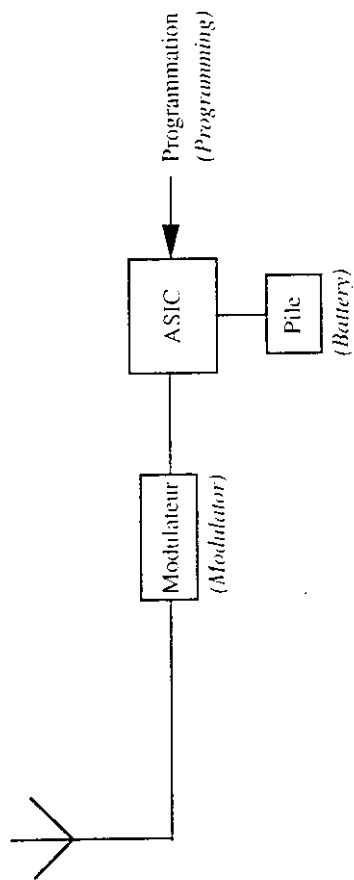
- 180 bit internal memory with serial synchronous access
- incident microwave carrier modulation by passive reflection
- double sided antenna with 180° beamwidth

- encoding connector
 - to be used with adapted programming kit

III - TECHNICAL DESCRIPTION

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





INTERFACE BOX

for

RS-422 INTERFACE

Technical Notice

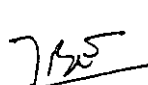
Auteur / Author:	JB EGALOW	date	9/12/97	Signature	
Autorisé / Approved:	Po. P. GORNECHT	date	9/12/97	Signature	

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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

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.

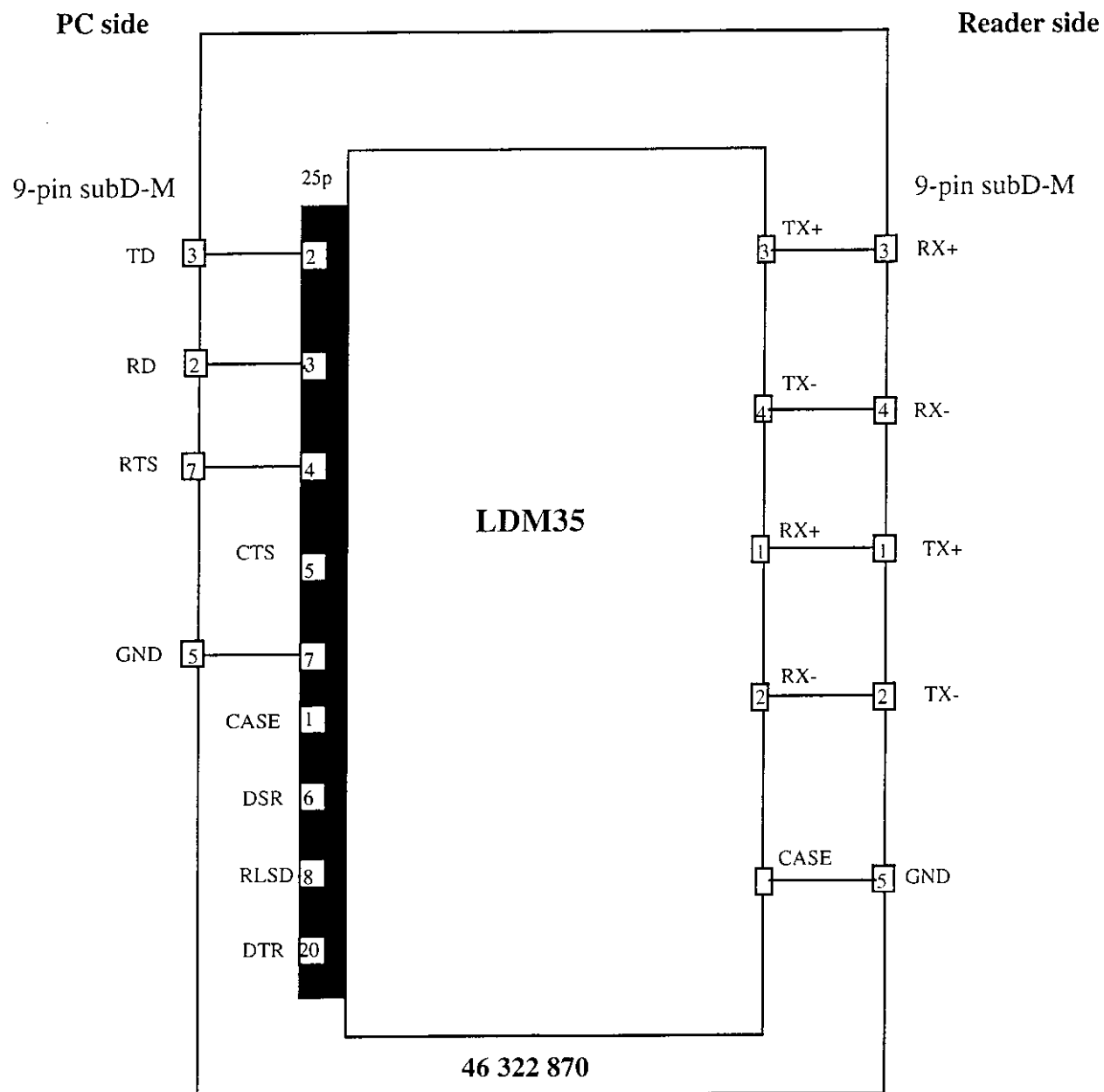
Reader pinout

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

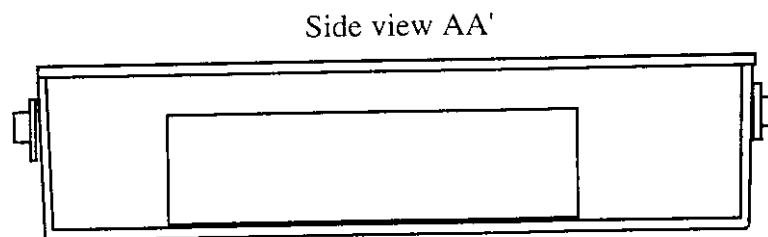
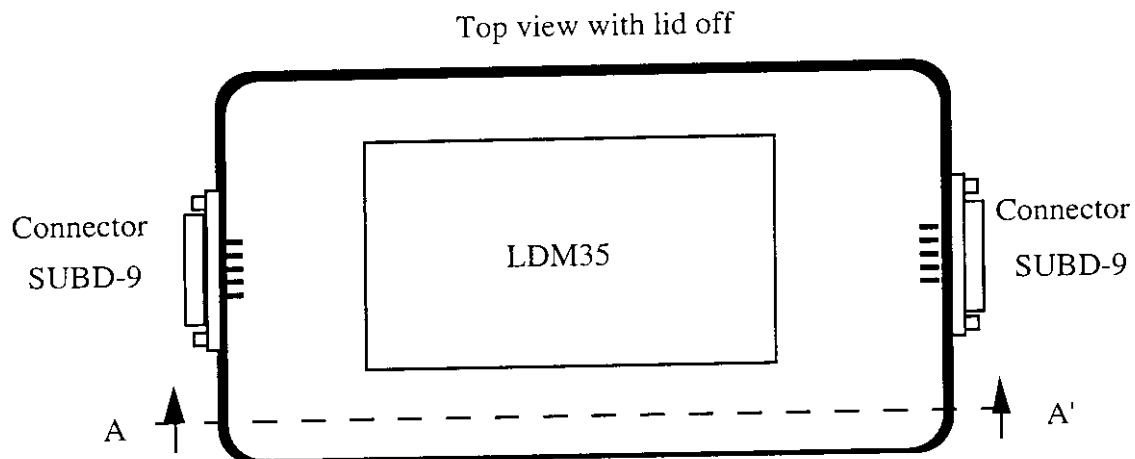
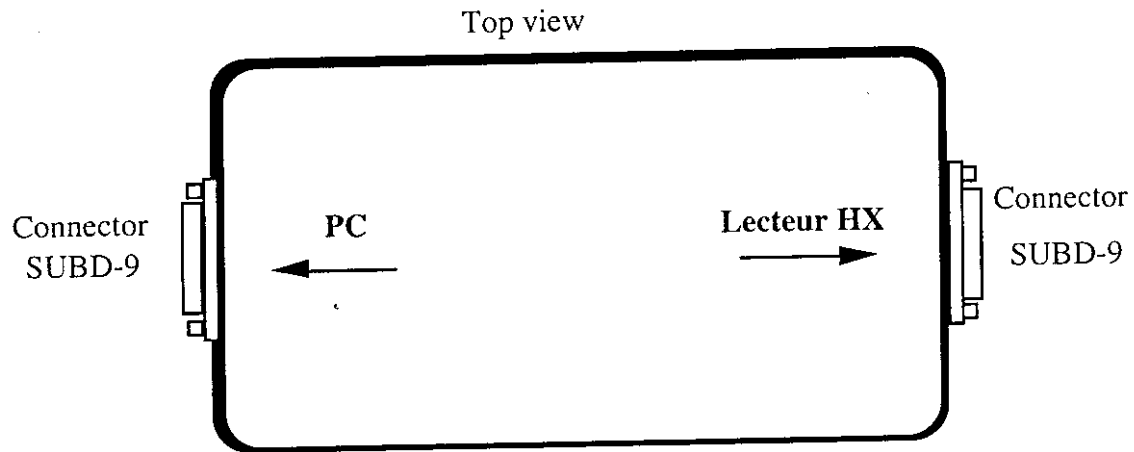
subD-9P (PC)

RX	2
TX	3
RTS	7
GND	5

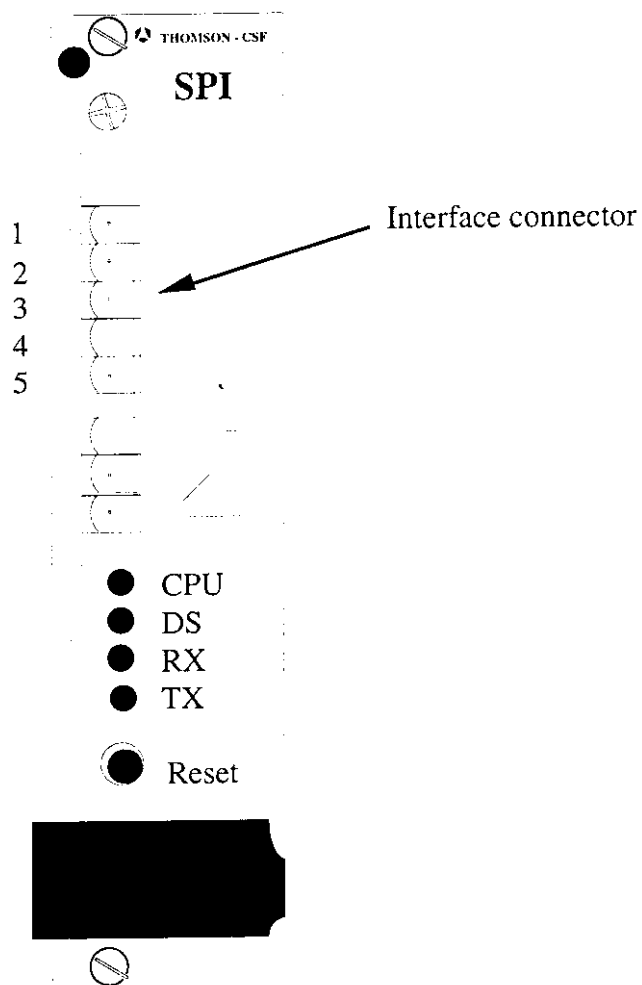
2. Wiring diagram



3. Description

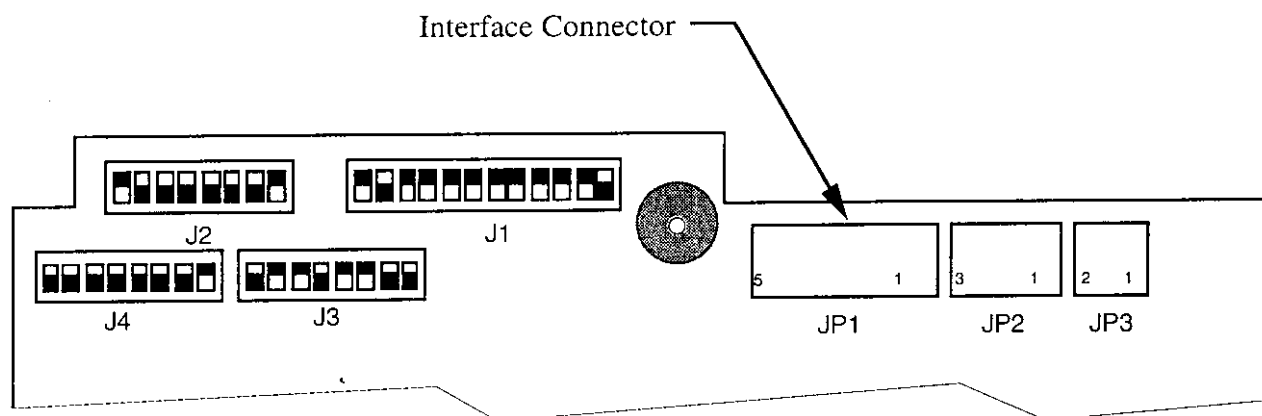


Interface connector on modular reader (front panel of SPI module)



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

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

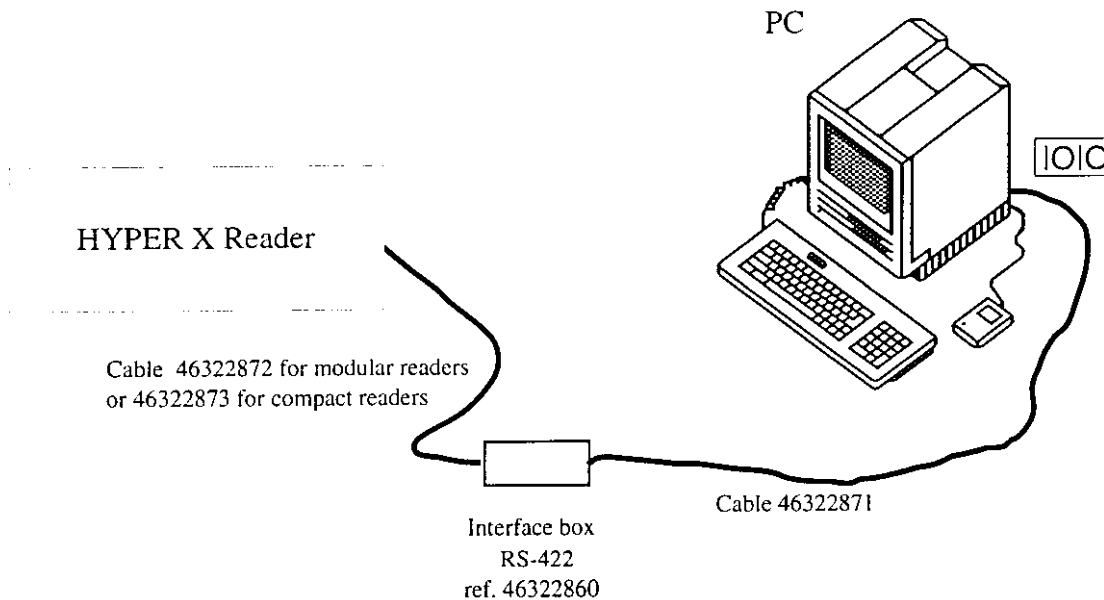
A HYPERX reader using the RS-422 interface can be connected to a PC using this interface box and appropriate PC software.

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).

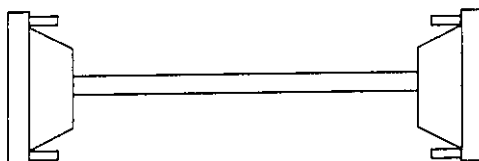
- 1 : configure reader
- 2 : turn on reader
- 3 : run program "COMSPI" .



APPENDIX

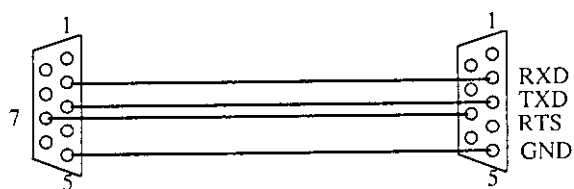
Cable 46 322 871

SUBD 9-Pin F /F
Length 4.5 m / 14'9"



Cable type AWG22
braid shield

Wiring diagram

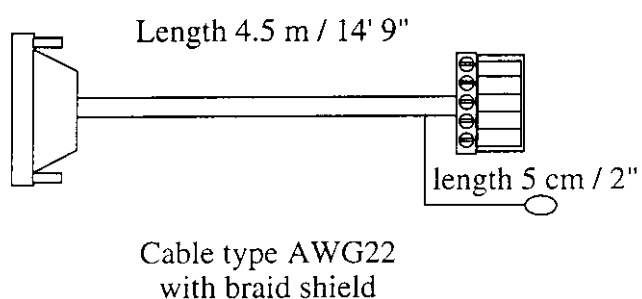


APPENDIX

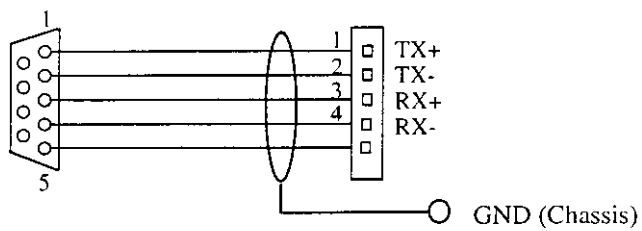
Cable 46322872

for modular readers

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



Wiring diagram

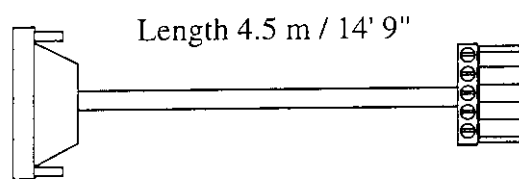


APPENDIX

Cable 46322873

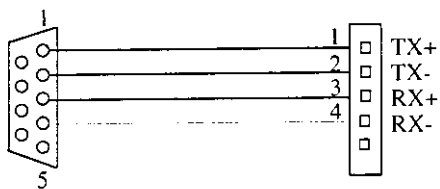
for compact readers

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



Cable type AWG22
with braid shield

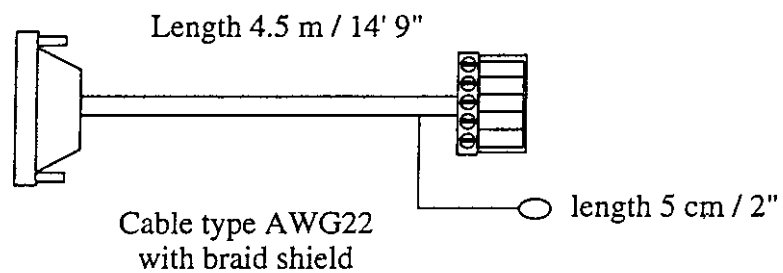
Wiring diagram



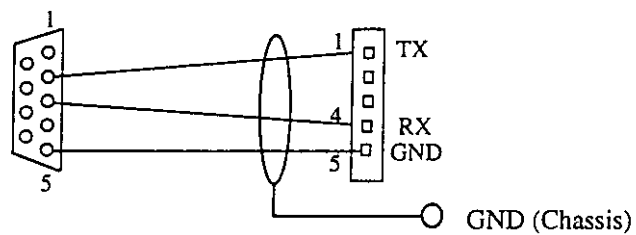
Cable 46322865

for modular readers

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



Wiring diagram



INTERFACE BOX
for
ISO2 - WIEGAND INTERFACES
Technical Notice

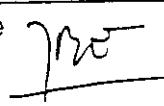
Auteur / Author:	JB EGALOW	date	9/12/97	Signature	
Autorisé / Approved:	P.O. P. GOMESCHT	date	9/12/97	Signature	

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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).

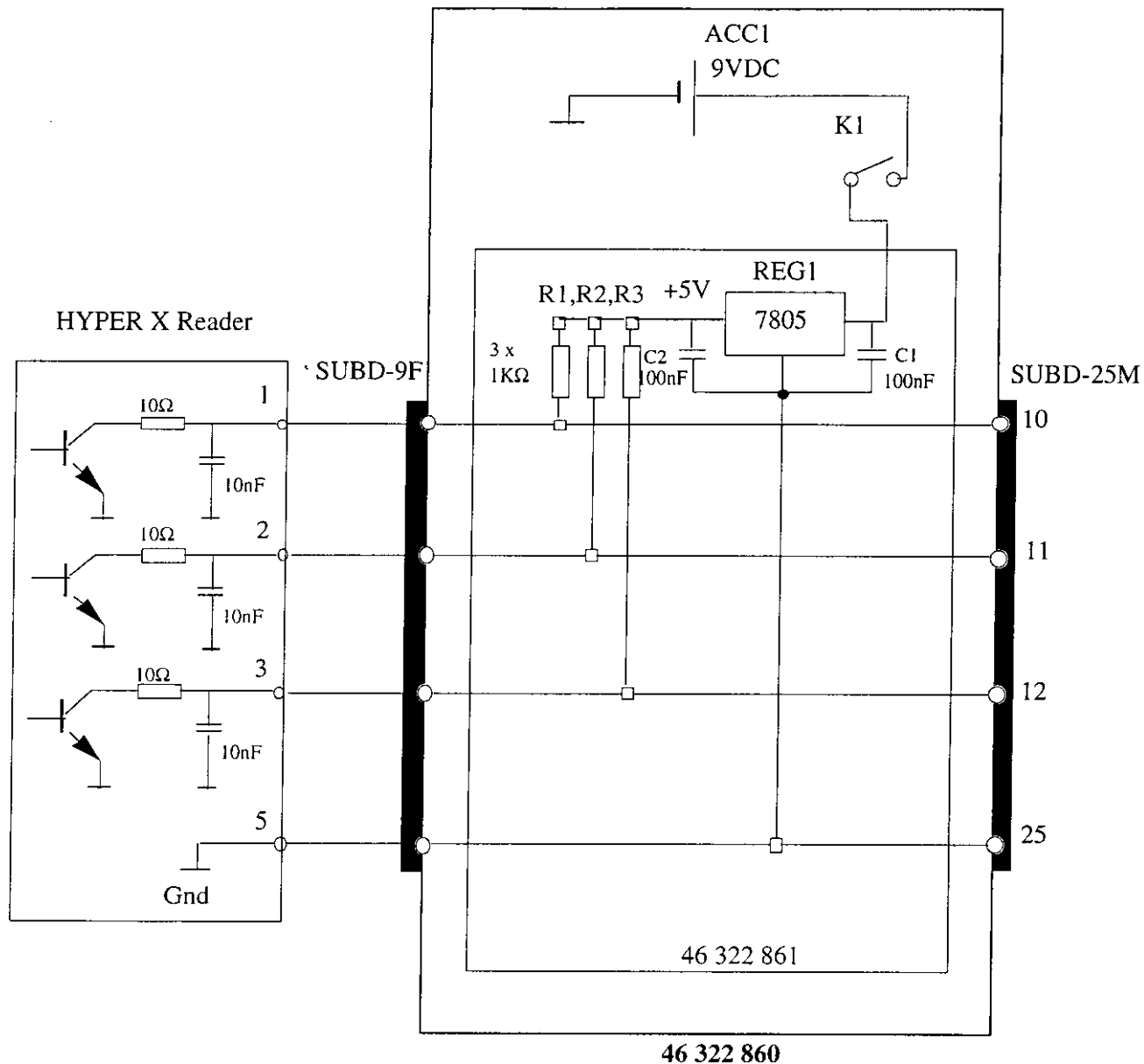
1.2 Electrical Connections

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.

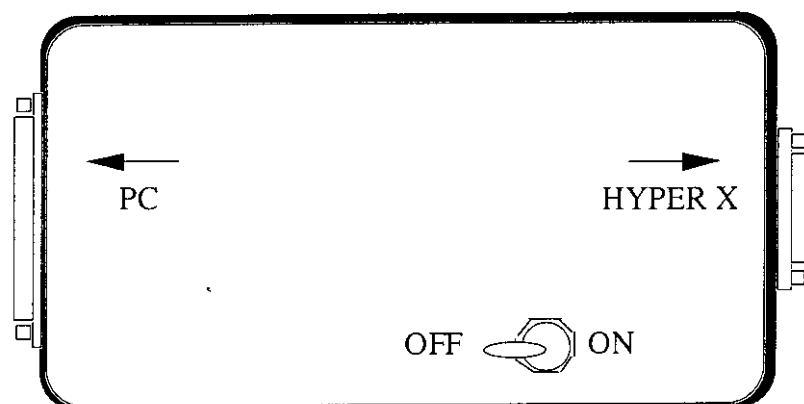
ISO2 signal	WIEGAND signal	Reader pin	SUBD-25P (PC)
STROBE	DATA"1"	1	10
MDATA	DATA"0"	2	11
PRES. BADGE		3	12
GND	GND	5	25

2. Wiring diagram

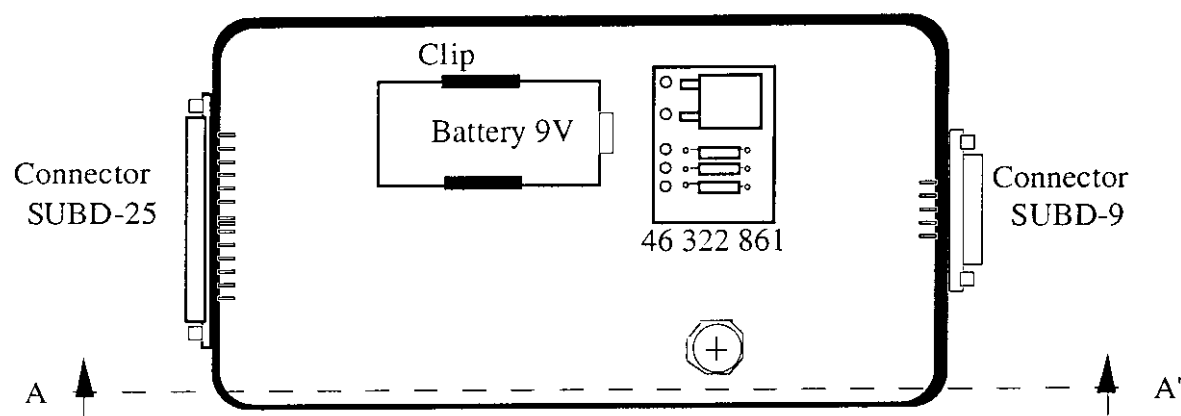


3. Description

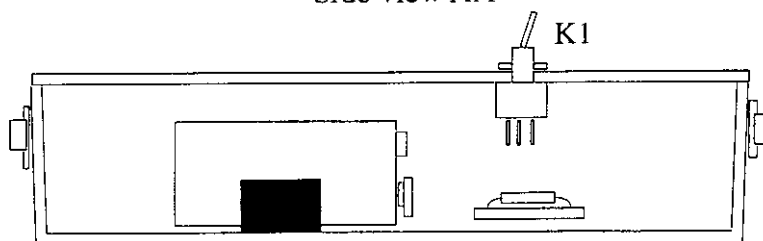
Top view



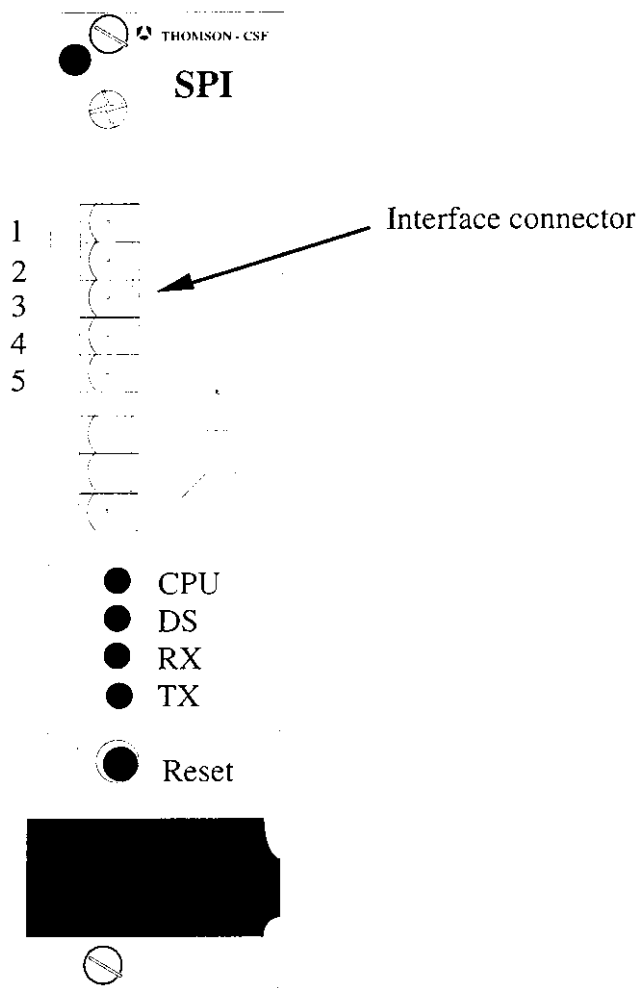
Top view with lid off



Side view AA'

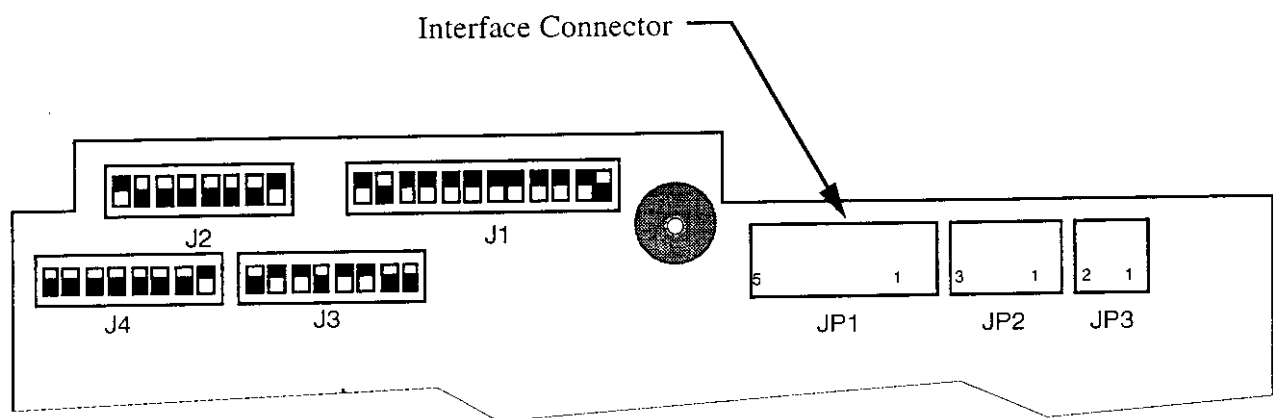


Interface connector on modular reader (front panel of SPI module)



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

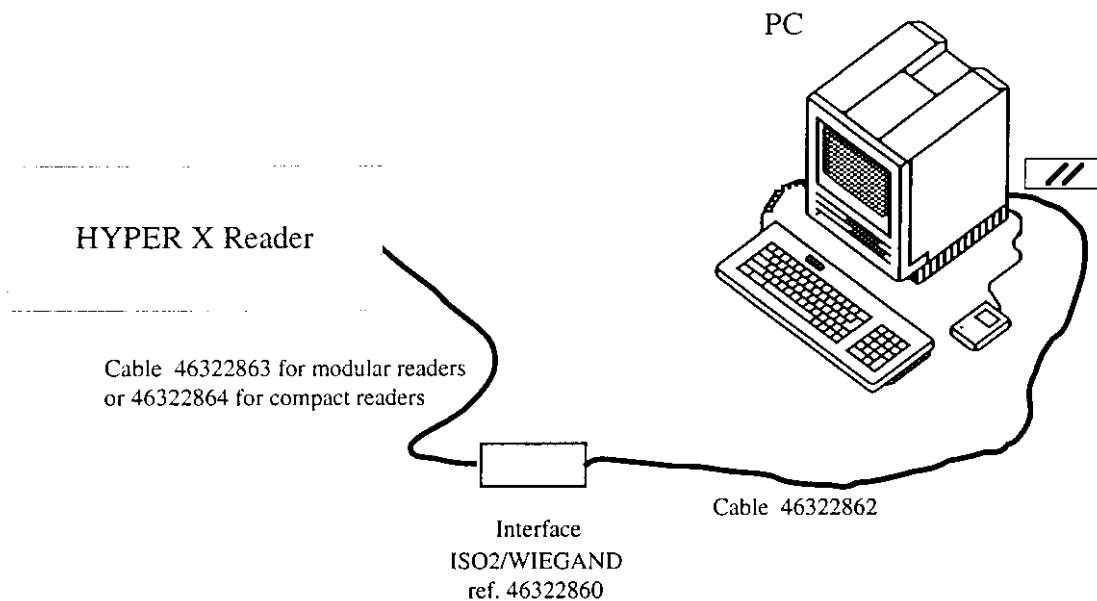
A HYPERX reader using the ISO2 or WIEGAND interfaces can be connected to a PC using this interface box and appropriate PC software.

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).

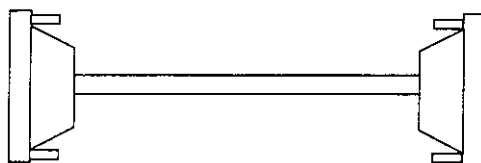
- 1 : configure reader
- 2 : turn on reader
- 3 : run program "READISO" or "WIEGAND" .



APPENDIX

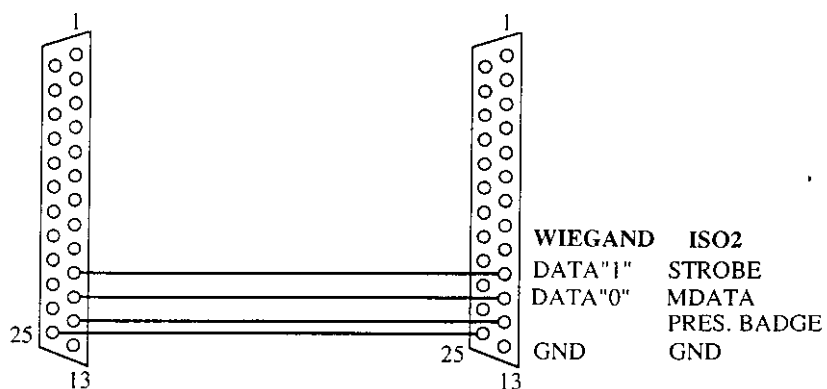
Cable 46322862

SUBD-25 Pin Fem. /Fem.



Cable type AWG22
with braid shield

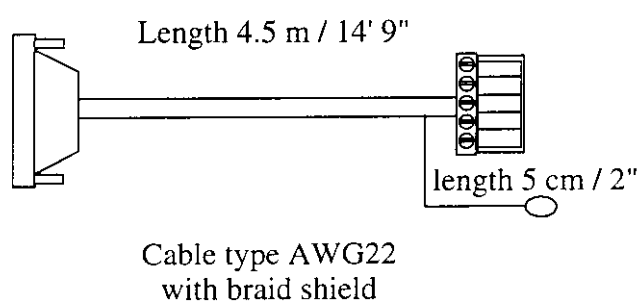
Wiring diagram



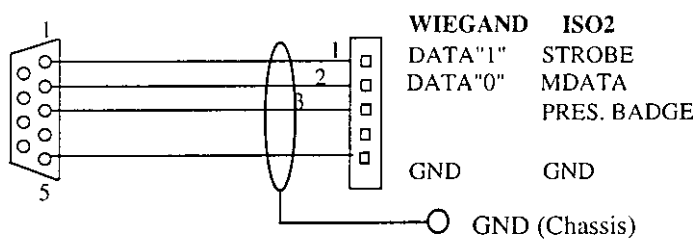
APPENDIX

Cable 46322863

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



Wiring diagram

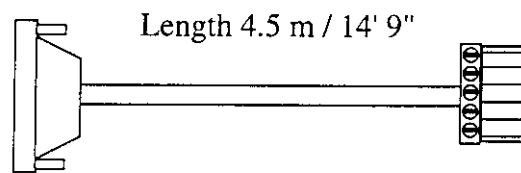


APPENDIX

Cable 46322864

for compact readers

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



Cable type AWG22
with braid shield

Wiring diagram

