

Manual for NIROS Accessories

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Revision log

Current revision

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Revision 1

New Section 2 in chapter 7, Programming interface TRX1001.

19-04-99

New Section 3 in chapter 7, Programming interface RX8008.

Revision 3 **06-08-99**

New Section 6 in chapter 6, Charger CH113/CH114.

Revision 4 **09-08-99**

Section 4 in chapter 6 is changed to revision 1. Modified to use in CH113.

Revision 5

Same manual with different index.

Revision 6 **08-10-99**

New Chapter 11, Testboxes.

New Section 1 in chapter 11, Ext. Testbox for TRX3001.							
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Revision 7 12-10-99

New Section 4 in chapter 7, Programming interface TRX2001.

Revision 8 02-11-99

Section 4 in chapter 6 is changed to revision 2. Modified to use in CH310 and CH313.

Section 6 in chapter 6 is changed to revision 1. Modified to use in CH313 and CH314.

Revision 9 17-11-99

Text in chapter 1 is now added.

Text in chapter 2 is now added.

Text in chapter 3 is now added.

Text in chapter 4 is now added. Revision is now 1.

Revision 10 20-12-99

New Chapter 12, Option boards.

New Section 1 in chapter 12, ATIS option board TRX1001/TRX3001.

New Section 2 in chapter 12, LL Scrambler/FFSK/Tilt/EEprom TRX1001/TRX3001.

Revision 11 11-1-00

New Section 3 in chapter 12, HL Scrambler TRX1001/TRX3001.

Revision 12 03-02-00

New Section 7 in chapter 6, Charger CH115.

Revision 13 31-08-00

Section 1 in chapter 7 is changed to revision 1. PC. Board is changed to revision 781-2.

Revision 14 13-08-01

New Section 4 in chapter 12, Rugg. Connection board TRX3001.

Revision 15 12-02-03

Text in chapter 1 is changed. Revision is now 1.

New Section 2 in chapter 9, Vehicle adaptor CH105B.

New Section 8 in chapter 6, Charger CH110B.

New Section 9 in chapter 6, Charger CH115B.

New Section 10 in chapter 6, Charger CH113B/CH114B & CH313B/CH314B.

Revision 16 11-08-03

New Section 3 in chapter 4, Handmicrophone OTTO.

Revision 17 11-08-03

Section 3 in chapter 4 is changed to revision 1. Color in diagram, Handmicrophone OTTO.

Revision 18 27-02-04

New Section 5 in chapter 12, GPS unit for TRX3001.

Revision 19 18-06-04

Section 5 in chapter 12 is changed to revision 1. GPS unit for TRX3001.

Revision 20 24-08-04

New Section 2 in chapter 11, Ext. Testbox for TRX1001.

Revision 21 14-12-04

Section 3 in chapter 4 is changed to revision 2. New diagram version, Handmicrophone OTTO.

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1. Battery

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1.1 Batteries for TRX 1001/1012

The following models are available:

- 800 mAh NiMH**
- 1000 mAh NiCd**
- 1000 mAh NiCd IS T6 battery**
- 1100 mAh Li-ion**
- 1500 mAh NiMH**

The capacity is rated at a user pattern of 5% transmission time, 5% reception time with active loudspeaker and 90% stand-by (receiver open but with no RF signal present).

It is recommended that the battery is sometimes allowed to be completely discharged by the radio or by a dedicated charger with discharge features - CH113 no 100113 - CH114 no 100114 - see description in the charger section.

1.1.1 800 mAh NiMH

This battery is a light weight battery for short time use.

NIROS No. 5678

Voltage (nominal):	7.2 V
Capacity	800 mAh
Recommended charger	100210 (CH110A - single charger) 100114 (CH114 - single charger/discharger) 100113 (CH113 - 6 unit)
Operating time at 5/5/90 ratio	1 Watt - 9.7 hours 2.5 Watt - 7.9 hours 5 Watt - 6.2 hours
Height	28 mm
Weight	105 g

1.1.2 1000 mAh NiCd

This battery is a standard battery for normal operation time.

NIROS No. 5670

Voltage (nominal):	7.2 V
Capacity	1000 mAh
Recommended charger	100210 (CH110A - single charger) 100114 (CH114 - single charger/discharger) 100113 (CH113 - 6 unit)
Operating time at 5/5/90 ratio	1 Watt - 10.8 hours 2.5 Watt - 8.8 hours 5 Watt - 6.9 hours
Height	50 mm
Weight	180 g

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1.1.3 1000 mAh NiCd IS T6

This battery is an intrinsic safe battery for normal operation time.

The temperature rating T6 is valid for ambient temperatures up to 40 deg. C. Between 40 and 55 deg C it derates to T5.

NIROS No. 5673

Voltage (nominal):	7.2 V
Capacity	1000 mAh
Approved charger	100210 (CH110A - single charger) 100114 (CH114 - single charger/discharger) 100113 (CH113 - 6 unit)
Operating time at 5/5/90 ratio	1 Watt - 10.8 hours 2.5 Watt - 8.8 hours 4 Watt - 7.0 hours
Height	50 mm
Weight	215 g

1.1.4 1100 mAh Li-ion

This battery is a light weight battery for normal operation time.

NIROS No. 5679

Voltage (nominal):	7.2 V
Capacity	1100 mAh
Approved charger	100210 (CH110A - single charger) 100114 (CH114 - single charger/discharger) 100113 (CH113 - 6 unit)
Operating time at 5/5/90 ratio	1 Watt - 12.4 hours 2.5 Watt - 10.1 hours 4 Watt - 7.9 hours
Height	28 mm
Weight	95 g

1.1.5 1500 mAh NiMH

This battery is designed for extended operation time.

NIROS No. 5676

Voltage (nominal):	7.2 V
Capacity	1500 mAh
Recommended charger	100210 (CH110A - single charger) 100114 (CH114 - single charger/discharger) 100113 (CH113 - 6 unit)
Operating time at 5/5/90 ratio	1 Watt - 16.2 hours 2.5 Watt - 13.2 hours 5 Watt - 10.3 hours
Height	50 mm
Weight	200 g

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1.2 Batteries for RX8008

It is recommended that the battery is sometimes allowed to be completely discharged by the pager.

1.2.1 400 mAh NiCd

This battery is a standard battery for normal use.

NIROS No. 8070

Voltage (nominal):	2.4 V
Capacity	400 mAh
Recommended charger	100108 (single unit), 100118 (6-unit)
Useable time	18 - 24 h
Weight	43 g

1.2.2 900 mAh NiMH

This battery is designed for extended operation time.

NIROS No. 8071

Voltage (nominal):	2.4 V
Capacity	900 mAh
Recommended charger	100208 (single-unit), 100218 (6-unit)
Useable time	40 - 55
Weight	56 g

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2. Antenna

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2.1 Portable and vehicular

For portable and vehicular use it is important to choose an antenna with the physical outlines best suited for the application. For a portable radio it is important that the antenna is short. But for the 4m and the 2m frequency ranges the electrically best antenna is a quarter of a wavelength which is 1m and 50 cm respectively. These lengths are impossible to use on a portable radio, so shortened antennas must be used.

Unfortunately shortened antennas are using some tuning mechanisms (e.g. helix structure) which decreases the bandwidth. Also any shortened antenna is less efficient than the quarter wavelength half dipole antenna. So a compromise is needed between physical size, bandwidth and efficiency.

All antennas in the following section are supplied with a TNC connector and have a power capability of 20 W at room temperature. Antennas for TRX3001 shall have a higher power rating, and a special mounting fixture. Consult either NIROS or an antenna dealer.

The antennas listed are for new radio products, i.e. TRX 1001/1012/2001. Spare parts for older radio products are also supplied on demand.

Frequency range	Type	Length [mm]	NIROS no
66 – 76 MHz	helix	255	9011
72 – 82 MHz	helix	245	9012
78 – 88 MHz	helix	210	9013
146 – 155 MHz	standard	220	9408
155 – 164 MHz	standard	220	9409
164 – 174 MHz	standard	165	9410
146 – 155 MHz	short	112	9431
155 – 164 MHz	short	100	9432
164 – 174 MHz	short	100	9433
400 – 470 MHz	standard	163	9406
400 – 420 MHz	short	100	9429
420 – 450 MHz	short	88	9426
450 – 470 MHz	Short	85	9430

2.2 Distributed Antennas

Radio transmission requires openings where the radio waves can propagate. In certain areas this is not supported, e.g. on board ships, down in the hull. Artificial radio openings can be produced using cables connecting antennas. This is called a distributed antenna.

NIROS Telecommunication produces two systems, one centred around 430 MHz ± 8 MHz, and another centred around 457 MHz ± 15 MHz intended for maritime use. A system consists of a cable terminated at each end with a 0 dB coupling module and a coupling module in each room along the cable. The coupling modules contains an antenna having a coupling factor to the cable of either 6 or 15 dB. The coupling modules are completely passive devices so you have no problem with power supply, interference or use in hazardous areas.

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Coupling module	NIROS no. 430 MHz	NIROS no. 457 MHz
0 dB	1040	1050
6 dB	1041	1051
15 dB	1042	1052

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3. Carrying cases

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Carrying cases may be used with the radios TRX 1001 and TRX 1012.

NIROS carrying cases are made of black durable leather and come in three versions:

With belt clip and large transparent plastic cover. NIROS no. 9223

With shoulder strap and large transparent plastic cover. NIROS no. 9192

Holster with belt mounting. The radio is held firmly in the holster. NIROS no. 9195

If the radio is Eex certified and you intend to use it in a carrying case, we can give you an offer for an Eex carrying case. Else you may carry the Eex radio inside your protection clothing so the metal parts in the carrying case are not able to get in contact with concrete surfaces or hard metal in the environment, producing sparks.

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4. Handmicrophones

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Hand microphones may be used with the radios TRX 1001 and TRX 1012. The TRX 3001 can only be used with a handmicrophone. For the protable radioes it is convenient to have the radio fixed in a carrying case or a vehicular adaptor and use the handmicrophone to operate the radio.

All handmicrophones support the main functions af the radio, i.e. microphone and loudspeaker, transmit key and two function keys as on the side of the radio. For the TRX 1012 IS radio NIROS Telecommunication supplies an IS handmicrophone.

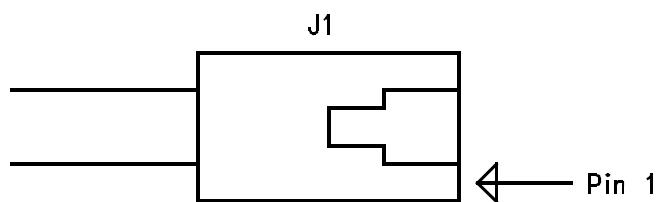
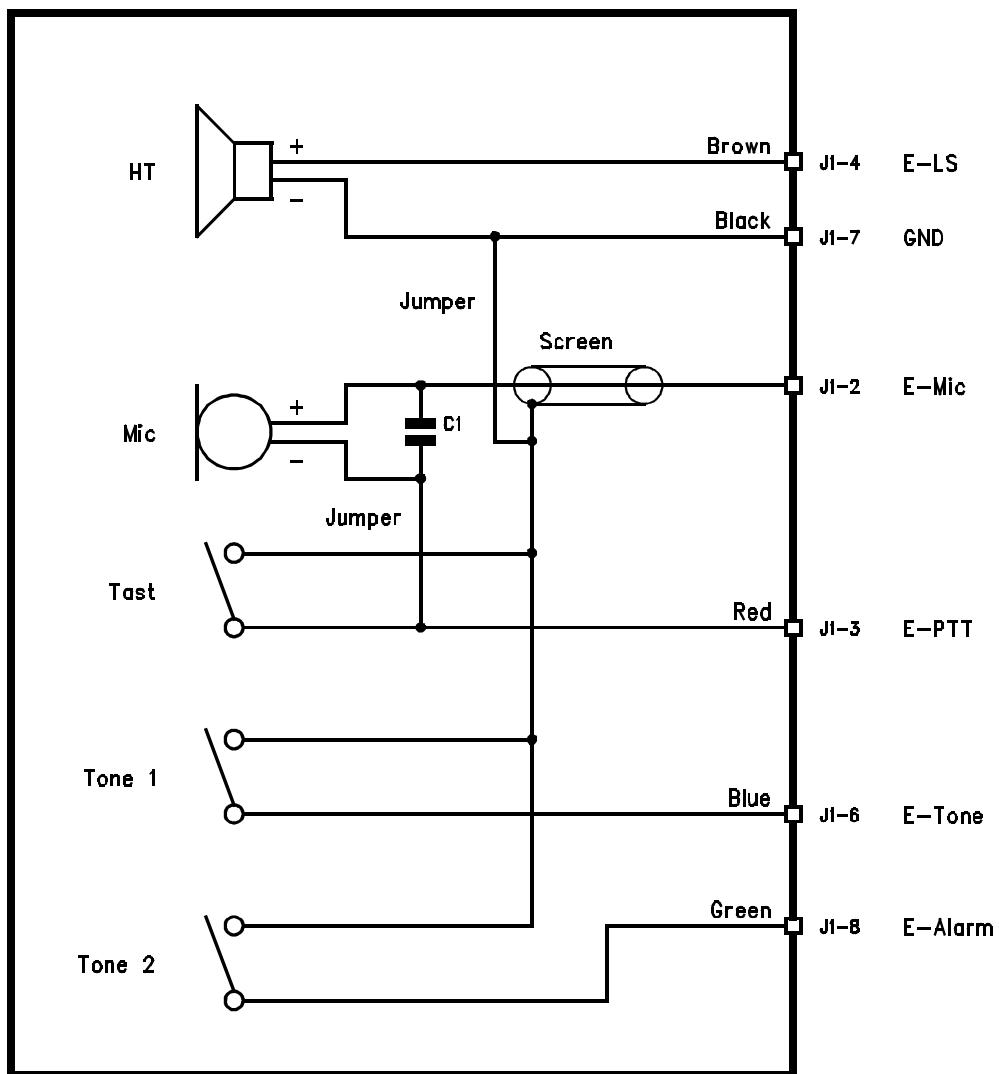
For use with:	NIROS no.
TRX 1001 / 1012 non IS	9200
TRX 1012 IS	9231
Autocasette	9201
TRX3001	55066

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4.1 Handmicrophone TRX3001

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4.1.1 Diagram



Pin 1 and 5 is N.C.

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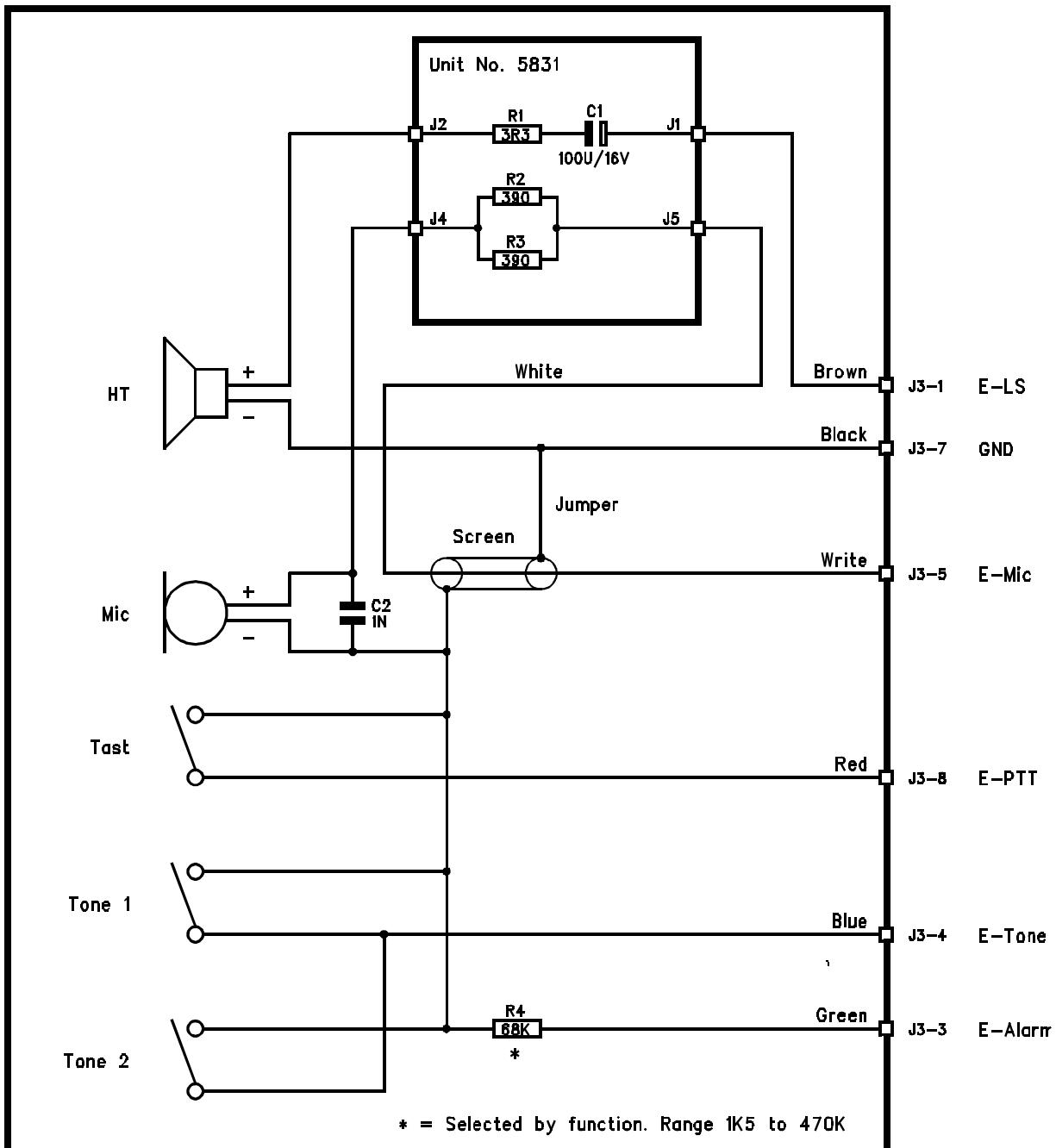
DATE: 4-9-98	SIGN: PH	O	NIROS TELECOMMUNICATION A/S
DATE:	SIGN:		HØRSØMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: D-3005-03-D			Handmicrophone TRX3001
			PCB NO: UNIT NO: 55066

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4.2 Handmicrophone TRX1012-IS

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4.2.1 Diagram



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DATE: 27-1-97	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		Handmicrophone TRX1012-IS
DATE:	SIGN:		
DRAWING NO: 0-9708-03-0			PCB NO: UNIT NO: 9231

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4.2.2 Partlist

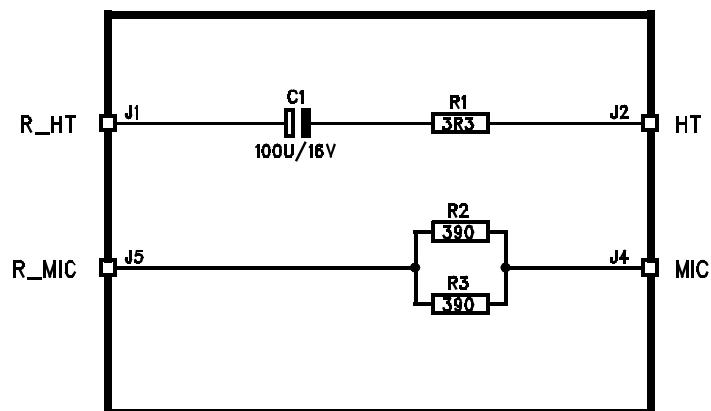
PARTLIST FOR Handmicrophone TRX1012-IS DRAWING NO. 0-9706-03-0		DATE 27-1-97 UNIT NO. 9231	
Component	Description	Value	Niros No.
R4	Resistor, sfr-16	68 Kohm	10158
	Unit for handmic trx1012	1 pcs	5831
	Handmic	1 pcs	55052
	Connector pin	6 pcs	83324
	Label "9231"	1 pcs	88101
	Ring for plug	1 pcs	97784
	Gummet for plug	1 pcs	97884
	Pin holder	1 pcs	97885
	Housing for plug	1 pcs	97886
	Lid for plug	1 pcs	97888
p. 1 of 1			
PC. Board No.			

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-07-98	0	PA

4.2.3 Handmicrophone TRX1012-IS

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-07-98	0	PA

4.2.3.1 Diagram

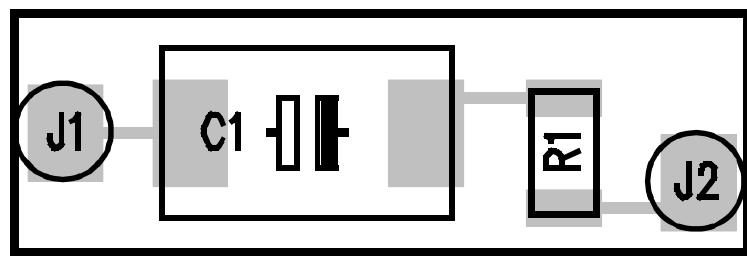


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 27-1-97	SIGN: PH	0	NIROS TELECOMMUNICATION A/S
DATE:	SIGN:		HIPSENMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		Unit for
DATE:	SIGN:		Handmicrophone TRX1012-IS
DATE:	SIGN:		
DRAWING NO: 0-97D5-03-0			PCB NO: 771-0 UNIT NO: 5831

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-07-98	0	PA

4.2.3.2 Componentside



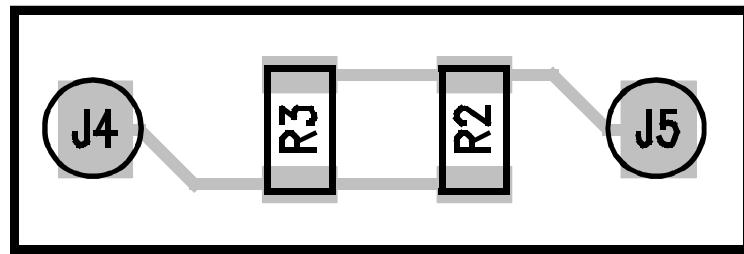
Componentside 771-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 27-1-97	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HØJSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: 0-97D5-05-0			Unit for Handmicrophone TRX1012-IS
			PCB NO: 771-0 UNIT NO: 5831

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-07-98	0	PA

4.2.3.3 Wiringside



Wiringside 771-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 27-1-97	SIGN: PH	O	NIROS TELECOMMUNICATION A/S HØSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: 0-9705-D4-0		PCB NO: 771-0	UNIT NO: 5831

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-07-98	0	PA

4.2.3.4 Partlist

PARTLIST FOR Unit for Handmicrophone TRX1012-IS DRAWING NO. 0-9705-03-0			DATE 27-1-97 UNIT NO. 5831
Component	Description	Value	Niros No.
R1	Resistor, chip1206	3,3 Ohm	12339
R2	Resistor, chip1206	390 Ohm	12391
R3	Resistor, chip1206	390 Ohm	12391
C1	Capacitor, chiptantal	100 uF/16V	25621
	Wire silicone	0.05 pcs	82090
	Wire silicone	0.07 pcs	82090
	Flex	0.03 pcs	82952
	Pc. board no. 771-0	1 pcs	95771
p. 1 of 1			
PC. Board No. 771-0			

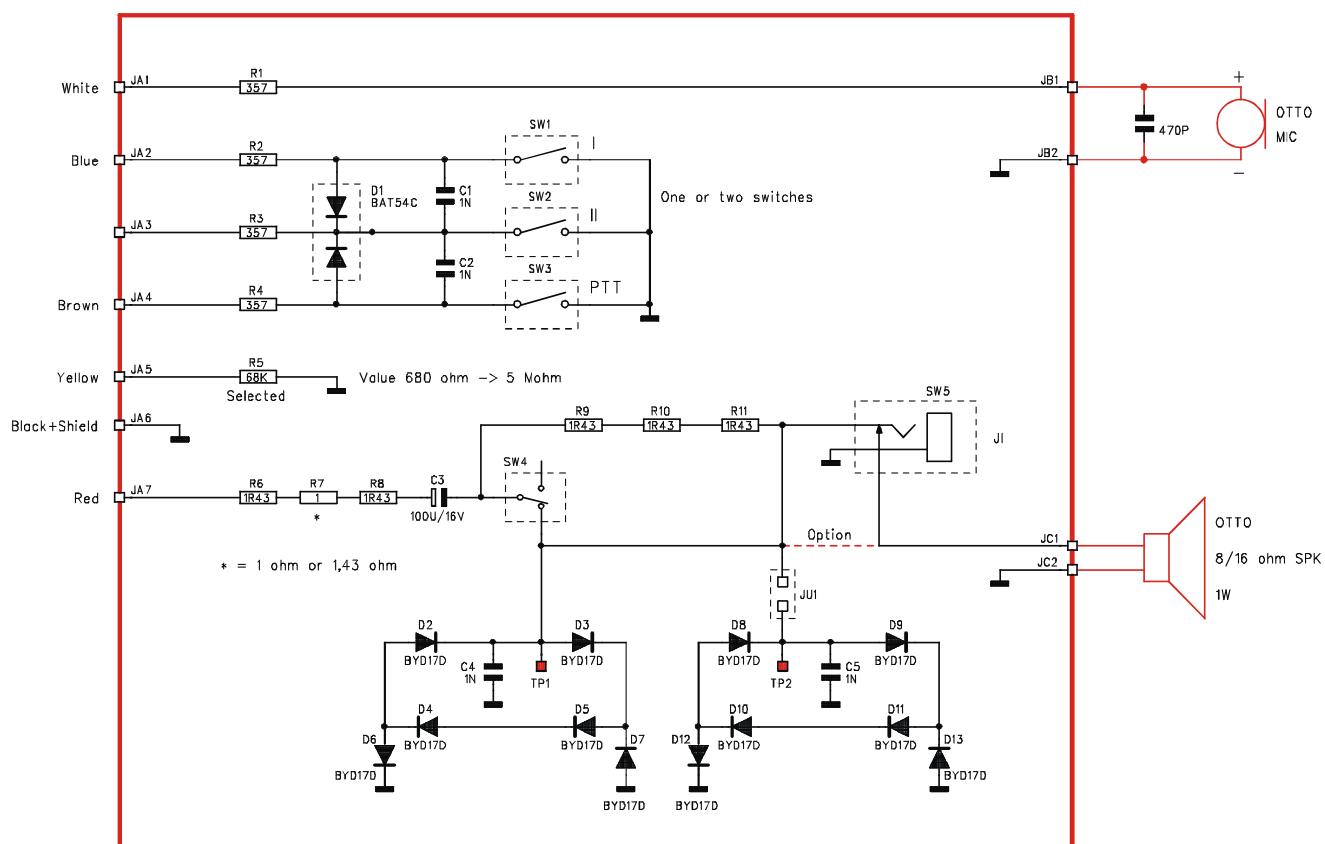
File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-07-98	0	PA

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-07-98	0	PA

4.3 Handmicrophone OTTO

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	14-12-04	2	PA

4.3.1 Diagram



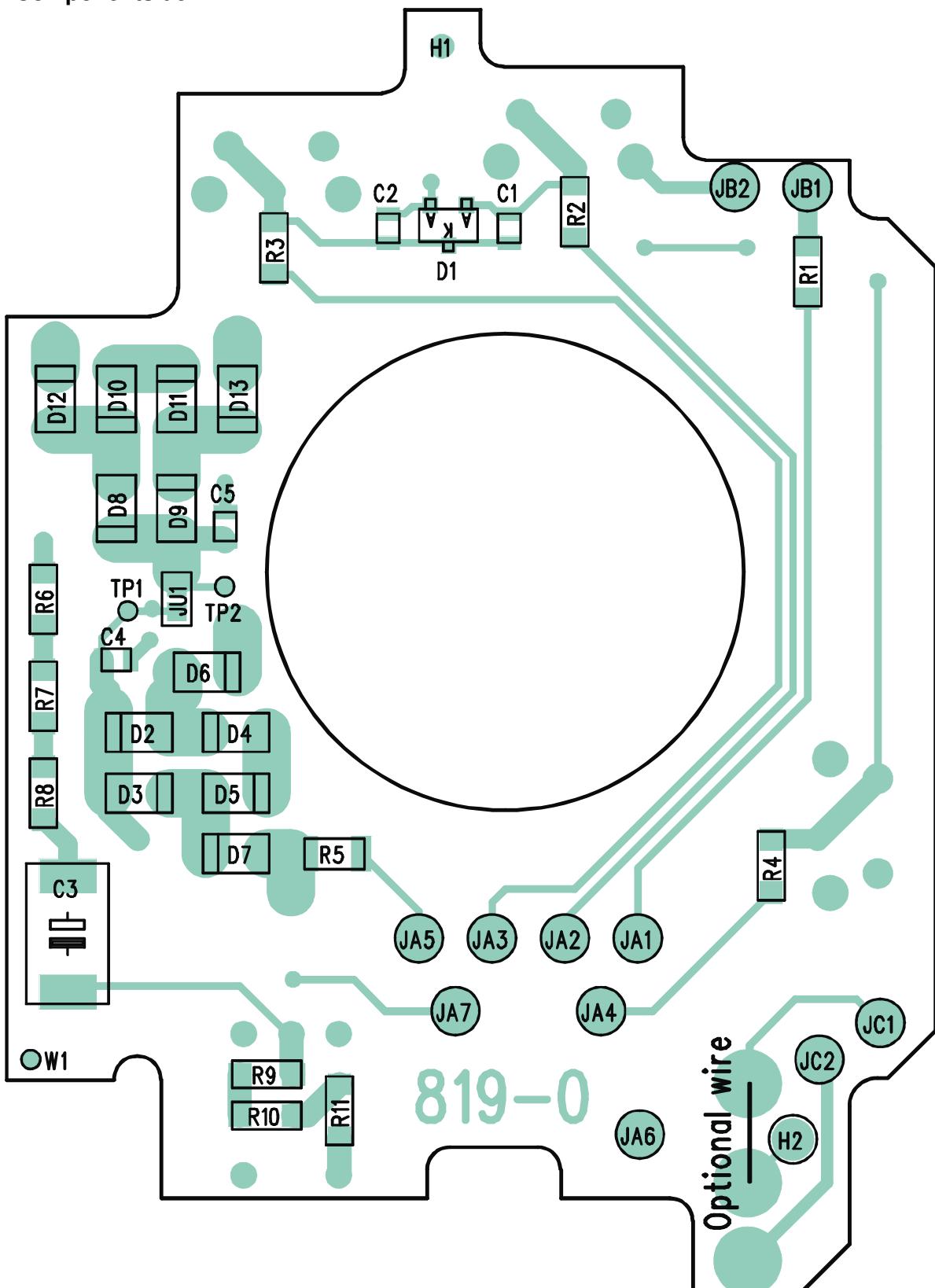
Unit No.	NIROS	ERICSSON
0 switch	9260	9263
1 switch	9261	9264
2 switch	9262	9265

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 11-08-2003 Sign: PH	0	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Forum	NIROS Handmicrophone for TRX1012
Date: 02-04-2004 Sign: PH	1		
Drawing No.: 0-9719-03-1	Related drawing		
	PC. Board No.: 819-0		

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	14-12-04	2	PA

4.3.2 Componentside



Componentside 819-0

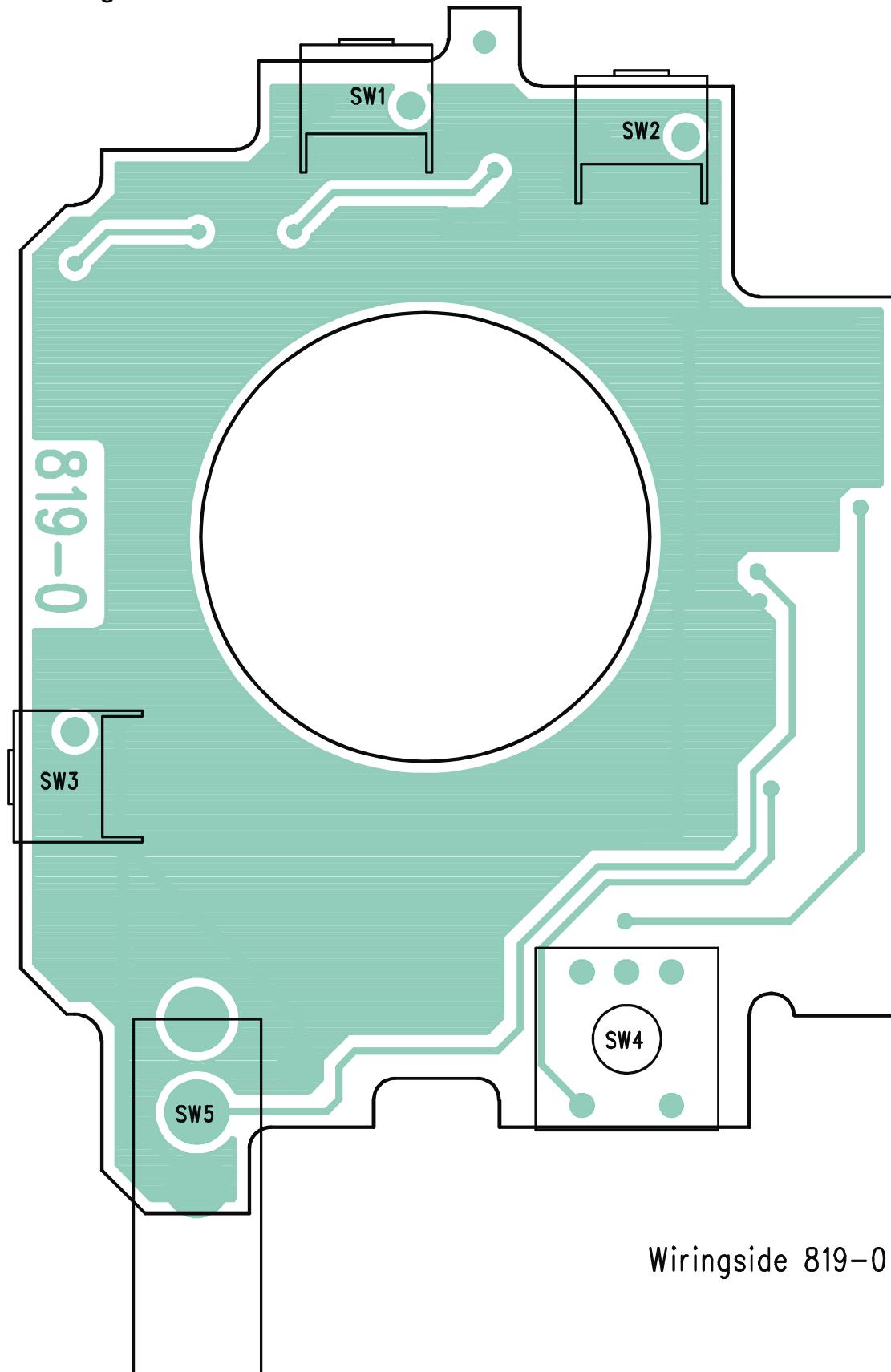
Unit No.	NIROS	ERICSSON
0 switch	9260	9263
1 switch	9261	9264
2 switch	9262	9265

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 11-08-2003	Sign: PH	0	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Forum	NIROS Handmicrophone for TRX1012
Date: 02-04-2004	Sign: PH	1		
Drawing No.: 0-9719-05-1			PC. Board No.: 819-0	Related drawing

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	14-12-04	2	PA

4.3.3 Wiringside



SUBJECT TO CHANGE WITHOUT NOTICE		
Date: 11-08-2003	Sign: PH	0
Date: 02-04-2004	Sign: PH	1
Drawing No.: 0-9719-04-1	PC. Board No.: 819-0	NIROS Handmicrophone for TRX1012 Hirsemarken 5, 3520 Forum

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	14-12-04	2	PA

4.3.4 Partlist 926x

Partlist for NIROS Handmicrophone for TRX1012 Drawing No. 0-9719-03-1			Date 02-04-2004
RELATED DRAWING			Unit No. 9260
Component	Description	Value	Niros No.
	NIROS Handmic 0 switch	N0	9260
	NIROS Handmic 1 switch	N1	9261
	NIROS Handmic 2 switch	N2	9262
	ERICSSON Handmic 0 switch	E0	9263
	ERICSSON Handmic 1 switch	E1	9264
	ERICSSON Handmic 2 switch	E2	9265
R1	Resistor, melf-0204_1%	357 Ohm	10956
R2	Resistor, melf-0204_1%	357 Ohm	10956
R3	Resistor, melf-0204_1%	357 Ohm	10956
R4	Resistor, melf-0204_1%	357 Ohm	10956
R5	Resistor, c1206 SELECTED	68 Kohm	12683
R6	Resistor, melf-0204_1%	1,43 Ohm	10951
R7	Resistor, melf-0204_1%	1 Ohm	10957
R8	Resistor, melf-0204_1%	1,43 Ohm	10951
R9	Resistor, melf-0204_1%	1,43 Ohm	10951
R10	Resistor, melf-0204_1%	1,43 Ohm	10951
R11	Resistor, melf-0204_1%	1,43 Ohm	10951
C1	Capacitor, chip603	1 nF	21102
C2	Capacitor, chip603	1 nF	21102
C3	Capacitor, ctan_d	100 uF/16V	25634
C4	Capacitor, chip603	1 nF	21102
C5	Capacitor, chip603	1 nF	21102
D1	Diode	N0	Not used
	Diode	N1	Not used
	Diode	N2	BAT54C
	Diode	E0	Not used
	Diode	E1	Not used
	Diode	E2	BAT54C
D2	Diode	BYD17D	45176
D3	Diode	BYD17D	45176
D4	Diode	BYD17D	45176
D5	Diode	BYD17D	45176
D6	Diode	BYD17D	45176
D7	Diode	BYD17D	45176
D8	Diode	BYD17D	45176
D9	Diode	BYD17D	45176
D10	Diode	BYD17D	45176
D11	Diode	BYD17D	45176
D12	Diode	BYD17D	45176
D13	Diode	BYD17D	45176

p. 1 of 2

PC. Board No. 819-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	14-12-04	2	PA

Partlist for NIROS Handmicrophone for TRX1012 Drawing No. 0-9719-03-1			Date 02-04-2004
RELATED DRAWING			Unit No. 9260
Component	Description	Value	Niros No.
SW1	Key_switch	N0	Not used
	Key_switch	N1	81197
	Key_switch	N2	81197
	Key_switch	E0	Not used
	Key_switch	E1	81197
	Key_switch	E2	81197
SW2	Key_switch	N0	Not used
	Key_switch	N1	Not used
	Key_switch	N2	81197
	Key_switch	E0	Not used
	Key_switch	E1	Not used
	Key_switch	E2	81197
SW3	Key_switch		81197
SW4	Bcd_switch		81213
SW5	Jack_switch		81212
	Otto_handmic._0_sw	N0	1 pcs
	Otto_handmic._1_sw	N1	1 pcs
	Otto_handmic._2_sw	N2	1 pcs
	Otto_handmic._0_sw	E0	1 pcs
	Otto_handmic._1_sw	E1	1 pcs
	Otto_handmic._2_sw	E2	1 pcs
	Label		1 pcs
	Pc._board_no. 819-0		95819

4.3.5 Partlist 5508x

Partlist for OTTO Handmicrophone with connector Drawing No. 0-9719-03-1			Date 05-04-2004
RELATED DRAWING			Unit No. 55082
Component	Description	Value	Niros No.
	Handmic 0 switch & con	0	55082
	Handmic 1 switch & con	1	55083
	Handmic 2 switch & con	2	55084
	Socket for pin	6 pcs	83414
	Pin	6 pcs	83415
	Gasket	1 pcs	85245
	OTTO Handmic 0 switch 0	1 pcs	55079
	OTTO Handmic 1 switch 1	1 pcs	55080
	OTTO Handmic 2 switch 2	1 pcs	55081
OR			
	OTTO Handmic 1 switch 1	1 pcs	55098
OR			
	OTTO Handmic 0 switch 0	1 pcs	55088
	OTTO Handmic 1 switch 1	1 pcs	55089
	OTTO Handmic 2 switch 2	1 pcs	55090
OR			
	OTTO Handmic 1 switch 1	1 pcs	55099
p. 1 of 1			
PC. Board No. 819-0			

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	14-12-04	2	PA

5. Voltage converters

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	25-07-98	0	PA

6. Chargers

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	,26-07-98	,0	PA

6.1 Charger CH100

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.1.1 Direction for use Charger CH100

6.1.1.1 Start up and battery mounting.

The Charger CH100 should be connected to 220-230 V AC.

NIROS CHARGER CH100 is used for charging of NiCd batteries for NIROS TRX1001 handhold radiotelephones. Two batteries can be charged at the same time. Charging can either be made with battery mounted on a radio or with the battery packing alone. Charging takes place with the radio turned on or turned off.

IMPORTANT!

As charging time depends on temperature of the battery to secure a correct function, it is important that the charger is always used at normal room temperatures, 18-35°C. The charger must never be used in the immediate vicinity of e.g. radiators or strongly heated instruments. To secure a correct air flow through the cabinet, the charger must not be replaced at soft surfaces as e.g. blankets.

6.1.1.2 Charger State indication.

As soon as the charger is connected to the mains, the red lamp on top of the cabinet will indicate that the charger is ready for use. The battery you want to charge is placed in one of the charging cassettes and the green lamp will indicate that the battery is correctly placed. The yellow lamp indicates that the charging is in progress. When the battery is totally charged the yellow lamp is switched off. A low trickle charge current will now keep the battery totally charged and ready for use.

6.1.1.3 Charging time.

The charging time will normally be approx. 1,25 hour for a totally discharged 800 mAh battery and approx. 1,5 hours for a 1000 mAh battery.

If the battery is only partly discharged, when placed in the charger, the charging time will be reduced appropriately.

6.1.2 Technical description.

Diagram no. 0-9610-03-X.

6.1.2.1 Standby mode without battery.

The NTC wire (J1-3/J1-8) gets 15 V via R117/R216 Without placed battery. The output of IC102A/IC102C goes against 0 V. T101/T201 gets no base current and the collector goes "H" and resets IC101/IC201. The base of T104/T204 is kept low via D103/D202. The current to yellow lamp, Led A1/LED A2 is switched off because T104/T204 is off. T103/T203 which gives current to green lamp via LED B1/LED B2 is switched off via R109/R208. The output of IC102B/IC102D is "H" because the NTC wire connected to the non inverted input is more positive than the inverted input. T106/T206 conducts and switches in R116/R219 to lock the circuit.

6.1.2.2 Charging mode.

When a **battery is inserted** the NTC wire (J1-3/J1-8) goes against a lower voltage which depends on the battery temperature. At a voltage which corresponds to a temperature higher than approx. 12°C the output of IC102A/IC102C goes against 15V. T101/T102 conducts and draws the reset terminal on IC101/IC102 to 0 V which starts the safety timer. The timer stops the high current charging cycle if the charging don't stop due to of high battery temperature at ending of charging cycle.

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

The base at T104/T204 gets a positive voltage via R108/R207. T104/T204 conducts and switch in T105/T205 which short circuit R115/R214. The high charging current is determined by R111-R114/R210-R213 to approx. 750 mA delivered by IC103/IC203. When T104/T204 and T103/T203 is on **the yellow and green lamps light**.

When the battery is fully charged the temperature increases quickly. This is registered at the NTC wire (J1-3/J1-8) as a decreasing voltage. When the voltage at the non inverting input of IC102B/IC102D corresponds to a temperature of 45°C the output goes "L" and disconnects the base current to T106/T206. Here by the voltage at the inverting input of IC102B/IC102D and the output is closed in this position until the battery is moved off.

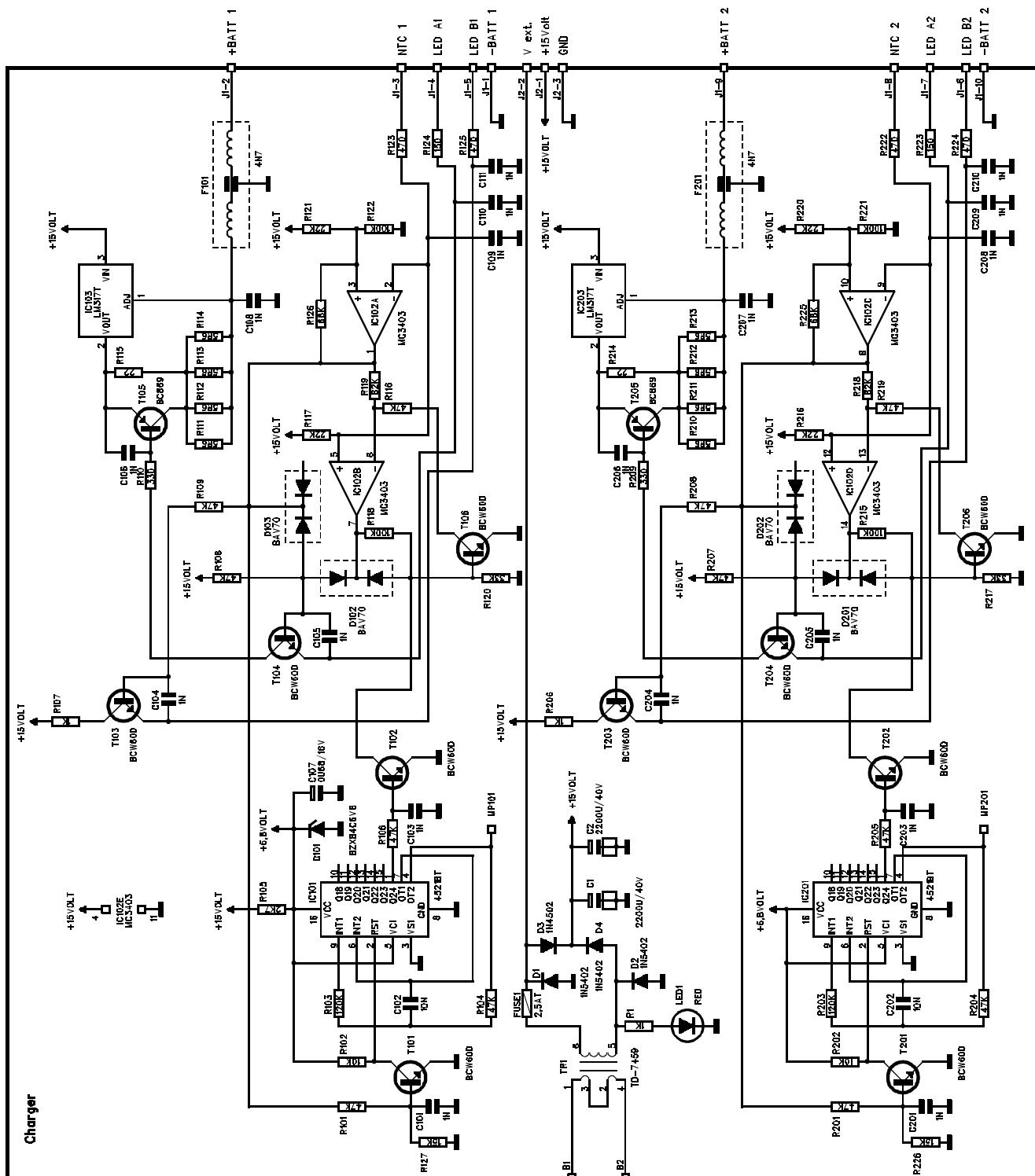
The base on T104/T204 is driven to 0 V via D102/D201. The yellow lamp switches off via LED A1/LED A2 (J1-4/J1-7). The charging current is changed to **maintenance charging** approx. 50 mA determined by R111.R115/R210-R214 because T105/T205 is off. **The green lamp lights**.

6.1.2.3 Safety timer.

The safety timer stops the high charging current if the battery NTC fails after approx. 2,3 hours. If the timer activates T102/T202 before the critical battery temperature is reached T102/T202 shorts the base on T106/T206. Maintenance charging and lamp indication is carried out in the same way as charging stop due to high temperature.

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.1.3 Diagram

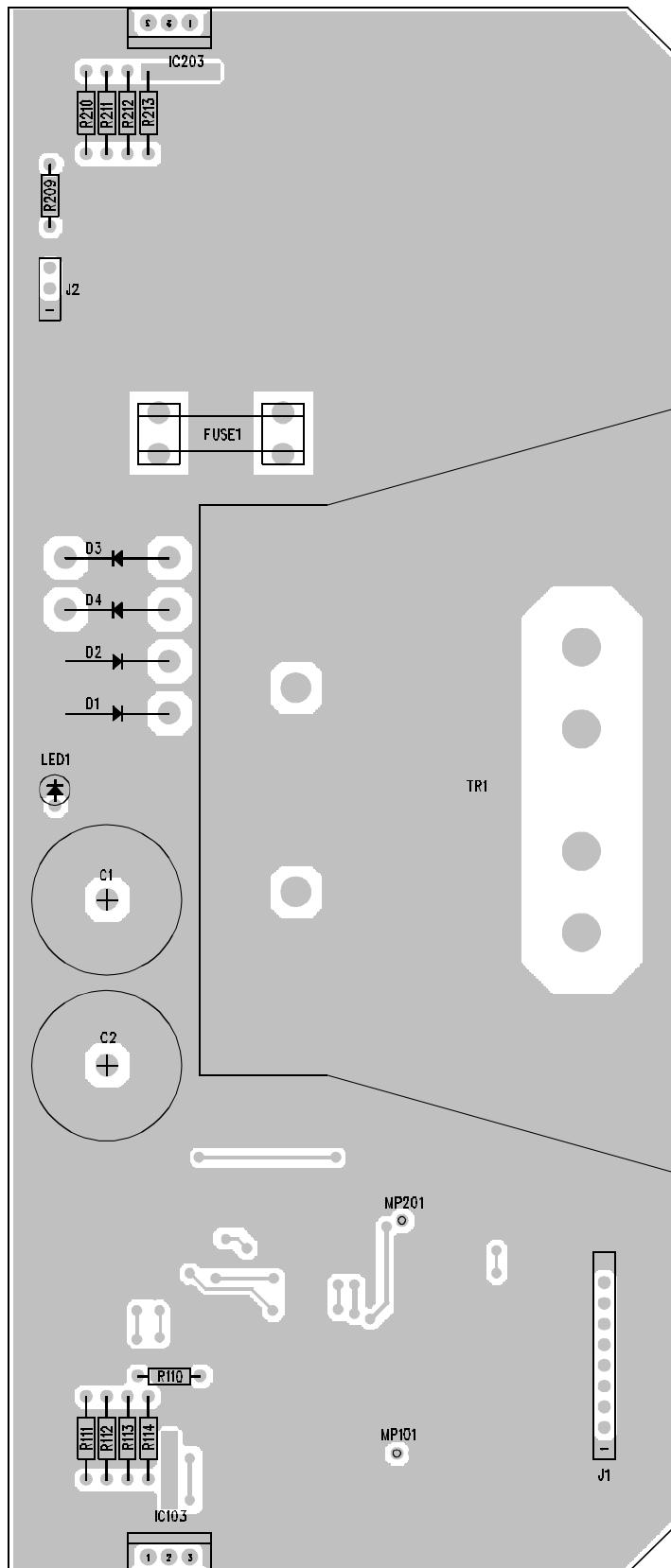


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 23-8-92	SIGN: GHH	O	NIROS TELECOMMUNICATION A/S
DATE: 3-3-93	SIGN: PH	1	HØRSLEVARKEN 5, 3520 FARUM
DATE: 14-1-94	SIGN: PH	2	
DATE: 23-3-94	SIGN: PH	3	
DATE:	SIGN:		Charger CH100
DATE:	SIGN:		
DRAWING NO: D-0610-03-3			PCB NO: 712-1 UNIT NO: 5780

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.1.4 Componentside



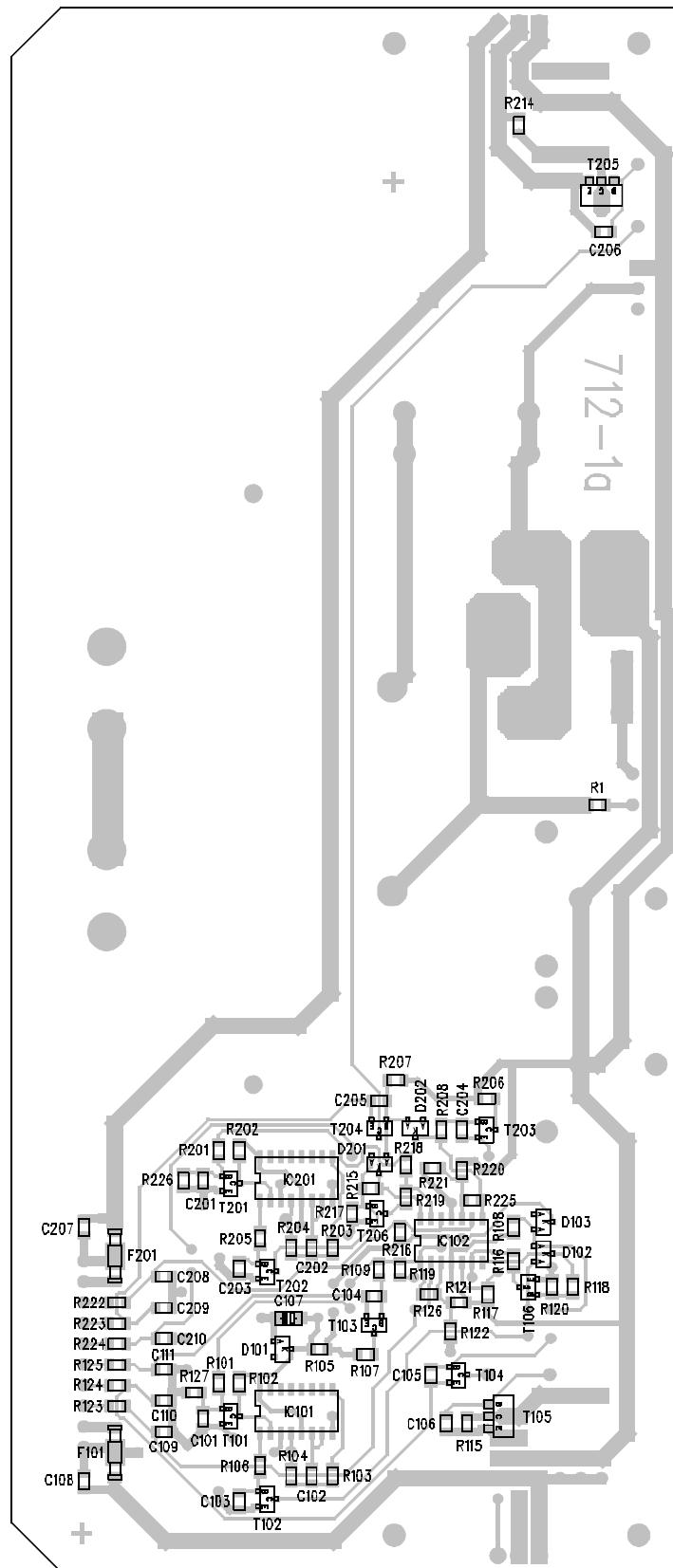
Componentside 712-1

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 29-8-82	SIGN: GH	O	NIROS TELECOMMUNICATION A/S
DATE: 3-3-93	SIGN: PH	1	HØSEMARKEN 5, 3520 FARUM
DATE: 14-1-94	SIGN: PH	2	
DATE: 23-3-94	SIGN: PH	3	
DATE:	SIGN:		Charger CH100
DATE:	SIGN:		
DRAWING NO: 0-9610-05-3			PCB NO: 712-1 UNIT NO: 57B0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.1.5 Wiringside



Wiringside 712-1

SUBJECT TO CHANGE WITHOUT NOTICE		
DATE: 25-6-92	SIGN: GHH	0
DATE: 3-3-93	SIGN: PH	1
DATE: 14-1-94	SIGN: PH	2
DATE: 23-3-94	SIGN: PH	3
DATE:	SIGN:	
DATE:	SIGN:	
DRAWING NO: 0-9810-04-3		NIROS TELECOMMUNICATION A/S HØRSLEVSKAEN 5, 3520 FARUM
		Charger CH100
		PCB NO: 712-I UNIT NO: 5780

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.1.6 Partlist

PARTLIST FOR Charger CH100 DRAWING NO. 0-9610-03-3		DATE 23-3-94 UNIT NO. 5780	
Component	Description	Value	Niros No.
R1	Resistor, chip805	1 Kohm	13102
R101	Resistor, chip805	47 Kohm	13473
R102	Resistor, chip805	10 Kohm	13103
R103	Resistor, chip805	120 Kohm	13124
R104	Resistor, chip805	47 Kohm	13473
R105	Resistor, chip805	2,7 Kohm	13272
R106	Resistor, chip805	47 Kohm	13473
R107	Resistor, chip805	1 Kohm	13102
R108	Resistor, chip805	47 Kohm	13473
R109	Resistor, chip805	47 Kohm	13473
R110	Resistor, sfr-16	330 Ohm	10130
R111	Resistor, sfr-16	5,6 Ohm	10077
R112	Resistor, sfr-16	5,6 Ohm	10077
R113	Resistor, sfr-16	5,6 Ohm	10077
R114	Resistor, sfr-16	5,6 Ohm	10077
R115	Resistor, chip805	22 Ohm	13220
R116	Resistor, chip805	47 Kohm	13473
R117	Resistor, chip805	22 Kohm	13223
R118	Resistor, chip805	100 Kohm	13104
R119	Resistor, chip805	82 Kohm	13823
R120	Resistor, chip805	33 Kohm	13333
R121	Resistor, chip805	22 Kohm	13223
R122	Resistor, chip805	100 Kohm	13104
R123	Resistor, chip805	470 Ohm	13471
R124	Resistor, chip805	150 Ohm	13151
R125	Resistor, chip805	470 Ohm	13471
R126	Resistor, chip805	68 Kohm	13683
R127	Resistor, chip805	15 Kohm	13153
R201	Resistor, chip805	47 Kohm	13473
R202	Resistor, chip805	10 Kohm	13103
R203	Resistor, chip805	120 Kohm	13124
R204	Resistor, chip805	47 Kohm	13473
R205	Resistor, chip805	47 Kohm	13473
R206	Resistor, chip805	1 Kohm	13102
R207	Resistor, chip805	47 Kohm	13473
R208	Resistor, chip805	47 Kohm	13473
R209	Resistor, sfr-16	330 Ohm	10130
R210	Resistor, sfr-16	5,6 Ohm	10077
R211	Resistor, sfr-16	5,6 Ohm	10077
R212	Resistor, sfr-16	5,6 Ohm	10077
R213	Resistor, sfr-16	5,6 Ohm	10077
R214	Resistor, chip805	22 Ohm	13220
R215	Resistor, chip805	100 Kohm	13104
R216	Resistor, chip805	22 Kohm	13223
R217	Resistor, chip805	33 Kohm	13333

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PC. Board No. 712-1

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

PARTLIST FOR Charger CH100 DRAWING NO. 0-9610-03-3		DATE 23-3-94 UNIT NO. 5780	
Component	Description	Value	Niros No.
R218	Resistor,chip805	82 Kohm	13823
R219	Resistor,chip805	47 Kohm	13473
R220	Resistor,chip805	22 Kohm	13223
R221	Resistor,chip805	100 Kohm	13104
R222	Resistor,chip805	470 Ohm	13471
R223	Resistor,chip805	150 Ohm	13151
R224	Resistor,chip805	470 Ohm	13471
R225	Resistor,chip805	68 Kohm	13683
R226	Resistor,chip805	15 Kohm	13153
C1	Capacitor,lyt	2200 uF/40V	26021
C2	Capacitor,lyt	2200 uF/40V	26021
C101	Capacitor,chip805	1 nF	20603
C102	Capacitor,chip805	10 nF	20600
C103	Capacitor,chip805	1 nF	20603
C104	Capacitor,chip805	1 nF	20603
C105	Capacitor,chip805	1 nF	20603
C106	Capacitor,chip805	1 nF	20603
C107	Capacitor,ctan a	0,68 uF/16V	25611
C108	Capacitor,chip805	1 nF	20603
C109	Capacitor,chip805	1 nF	20603
C110	Capacitor,chip805	1 nF	20603
C111	Capacitor,chip805	1 nF	20603
C201	Capacitor,chip805	1 nF	20603
C202	Capacitor,chip805	10 nF	20600
C203	Capacitor,chip805	1 nF	20603
C204	Capacitor,chip805	1 nF	20603
C205	Capacitor,chip805	1 nF	20603
C206	Capacitor,chip805	1 nF	20603
C207	Capacitor,chip805	1 nF	20603
C208	Capacitor,chip805	1 nF	20603
C209	Capacitor,chip805	1 nF	20603
C210	Capacitor,chip805	1 nF	20603
F101	Filter	4N7	75906
F201	Filter	4N7	75906
T101	Transistor	BCW60D	40156
T102	Transistor	BCW60D	40156
T103	Transistor	BCW60D	40156
T104	Transistor	BCW60D	40156
T105	Transistor	BC869	40185
T106	Transistor	BCW60D	40156
T201	Transistor	BCW60D	40156

PARTLIST FOR Charger CH100
DRAWING NO. 0-9610-03-3

DATE 23-3-94
UNIT NO. 5780

Component	Description	Value	Niros No.
T202	Transistor	BCW60D	40156
T203	Transistor	BCW60D	40156
T204	Transistor	BCW60D	40156
T205	Transistor	BC869	40185
T206	Transistor	BCW60D	40156
D1	Diode	1N5402	45118
D2	Diode	1N5402	45118
D3	Diode	1N4502	45118
D4	Diode	1N5402	45118
D101	Diode, zener	BZX84C6V8	41234
D102	Diode	BAV70	45146
D103	Diode	BAV70	45146
D201	Diode	BAV70	45146
D202	Diode	BAV70	45146
LED1	Light_diode	RED	45141
IC101	Integrated_circuit	4521BT	46236
IC102	Integrated_circuit	MC3403	46136
IC103	Integrated_circuit	LM317T	46106
IC201	Integrated_circuit	4521BT	46236
IC203	Integrated_circuit	LM317T	46106
TR1	Trafo	TD-7459	51018
FUSE1	Fuse	2,5AT	83255

p. 3 of 3

PC. Board No. 712-1

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.2 Charger CH108/CH208

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

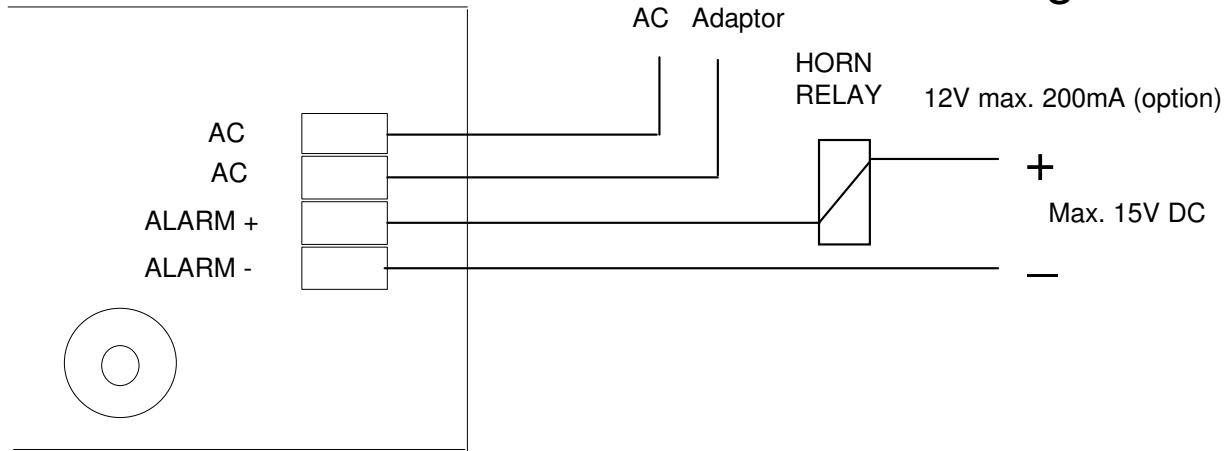
6.2.1 Direction for use Charger CH108

6.2.1.1 Start up

The charger CH108 should be connected to 230 VAC or 12 V DC.

The charger is intended for charging RX8008 and the matching battery. The charger is connected to 230 VAC via the enclosed wall socket charger, AC adaptor, or 12 V through a 1 A fuse according to coupling diagram no. 1 and 2.

Diagram II



6.2.1.2 Battery charging.

Charging principle: Constant current, timer control and trickle charge.

Place the pager (alarm receiver) into the front charging position, no matter whether the pager is ON or OFF. If the pager is placed in a carrying case it can be charged by opening the carrying case at the bottom. A single battery can be charged in the rear charging position by placing the battery upside down and push it to the left into the dovetail guide way. When the pager, and/or the battery, are respectively placed in the charger the diode will light and indicate the contact. The diode will light as long as the pager, battery respectively, are placed in the charger.

After 16 hours use full charging time will last approx. 8 hours. When the battery is charged for the first time it should be placed in the charger for approx. 16 hours.

6.2.1.3 Battery protection.

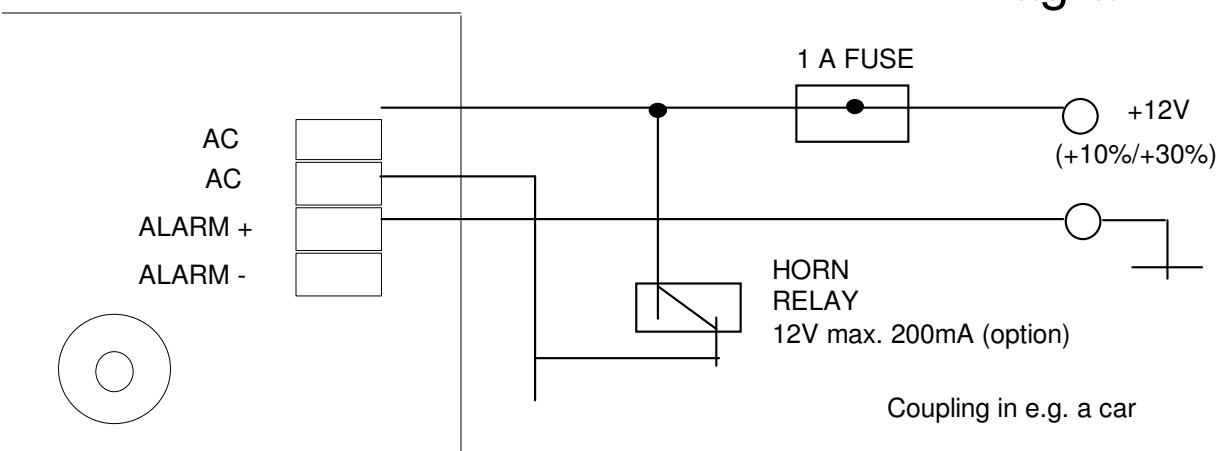
The charger protects against overcharging, and normally no memory effect (restriction of battery capacity) will occur, even if the battery is not fully discharged, before it is placed into the charger. Anyhow, if the memory effect should occur the battery can be conditioned by fully discharging on the pager, then charge for 15 hours in the charger - repeat this procedure 2-3 times.

6.2.1.4 External alarm.

Besides, the charger is provided with output for external alarm via 12 V relay, max. 200 mA. By coupling in e.g. car the coupling diagram no. 1 should be respected. When the charger runs 230 VAC, and you want to connect an external relay to the two terminals marked alarm, a power supply of max. 12 V, 200 mA, must be used See coupling diagram no. 2.

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

Diagram I



6.2.1.5 Environment protection.

For the sake of the environment used batteries must be returned to the battery receiving station or factory.

6.2.2 Technical description.

Diagram no. 0-8102-03-X.

6.2.2.1 Charging when the pager is switched off.

When a battery is connected to the terminals JB1 and JB3 IC3B, pin 7 will go "L" and start up the timer circuit, IC4. Pin 1, IC4 will go "L" and T4 programs together with R19 and R24 the constant current generator, IC5 to give 72 mA charging current.

When the timer circuit has counted up for approx. 10 hours pin 1, IC4 goes "H" and T4 goes off. The charging current is reduced to approx. 7 mA trickle charging current programmed by R24.

6.2.2.2 Charging when the pager is switched on.

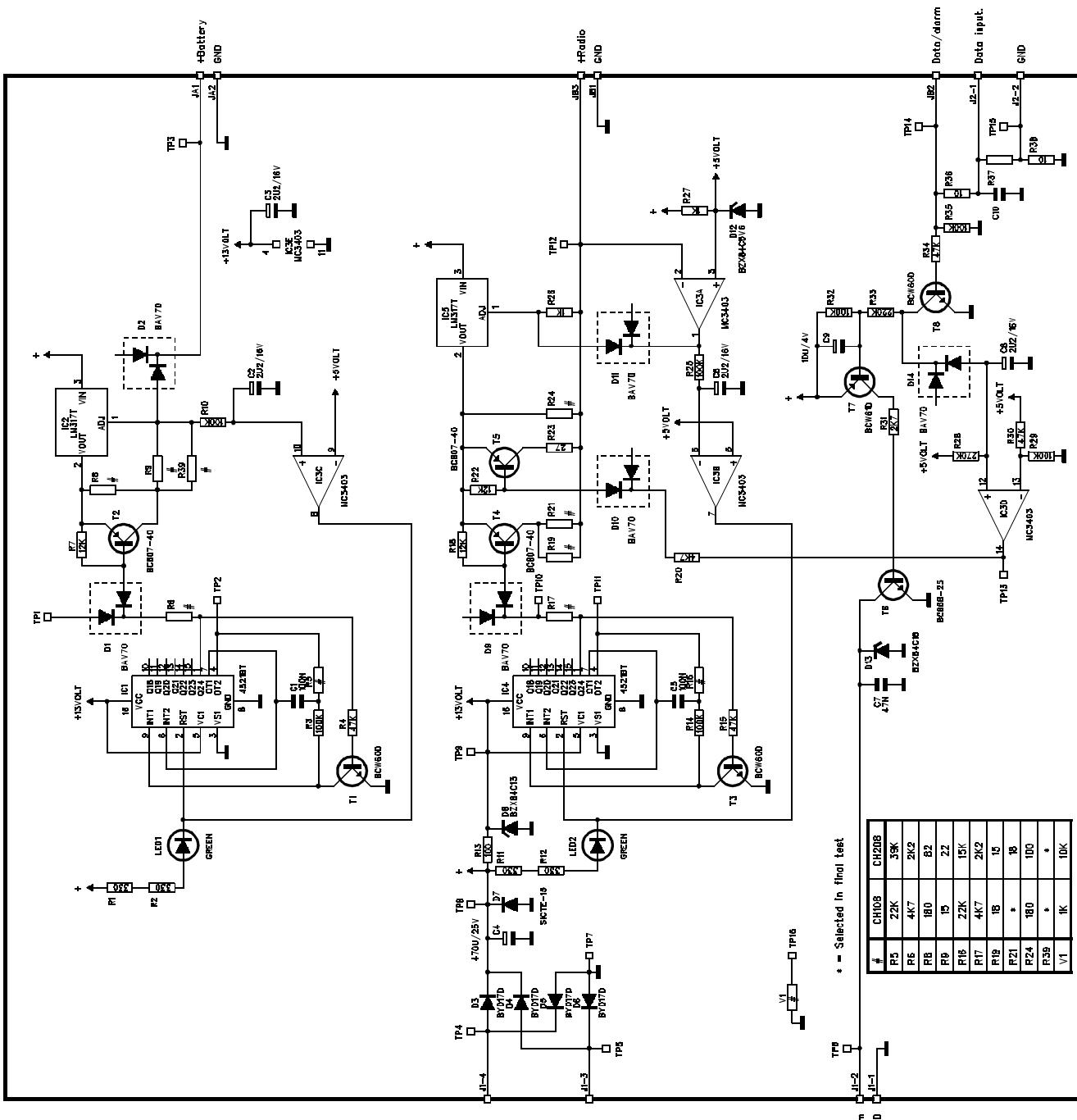
The pager gives out 30 msec. Pulses to terminal JB2 during operation of the pager. The pulse frequency is determined by the current consumption of the pager. Pin 14, IC3D goes "L" for approx. 700 msec., when the pager gives a pulse because T8 discharge the capacitor, C8. T5 will switch on when pin 14, IC3D goes "L" and change the programming of the charging current to a 50 mA higher level.

6.2.2.3 Charging at spare battery.

IC3C goes "L" when a spare battery is connected to the terminals JA1 and JA2 and starts up the timer, IC1. The timer counts for 10 hours. During the counting time pin 1 will be "L" and T3 switches on which program the constant current generator to give a charging current on approx. 70 mA. The charging current is reduced to approx. 7 mA when the timer has finished the counting time.

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.2.3 Diagram

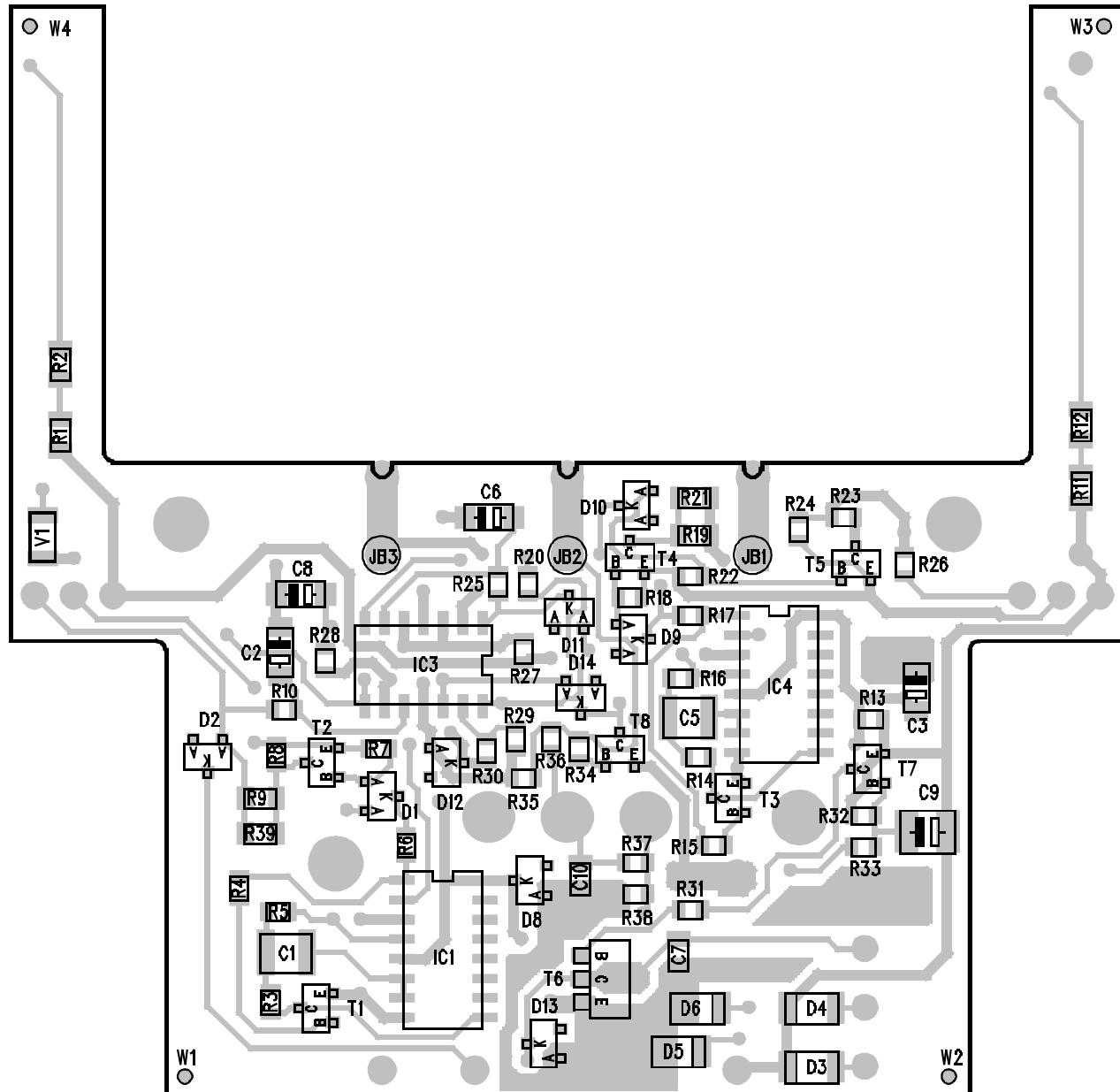


NOTICE CH108 UNIT NO: 100108
CH208 UNIT NO: 100208

SUBJECT TO CHANGE WITHOUT NOTICE		CHZB2	DMR NO.: 00202
DATE: 10-2-95	SIGN: PH	2	NIROS TELECOMMUNICATION A/S
DATE: 7-8-95	SIGN: JHC	2	HIRSEMARENK 5, 3520 FARUM
DATE: 9-1-96	SIGN: PH	3	
DATE: 28-8-96	SIGN: JHC	4	
DATE: 20-2-97	SIGN: JHC	5	Charger CH108/CH208
DATE: 14-1-98	SIGN: PH	6	for RX8008
DRAWING NO: 0-B1D2-03-8		PCB NO: 74B-4	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.2.4 Componentside

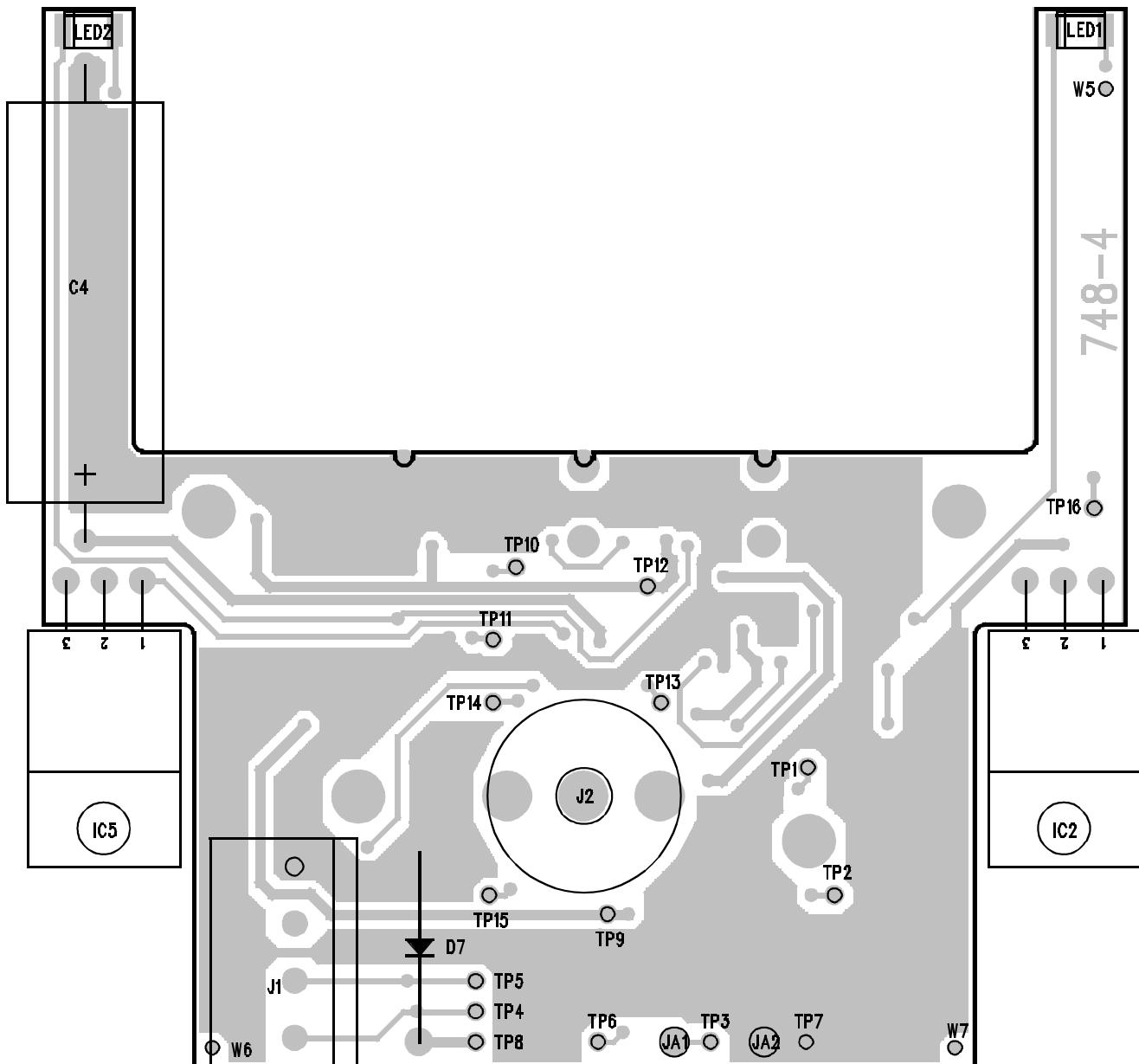


Componentside 748-4

SUBJECT TO CHANGE WITHOUT NOTICE		CH108 UNIT NO: 100188
CH208 UNIT NO: 100208		
DATE: 10-2-95 SIGN: PH 2		NIROS TELECOMMUNICATION A/S
DATE: 7-9-95 SIGN: JJC 2		HØJSEMARKEN 5, 3520 FARUM
DATE: 9-1-96 SIGN: PH 3		
DATE: 28-8-96 SIGN: JJC 4		Charger CH108/CH208
DATE: 20-2-97 SIGN: JJC 5		for RX8008
DATE: 14-1-98 SIGN: PH 6		
DRAWING NO: D-SK02-05-8		PCB NO: 748-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.2.5 Wiringside



Wiringside 748-4

SUBJECT TO CHANGE WITHOUT NOTICE		CH108 UNIT NO: 100108
DATE: 10-2-95 SIGN: PH 2		NIROS TELECOMMUNICATION A/S
DATE: 7-9-95 SIGN: JNC 2		HØJSEMARKEN 5, 3520 FARUM
DATE: 9-1-96 SIGN: PH 3		
DATE: 28-8-96 SIGN: JNC 4		Charger CH108/CH208
DATE: 20-2-97 SIGN: JNC 5		for RX8008
DATE: 14-1-98 SIGN: PH 6		
DRAWING NO: O-8102-D4-6		PCB NO: 748-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.2.6 Partlist

PARTLIST FOR Charger CH108/CH208 for RX8008				DATE 13-1-98
DRAWING NO. 0-8102-03-6				UNIT NO. 100108
Component	Description	Value	Niros No.	
	Charger CH108 Charger CH208		100108 100208	
R1	Resistor,chip805	330 Ohm	13331	
R2	Resistor,chip805	330 Ohm	13331	
R3	Resistor,chip603	100 Kohm	14104	
R4	Resistor,chip603	47 Kohm	14473	
R5	Resistor,chip603	CH108 22 Kohm	14223	
	Resistor,chip603	CH208 39 Kohm	14393	
R6	Resistor,chip603	CH108 4,7 Kohm	14472	
	Resistor,chip603	CH208 2,2 Kohm	14222	
R7	Resistor,chip603	12 Kohm	14123	
R8	Resistor,chip603	CH108 180 Ohm	14181	
	Resistor,chip603	CH208 82 Ohm	14820	
R9	Resistor,chip805	CH108 15 Ohm	13150	
	Resistor,chip805	CH208 22 Ohm	13220	
R10	Resistor,chip603	100 Kohm	14104	
R11	Resistor,chip805	330 Ohm	13331	
R12	Resistor,chip805	330 Ohm	13331	
R13	Resistor,chip603	100 Ohm	14101	
R14	Resistor,chip603	100 Kohm	14104	
R15	Resistor,chip603	47 Kohm	14473	
R16	Resistor,chip603	CH108 22 Kohm	14223	
	Resistor,chip603	CH208 15 Kohm	14153	
R17	Resistor,chip603	CH108 4,7 Kohm	14472	
	Resistor,chip603	CH208 2,2 Kohm	14222	
R18	Resistor,chip603	12 Kohm	14123	
R19	Resistor,chip805	CH108 18 Ohm	13180	
	Resistor,chip805	CH208 15 Ohm	13150	
R20	Resistor,chip603	4,7 Kohm	14472	
R21	Resistor,chip805	CH108 Selected		
	Resistor,chip805	CH208 18 Ohm	13180	
R22	Resistor,chip603	12 Kohm	14123	
R23	Resistor,chip603	27 Ohm	14270	
R24	Resistor,chip603	CH108 180 Ohm	14181	
	Resistor,chip603	CH208 100 Ohm	14101	
R25	Resistor,chip603	100 Kohm	14104	
R26	Resistor,chip603	1 Kohm	14102	
R27	Resistor,chip603	1 Kohm	14102	
R28	Resistor,chip603	270 Kohm	14274	
R29	Resistor,chip603	100 Kohm	14104	
R30	Resistor,chip603	47 Kohm	14473	
R31	Resistor,chip603	2,7 Kohm	14272	
R32	Resistor,chip603	100 Kohm	14104	

p. 1 of 3

PC. Board No. 748-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

PARTLIST FOR Charger CH108/CH208 for RX8008
DRAWING NO. 0-8102-03-6

DATE 13-1-98
UNIT NO. 100108

Component	Description	Value	Niros No.
R33	Resistor,chip603	220 Kohm	14224
R34	Resistor,chip603	47 Kohm	14473
R35	Resistor,chip603	100 Kohm	14104
R36	Resistor,chip603	10 Ohm	14100
R37	Resistor,chip603	Not used	
R38	Resistor,chip603	10 Ohm	14100
R39	Resistor,chip805	CH108 Selected	
	Resistor,chip805	CH208 Selected	
C1	Capacitor,chip1210	100 nF	20820
C2	Capacitor,ctan_a	2,2 uF/16V	25613
C3	Capacitor,ctan_a	2,2 uF/16V	25613
C4	Capacitor,lyt	470 uF/25V	26008
C5	Capacitor,chip1210_ln	100 nF	20820
C6	Capacitor,ctan_a	2,2 uF/16V	25613
C7	Capacitor,chip805	47 nF	20653
C8	Capacitor,ctan_a	2,2 uF/16V	25613
C9	Capacitor,ctan_b	10 uF/4V	25612
C10	Capacitor,chip805	Not used	
T1	Transistor	BCW60D	40156
T2	Transistor	BC807-40	40186
T3	Transistor	BCW60D	40156
T4	Transistor	BC807-40	40186
T5	Transistor	BC807-40	40186
T6	Transistor	BC868-25	40188
T7	Transistor	BCW61D	40157
T8	Transistor	BCW60D	40156
D1	Diode	BAV70	45146
D2	Diode	BAV70	45146
D3	Diode	BYD17D	45176
D4	Diode	BYD17D	45176
D5	Diode	BYD17D	45176
D6	Diode	BYD17D	45176
D7	Diode	SICTE-15	41218
D8	Diode, zener	BZX84C13	41243
D9	Diode	BAV70	45146
D10	Diode	BAV70	45146
D11	Diode	BAV70	45146
D12	Diode, zener	BZX84C5V6	41241
D13	Diode, zener	BZX84C18	41242
D14	Diode	BAV70	45146

p. 2 of 3

PC. Board No. 748-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

PARTLIST FOR Charger CH108/CH208 for RX8008
 DRAWING NO. 0-8102-03-6

DATE 13-1-98
 UNIT NO. 100108

Component	Description	Value	Niros No.
LED1	Light_diode	GREEN	45184
LED2	Light_diode	GREEN	45184
IC1	Integrated_circuit	4521BT	46236
IC2	Integrated_circuit	LM317T	46106
IC3	Integrated_circuit	MC3403	46136
IC4	Integrated_circuit	4521BT	46236
IC5	Integrated_circuit	LM317T	46106
J1	Connector		83341
J2	Connector		83340
JB1	Contact_spring		98067
JA1	Contact_pin		83324
JA2	Contact_pin		83324
JB2	Contact_spring		98067
JB3	Contact_spring		98067
V1	Resistor,chip1206	CH108	1 Kohm
	Resistor,chip1206	CH208	10 Kohm
	Nut M2,5	CH108	0 pcs
	Nut M2,5	CH208	1 pcs
	Washer M2,3	CH108	0 pcs
	Washer M2,3	CH208	1 pcs
	Screw M2,5X6 LHJ-X	CH108	0 pcs
	Screw M2,5X6 LHJ-X	CH208	1 pcs
	Heat_sink	CH108	0 pcs
	Heat_sink	CH208	1 pcs
	Mains_adaptor		50110
	Front_label		88048
	Label "CH108"	CH108	1 pcs
	Label "CH208"	CH208	1 pcs
	Label "ALARM/AC"		88051
	Rubber_stand_off		91403
	Screw K18X4		92030
	Screw K25X6		92148
	Screw M3X5 PHJX		92419
	Pc._board_no. 748-4		95748
	Charger_cabinet_for CH108		97940
	Bottom_plate		98066
	Cable_tie		98068

p. 3 of 3

PC. Board No. 748-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.3 Charger CH109

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.3.1 Direction for use Charger CH109

6.3.1.1 Start up.

The Charger CH109 should be connected to 230 V AC or 12 V DC.

The charger is intended for charging RX8008 and the matching battery. The charger is connected to 230 VAC via the enclosed wall socket charger, AC adapter, or 12 V through a 1 A fuse. This charger is only intended for use with pagers supplied with NIROS NiCd batteries type 8070. If the charger is used for charging of NiMH-batteries the batteries can be damaged partly with reduced lifetime as a result.

6.3.1.2 Battery charging.

Charging principle: Semi constant current.

Place the pager (alarm receiver) into the front charging position, no matter whether the pager is ON or OFF. If the pager is placed in a carrying case it can be charged by opening the carrying case at the bottom.

When the pager are placed in the charger the diode will light and indicate the contact. The diode will light as long as the pager are placed in the charger.

Typical charging times:

	Empty battery	After 8 hours working time
Pager switched off	13 hours	10 hours
Pager switched	21 hours	14 hours

The pager will not normally be damaged if placed in the charger for a long time. It is however not recommended to charge the battery for several weeks. If you need a shorter charging time independent of the pager is switched on or off you can use charger CH108. CH108 can be used with both NiCd and NiMH-batteries and it can charge both a spare battery and a pager simultaneously. It has an output for external alarm and possibility for programming of the pager via a PC.

6.3.1.3 Battery protection.

The charger protects against overcharging, and normally no memory effect (restriction of battery capacity) will occur, even if the battery is not fully discharged, before it is placed into the charger. Anyhow, if the memory effect should occur the battery can be conditioned by fully discharging on the pager, then charge for 5 hours in the charger - repeat this procedure 2-3 times.

6.3.1.4 Environment protection.

For the sake of the environment used batteries must be returned to the battery receiving station or factory.

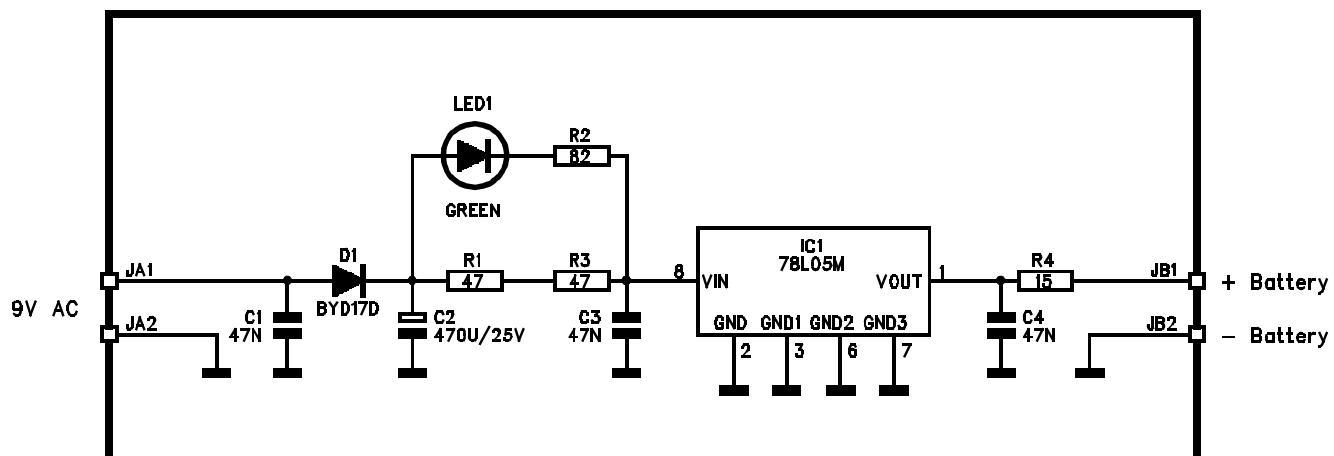
6.3.2 Technical description.

Diagram no. 0-8104-03-X.

When a battery is connected to the terminals JB1 and JB2 the IC1 will deliver a constant current of approx. 85 mA as the battery voltage rises the current gradually drops to approx. 40 mA. A part of the charging current goes through the light diode, LED 1 and it lights green.

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.3.3 Diagram

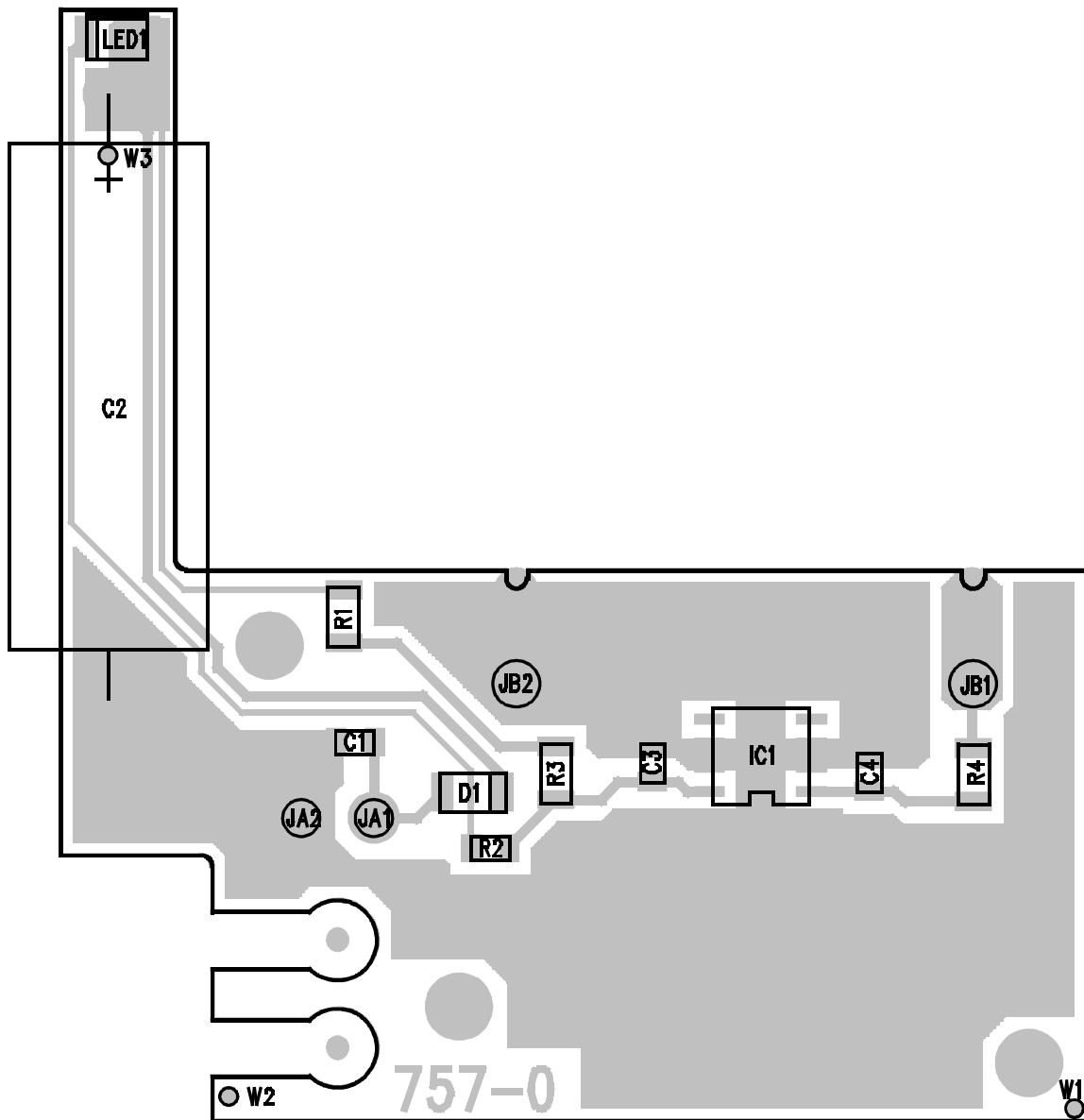


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 31-7-95	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HØRSØMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: D-8104-03-0			PCB NO: 757-0 UNIT NO: 100109

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.3.4 Wiringside



Wiringside 757-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 31-7-85	SIGN: PH	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
Charger CH109			
DRAWING NO: D-8104-04-0		PCB NO: 757-0	UNIT NO: 100109

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.3.5 Partlist

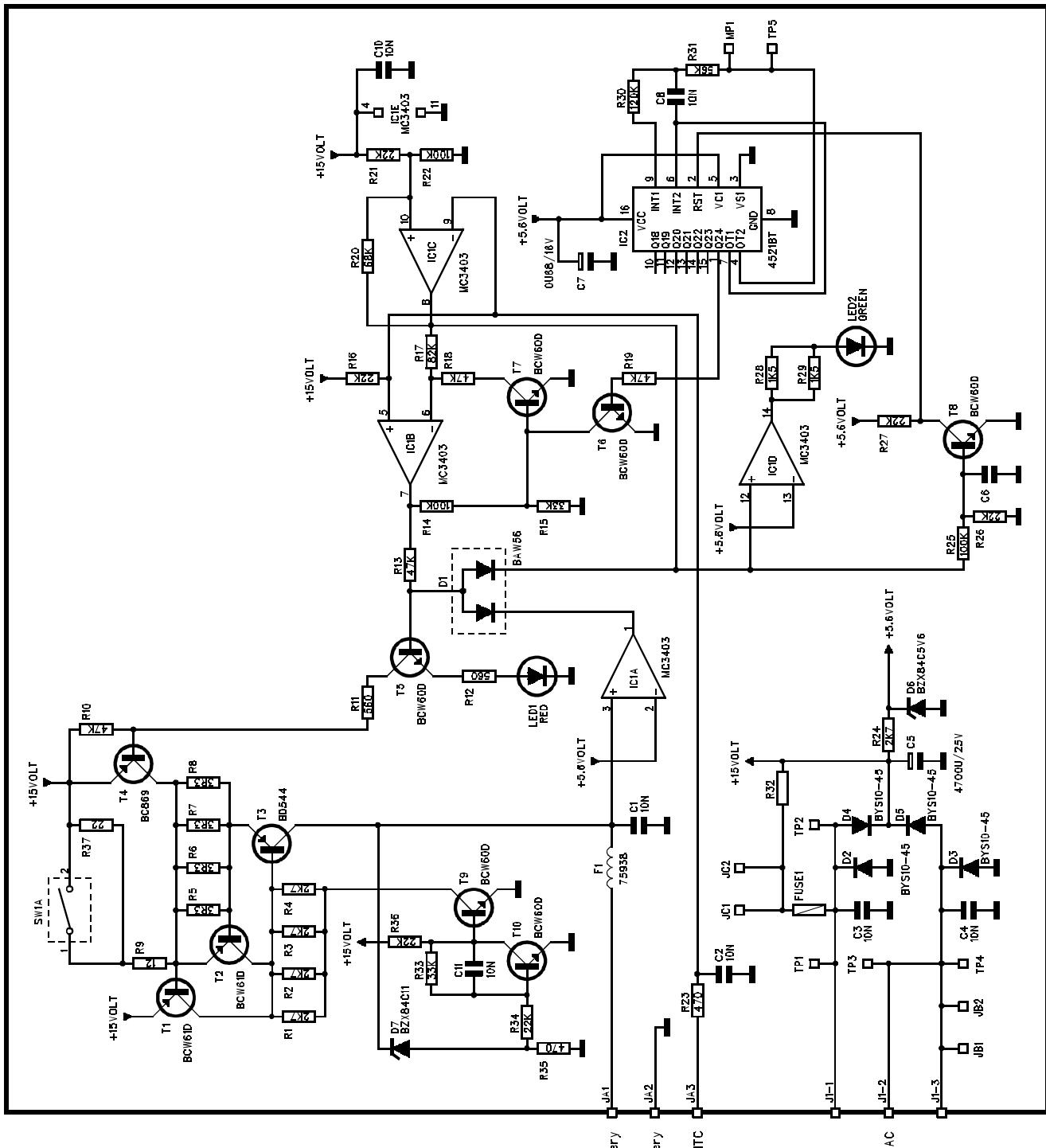
PARTLIST FOR Charger CH109 DRAWING NO. 0-8104-03-0		DATE 31-7-95 UNIT NO. 100109	
Component	Description	Value	Niros No.
R1	Resistor, chip1206	47 Ohm	12470
R2	Resistor, chip805	82 Ohm	13820
R3	Resistor, chip1206	47 Ohm	12470
R4	Resistor, chip1206	15 Ohm	12150
C1	Capacitor, chip805	47 nF	20653
C2	Capacitor, lyt	470 uF/25V	26008
C3	Capacitor, chip805	47 nF	20653
C4	Capacitor, chip805	47 nF	20653
D1	Diode	BYD17D	45176
LED1	Light_diode	GREEN	45184
IC1	Integrated_circuit	78L05M	46220
	Mains_adaptor	1 pcs	50110
	Pc_board_no 757-0	1 pcs	95757
	Contact_spring	2 pcs	98067
p. 1 of 1		PC. Board No. 757-0	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.4 Charger CH110A/CH113/CH310/CH313

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	01-11-99	2	PA

6.4.1 Diagram

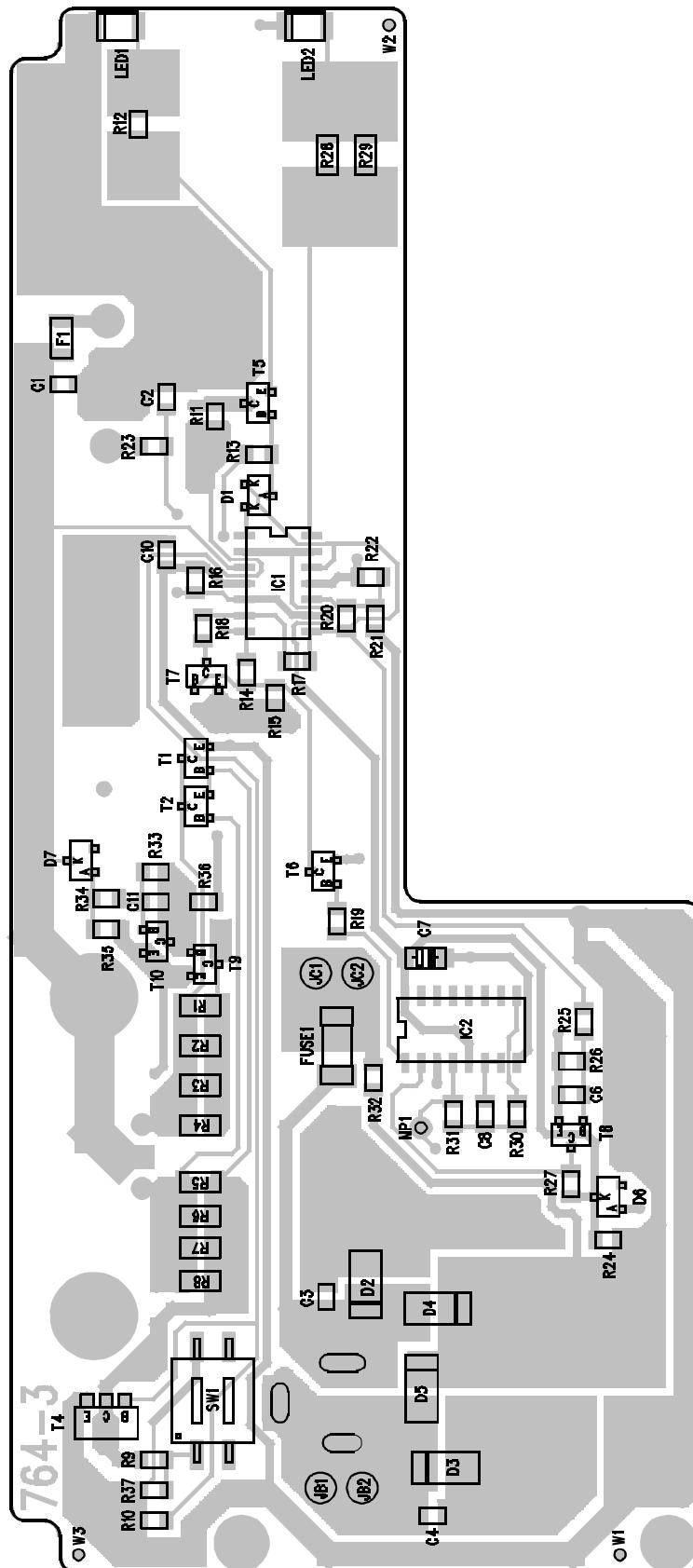


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 21-2-96	SIGN: PH	1	NIROS TELECOMMUNICATION A/S
DATE: 15-9-97	SIGN: PH	3	HØRSEMARKEN 5, 3520 FARUM
DATE: 9-8-99	SIGN: PH	4	
DATE: 1-11-99	SIGN: PH	5	NICd/NIMH Charger
DATE:	SIGN:		for TRX1001/TRX1012
DATE:	SIGN:		
DRAWING NO: O-9842-03-5			PCB NO: 784-3

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	01-11-99	2	PA

6.4.2 Componentside

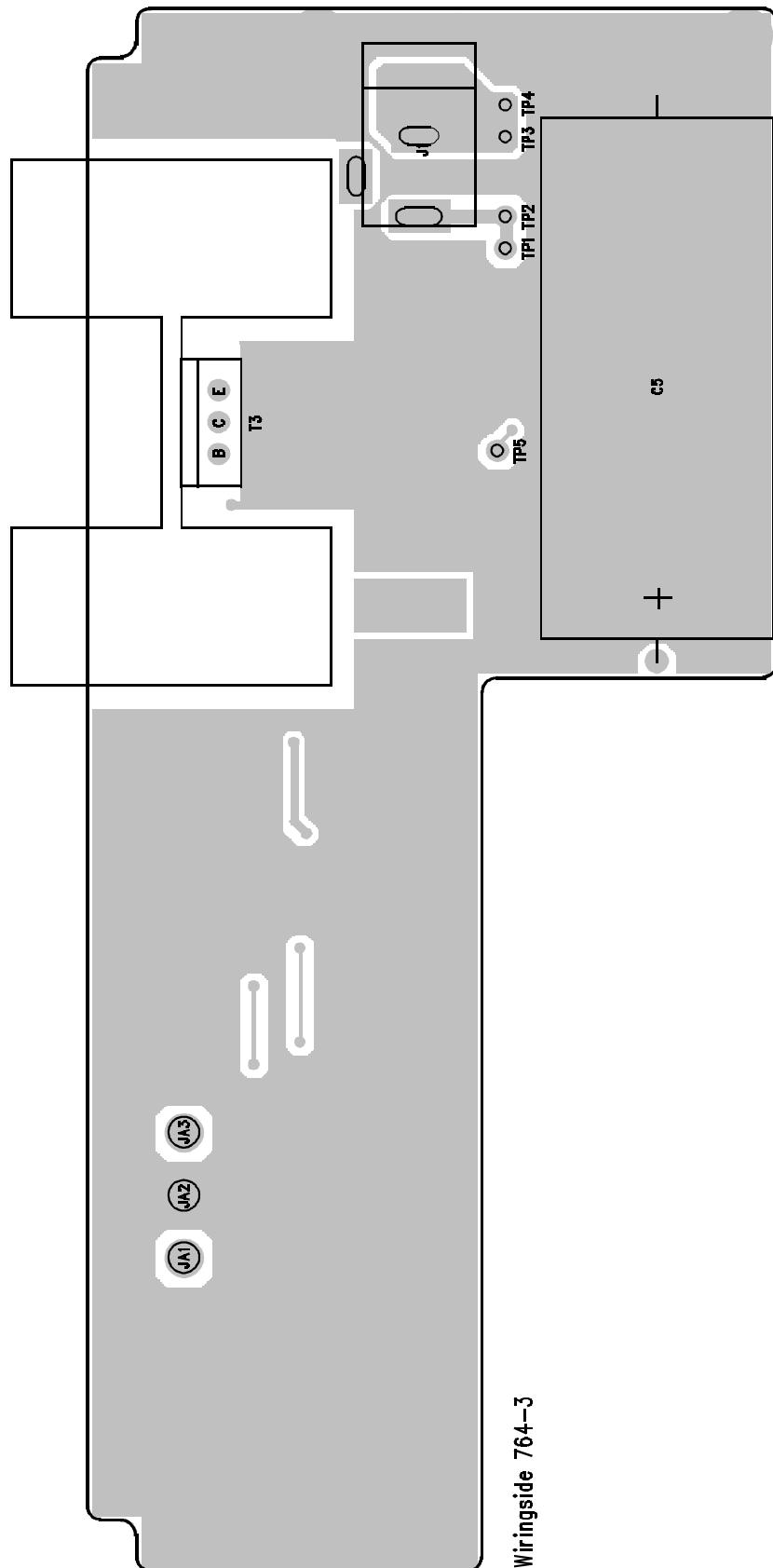


Componentside 764-3

SUBJECT TO CHANGE WITHOUT NOTICE		CH310	UNIT NO: 5795
		CH313	UNIT NO: B797
DATE:	21-2-96	SIGN: PH	1
DATE:	15-9-97	SIGN: PH	3
DATE:	9-8-99	SIGN: PH	4
DATE:	1-11-99	SIGN: PH	5
DATE:		SIGN:	
DATE:		SIGN:	
DRAWING NO: 0-9842-05-5		PCB NO: 764-3	
NIROS TELECOMMUNICATION A/S HIPSEMARKEN 5, 3520 FARUM			
NiCd/NiMH Charger for TRX1001/TRX1012			

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	01-11-99	2	PA

6.4.3 Wiringside



Wiringside 764-3

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 21-2-96	SIGN: PH	1	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE: 15-9-97	SIGN: PH	3	
DATE: 9-8-99	SIGN: PH	4	
DATE: 1-11-00	SIGN: PH	5	NICd/NIMH Charger for TRX1001/TRX1012
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: 0-9842-04-5			PCB NO: 764-3

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	01-11-99	2	PA

6.4.4 Partlist

PARTLIST FOR NiCd/NiMH Charger for TRX1001/TRX1012			DATE	1-11-99
DRAWING NO. 0-9642-03-5			UNIT NO.	5786
Component	Description	Value	Niros No.	
	Charger CH110A			5786
	Charger CH113			5789
	Charger CH310			5796
	Charger CH313			5797
R1	Resistor, chip1206	2,7 Kohm		12272
R2	Resistor, chip1206	2,7 Kohm		12272
R3	Resistor, chip1206	2,7 Kohm		12272
R4	Resistor, chip1206	2,7 Kohm		12272
R5	Resistor, chip1206	3,3 Ohm		12339
R6	Resistor, chip1206	3,3 Ohm		12339
R7	Resistor, chip1206	3,3 Ohm		12339
R8	Resistor, chip1206	3,3 Ohm		12339
R9	Resistor, chip805	12 Ohm		13120
R10	Resistor, chip805	47 Kohm		13473
R11	Resistor, chip805	560 Ohm		13561
R12	Resistor, chip805	560 Ohm		13561
R13	Resistor, chip805	47 Kohm		13473
R14	Resistor, chip805	100 Kohm		13104
R15	Resistor, chip805	33 Kohm		13333
R16	Resistor, chip805	22 Kohm		13223
R17	Resistor, chip805	82 Kohm		13823
R18	Resistor, chip805	47 Kohm		13473
R19	Resistor, chip805	47 Kohm		13473
R20	Resistor, chip805	68 Kohm		13683
R21	Resistor, chip805	22 Kohm		13223
R22	Resistor, chip805	100 Kohm		13104
R23	Resistor, chip805	470 Ohm		13471
R24	Resistor, chip805	2,7 Kohm		13272
R25	Resistor, chip805	100 Kohm		13104
R26	Resistor, chip805	22 Kohm		13223
R27	Resistor, chip805	22 Kohm		13223
R28	Resistor, chip1206	1,5 Kohm		12152
R29	Resistor, chip1206	1,5 Kohm		12152
R30	Resistor, chip805	120 Kohm		13124
R31	Resistor, chip805	56 Kohm		13563
R32	Resistor, chip805	Not used		
R33	Resistor, chip805	33 Kohm		13333
R34	Resistor, chip805	22 Kohm		13223
R35	Resistor, chip805	470 Ohm		13471
R36	Resistor, chip805	22 Kohm		13223
R37	Resistor, chip805	22 Ohm		13220
C1	Capacitor, chip805	10 nF		20600

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PC. Board No. 764-3

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	01-11-99	2	PA

PARTLIST FOR NiCd/NiMH Charger for TRX1001/TRX1012 DRAWING NO. 0-9642-03-5			DATE 1-11-99	UNIT NO. 5786
Component	Description	Value	Niros No.	
C2	Capacitor, chip805	10 nF	20600	
C3	Capacitor, chip805	10 nF	20600	
C4	Capacitor, chip805	10 nF	20600	
	CH110A			
	Capacitor, chip805	10 nF	20600	
	CH113			
	Capacitor, chip805	Not used		
	CH310			
	Capacitor, chip805	Not used		
	CH313			
C5	Capacitor, lyt	4700 uF/25V	26026	
C6	Capacitor, chip805	Not used		
C7	Capacitor, ctan_a	0,68 uF/16V	25611	
C8	Capacitor, chip805	10 nF	20600	
C10	Capacitor, chip805	10 nF	20600	
C11	Capacitor, chip805	10 nF	20600	
F1	Filter	75938	75938	
T1	Transistor	BCW61D	40157	
T2	Transistor	BCW61D	40157	
T3	Transistor	BD544	40196	
T4	Transistor	BC869	40185	
T5	Transistor	BCW60D	40156	
T6	Transistor	BCW60D	40156	
T7	Transistor	BCW60D	40156	
T8	Transistor	BCW60D	40156	
T9	Transistor	BCW60D	40156	
T10	Transistor	BCW60D	40156	
D1	Diode	BAW56	45147	
D2	Diode	CH110A	BYS10-45	45186
	Diode	CH113	BYS10-45	45186
	Diode	CH310	Not used	
	Diode	CH313	Not used	
D3	Diode	CH110A	BYS10-45	45186
	Diode	CH113	BYS10-45	45186
	Resistor, chip1206	CH310	0 Ohm	12000
	Resistor, chip1206	CH313	0 Ohm	12000
D4	Diode	CH110A	BYS10-45	45186
	Diode	CH113	BYS10-45	45186
	Resistor, chip1206	CH310	0 Ohm	12000
	Resistor, chip1206	CH313	0 Ohm	12000
D5	Diode	CH110A	BYS10-45	45186
	Diode	CH113	BYS10-45	45186
	Diode	CH310	Not used	
	Diode	CH313	Not used	
D6	Diode, zener		BZX84C5V6	41241

PARTLIST FOR NiCd/NiMH Charger for TRX1001/TRX1012 DATE 1-11-99
 DRAWING NO. 0-9642-03-5 UNIT NO. 5786

Component	Description	Value	Niros No.
D7	Diode, zener	BZX84C11	41248
LED1	Light_diode	RED	45182
LED2	Light_diode	GREEN	45184
IC1	Integrated_circuit	MC3403	46136
IC2	Integrated_circuit	4521BT	46236
SW1	Switch		81206
FUSE1	Fuse	CH110A	Not used
	Fuse	CH113	2.5AT
	Fuse	CH310	Not used
	Fuse	CH313	2.5AT
J1	Connector	CH110A	HTJ-020-05A
	Connector	CH113	HTJ-020-05A
	Connector	CH310	HTJ-020-05B
	Connector	CH313	HTJ-020-05B
JA1	Contact_spring		83348
JA2	Contact_spring		83348
JA3	Contact_spring		83348
	Screw M3X6 PHJZ	1 pcs	92416
	Washer M3	1 pcs	92448
	Nut M3	1 pcs	92449
	Pc._board_no. 764-3	1 pcs	95764
	Heat_sink	1 pcs	98094

p. 3 of 3

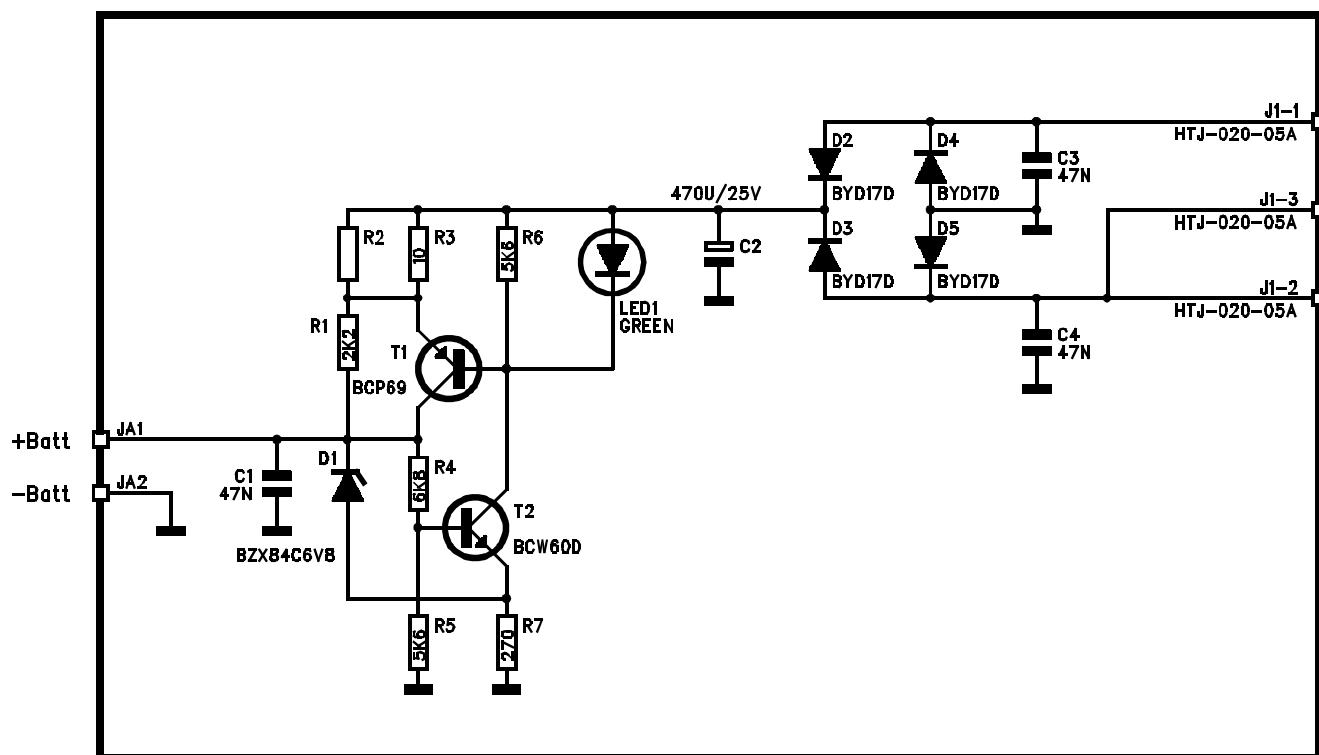
PC. Board No. 764-3

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	01-11-99	2	PA

6.5 Charger CH112

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.5.1 Diagram

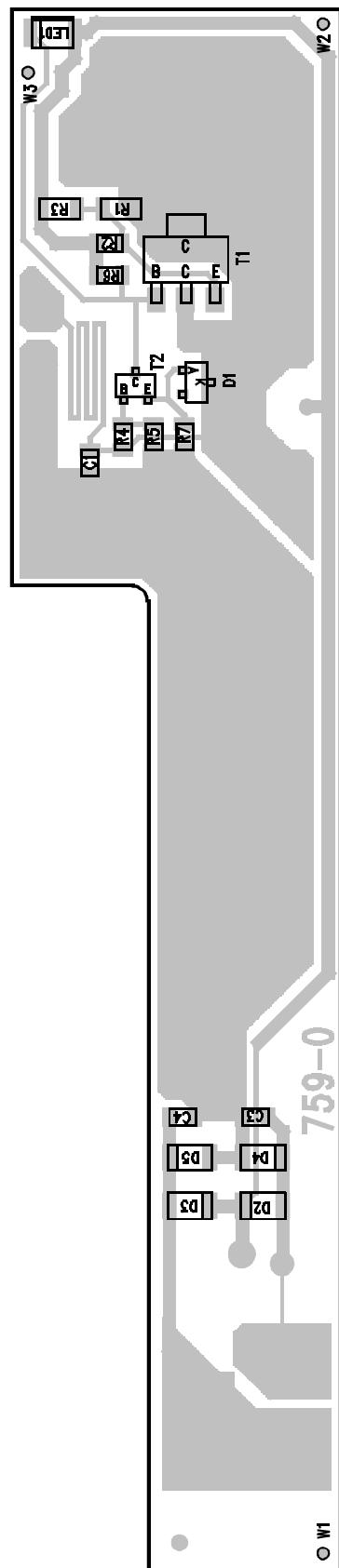


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DATE: 5-1-98	SIGN: PH	O	NIROS TELECOMMUNICATION A/S
DATE:	SIGN:		HIPSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
Drawing No: 0-963B-03-0			Charger CH112
			PCB No: 759-0 UNIT No: 100112

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.5.2 Componentside



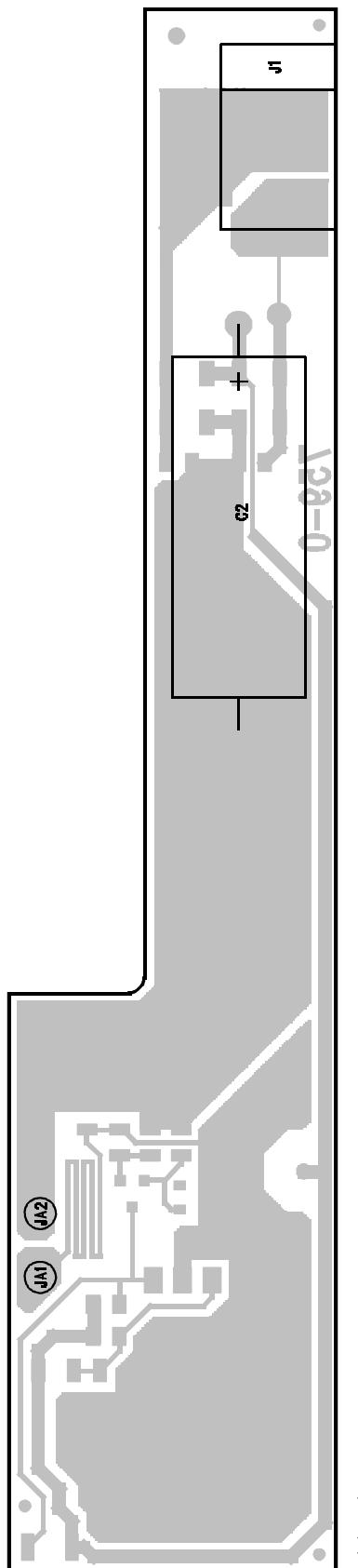
Componentside 759-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 5-1-96	SIGN: PH	O	NIROS TELECOMMUNICATION A/S HØSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: D-9638-05-O			Charger CH112
			PCB NO: 759-0 UNIT NO: 100112

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.5.3 Wiringside



Wiringside 759-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 5-1-98	SIGN: PH	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
Charger CH112			
DRAWING NO: D-963B-04-0			PCB NO: 759-0 UNIT NO: 100112

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.5.4 Partlist

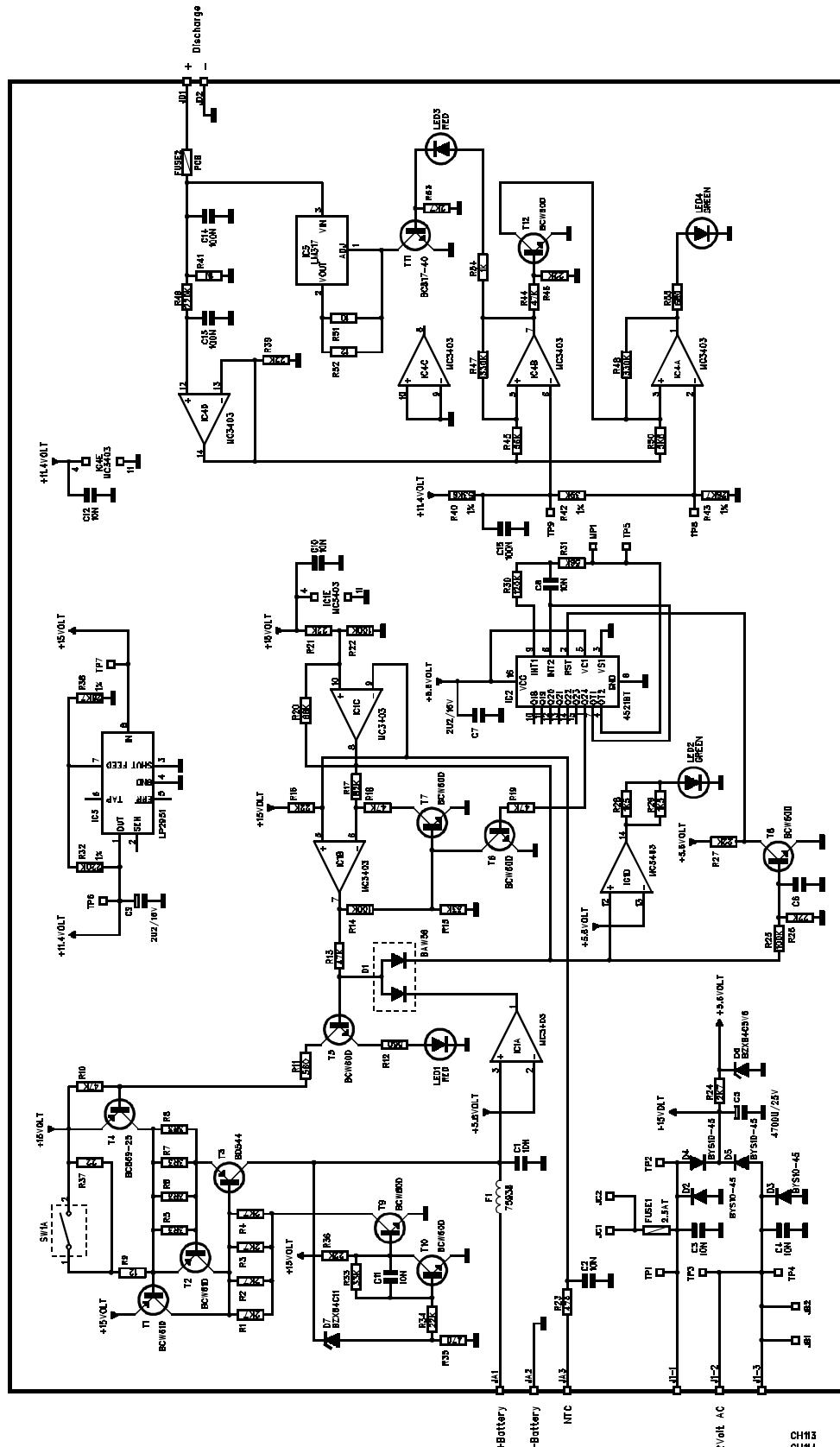
PARTLIST FOR Charger CH112 DRAWING NO. 0-9638-03-0			DATE 5-1-96 UNIT NO. 100112
Component	Description	Value	Niros No.
R1	Resistor, chip1206	2,2 Kohm	12222
R2	Resistor, chip805	Not used	
R3	Resistor, chip1206	10 Ohm	12100
R4	Resistor, chip805	6,8 Kohm	13682
R5	Resistor, chip805	5,6 Kohm	13562
R6	Resistor, chip805	5,6 Kohm	13562
R7	Resistor, chip805	270 Ohm	13271
C1	Capacitor, chip805	47 nF	20653
C2	Capacitor, tan	470 uF/25V	26008
C3	Capacitor, chip805	47 nF	20653
C4	Capacitor, chip805	47 nF	20653
T1	Transistor	BCP69	40199
T2	Transistor	BCW60D	40156
D1	Diode, zener	BZX84C6V8	41234
D2	Diode	BYD17D	45176
D3	Diode	BYD17D	45176
D4	Diode	BYD17D	45176
D5	Diode	BYD17D	45176
LED1	Light diode	GREEN	45184
J1	Connector	HTJ-020-05A	83346
JA1	Contact spring		83348
JA2	Contact spring		83348
	Pc. board no. 759-0	1 pcs	95759
p. 1 of 1			PC. Board No. 759-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	26-07-98	0	PA

6.6 Charger CH113/CH114/CH313/CH314

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-11-99	1	PA

6.6.1 Diagram

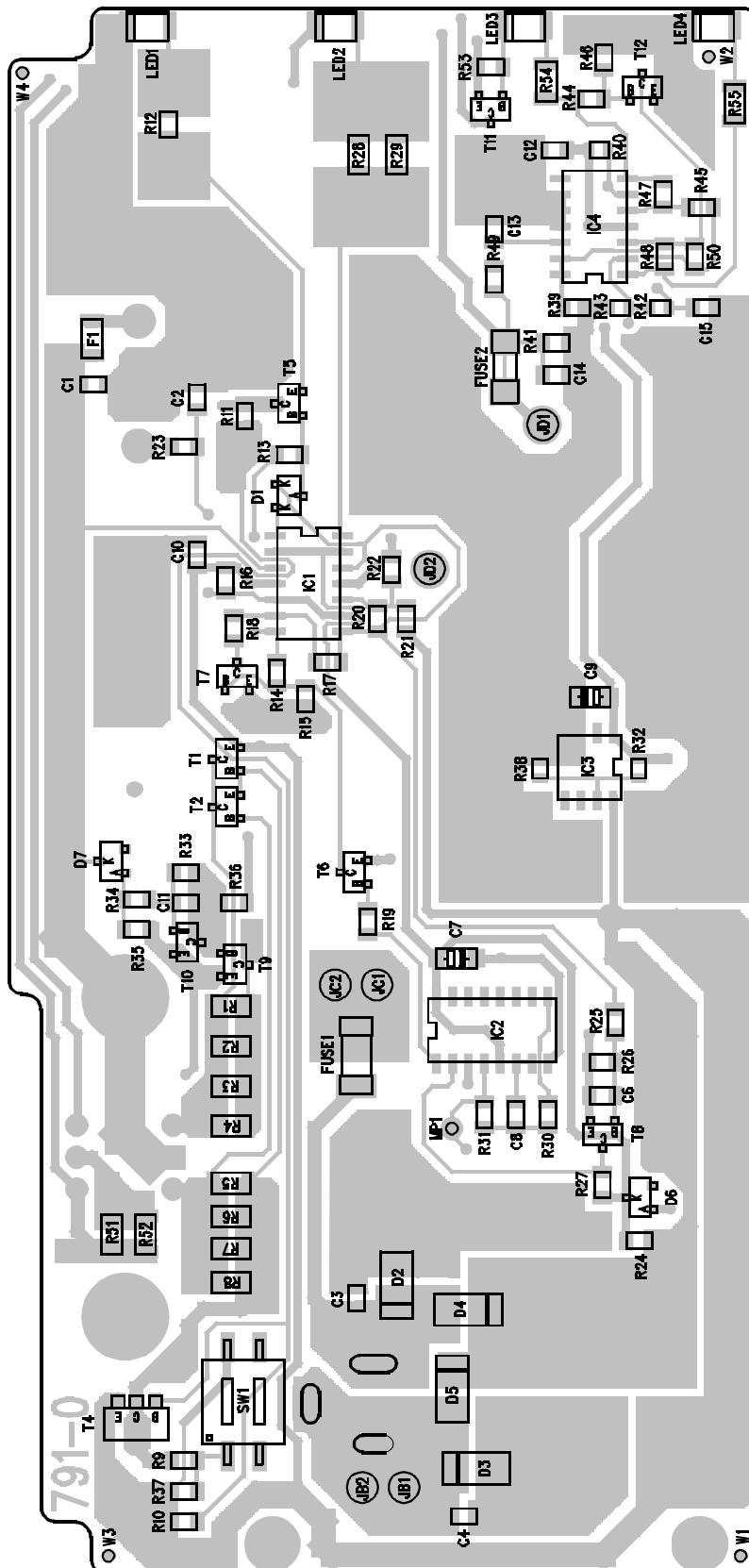


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DATE: 8-8-99	SIGN: PH	0	NIROS TELECOMMUNICATION A/S
DATE: 1-11-99	SIGN: PH	1	HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		Charger
DATE:	SIGN:		CH113/CH114 & CH313/CH314
DRAWING NO: 0-9643-03-1	PCB NO: 791-0		

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-11-99	1	PA

6.6.2 Componentside



Componentside 791-0

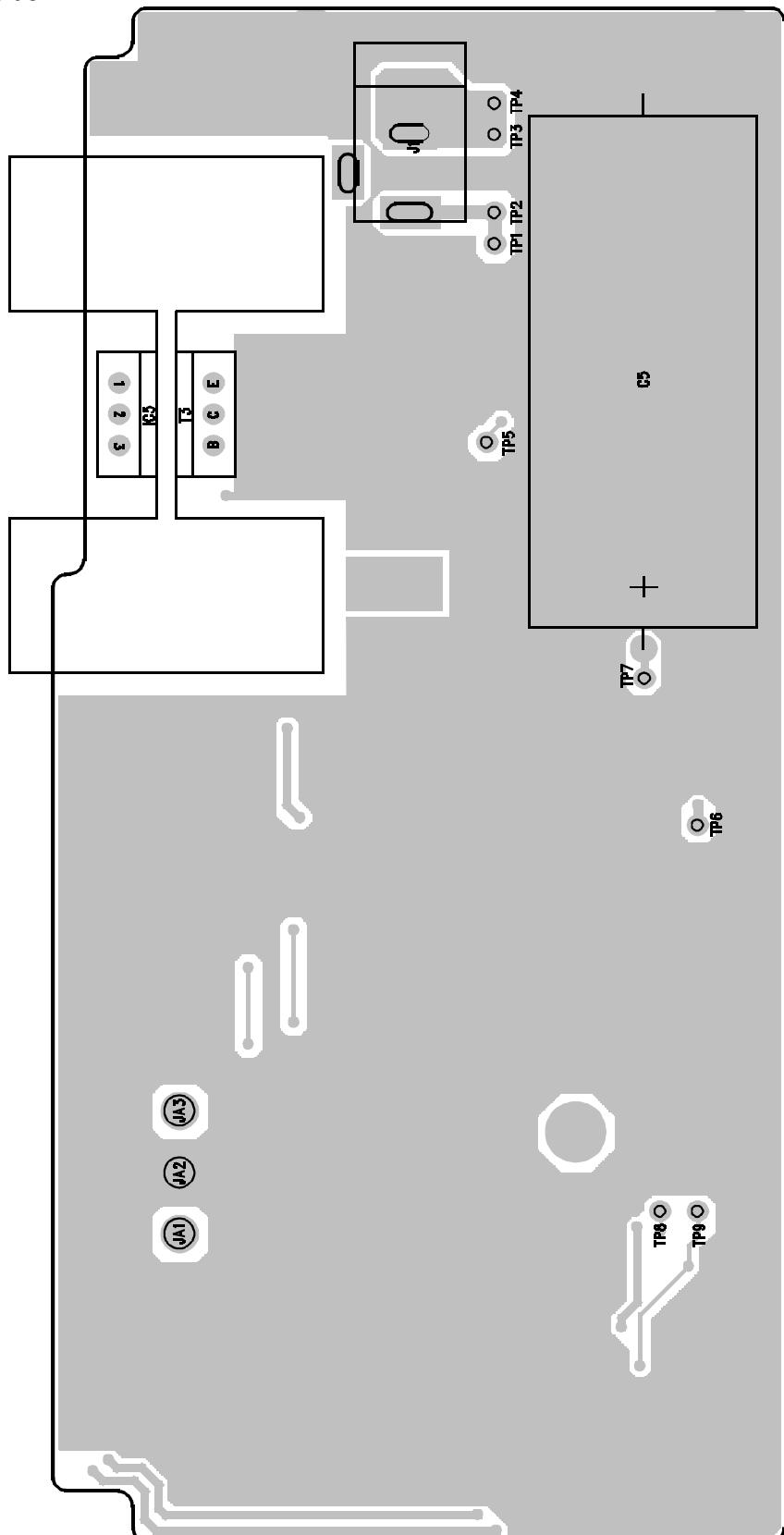
CH113 UNIT NO: 5791
 CH114 UNIT NO: 5790
 CH313 UNIT NO: 5788
 CH314 UNIT NO: 5789

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 8-8-99	SIGN: PH	0	NIROS TELECOMMUNICATION A/S
DATE: 1-11-99	SIGN: PH	1	HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: 0-9643-05-1			Charger
			CH113/CH114 & CH313/CH314
			PCB NO: 791-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-11-99	1	PA

6.6.3 Wiringside



Wiringside 791-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 6-8-99	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HØRSJØMARKEN 5, 3520 FARUM
DATE: 1-11-99	SIGN: PH	1	
DATE:	SIGN:		
DATE:	SIGN:		Charger
DATE:	SIGN:		CH113/CH114 & CH313/CH314
DATE:	SIGN:		
DRAWING NO: 0-9843-04-1			PCB NO: 791-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-11-99	1	PA

6.6.4 Partlist

PARTLIST FOR Charger CH113/CH114 & CH313/CH314 DRAWING NO. 0-9643-03-1			DATE 1-11-99	UNIT NO. 5791
Component	Description	Value	Niros No.	
	Charger CH113		5791	
	Charger CH114		5790	
	Charger CH313		5798	
	Charger CH314		5799	
R1	Resistor, chip1206	2,7 Kohm	12272	
R2	Resistor, chip1206	2,7 Kohm	12272	
R3	Resistor, chip1206	2,7 Kohm	12272	
R4	Resistor, chip1206	2,7 Kohm	12272	
R5	Resistor, chip1206	3,3 Ohm	12339	
R6	Resistor, chip1206	3,3 Ohm	12339	
R7	Resistor, chip1206	3,3 Ohm	12339	
R8	Resistor, chip1206	3,3 Ohm	12339	
R9	Resistor, chip805	12 Ohm	13120	
R10	Resistor, chip805	47 Kohm	13473	
R11	Resistor, chip805	560 Ohm	13561	
R12	Resistor, chip805	560 Ohm	13561	
R13	Resistor, chip805	47 Kohm	13473	
R14	Resistor, chip805	100 Kohm	13104	
R15	Resistor, chip805	33 Kohm	13333	
R16	Resistor, chip805	22 Kohm	13223	
R17	Resistor, chip805	82 Kohm	13823	
R18	Resistor, chip805	47 Kohm	13473	
R19	Resistor, chip805	47 Kohm	13473	
R20	Resistor, chip805	68 Kohm	13683	
R21	Resistor, chip805	22 Kohm	13223	
R22	Resistor, chip805	100 Kohm	13104	
R23	Resistor, chip805	470 Ohm	13471	
R24	Resistor, chip805	2,7 Kohm	13272	
R25	Resistor, chip805	100 Kohm	13104	
R26	Resistor, chip805	22 Kohm	13223	
R27	Resistor, chip805	22 Kohm	13223	
R28	Resistor, chip1206	1,5 Kohm	12152	
R29	Resistor, chip1206	1,5 Kohm	12152	
R30	Resistor, chip805	120 Kohm	13124	
R31	Resistor, chip805	56 Kohm	13563	
R32	Resistor, chip603_1%	220 Kohm	10923	
R33	Resistor, chip805	33 Kohm	13333	
R34	Resistor, chip805	22 Kohm	13223	
R35	Resistor, chip805	470 Ohm	13471	
R36	Resistor, chip805	22 Kohm	13223	
R37	Resistor, chip805	22 Ohm	13220	
R38	Resistor, chip603_1%	26,7 Kohm	10909	
R39	Resistor, chip805	22 Kohm	13223	
R40	Resistor, chip603_1%	53,6 Kohm	10928	

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PC. Board No. 791-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-11-99	1	PA

PARTLIST FOR Charger CH113/CH114 & CH313/CH314
DRAWING NO. 0-9643-03-1

DATE 1-11-99
UNIT NO. 5791

Component	Description	Value	Niros No.
R41	Resistor,chip805	1 Mohm	13105
R42	Resistor,chip603_1%	39 Kohm	10918
R43	Resistor,chip603_1%	26,7 Kohm	10909
R44	Resistor,chip805	47 Kohm	13473
R45	Resistor,chip805	56 Kohm	13563
R46	Resistor,chip805	22 Kohm	13223
R47	Resistor,chip805	330 Kohm	13334
R48	Resistor,chip805	330 Kohm	13334
R49	Resistor,chip805	220 Kohm	13224
R50	Resistor,chip805	5,6 Kohm	13562
R51	Resistor,chip1206	10 Ohm	12100
R52	Resistor,chip1206	12 Ohm	12120
R53	Resistor,chip805	2,7 Kohm	13272
R54	Resistor,chip1206	1 Kohm	12102
R55	Resistor,chip1206	680 Ohm	12681
C1	Capacitor,chip805	10 nF	20600
C2	Capacitor,chip805	10 nF	20600
C3	Capacitor,chip805	10 nF	20600
C4	Capacitor,chip805 CH113	10 nF	20600
	Capacitor,chip805 CH114	10 nF	20600
C5	Capacitor,chip805 CH313	Not used	
	Capacitor,chip805 CH314	Not used	
C6	Capacitor,lyt	4700 uF/25V	26026
C7	Capacitor,chip805	Not used	
C8	Capacitor,ctan_a	2,2 uF/16V	25613
C9	Capacitor,chip805	10 nF	20600
C10	Capacitor,ctan_a	2,2 uF/16V	25613
	Capacitor,chip805	10 nF	20600
C11	Capacitor,chip805	10 nF	20600
C12	Capacitor,chip805	10 nF	20600
C13	Capacitor,chip805	100 nF	20654
C14	Capacitor,chip805	100 nF	20654
C15	Capacitor,chip805	100 nF	20654
F1	Filter	75938	75938
T1	Transistor	BCW61D	40157
T2	Transistor	BCW61D	40157
T3	Transistor	BD544	40196
T4	Transistor	BC869-25	40185
T5	Transistor	BCW60D	40156
T6	Transistor	BCW60D	40156
T7	Transistor	BCW60D	40156

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PC. Board No. 791-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-11-99	1	PA

PARTLIST FOR Charger CH113/CH114 & CH313/CH314
DRAWING NO. 0-9643-03-1

DATE 1-11-99
UNIT NO. 5791

Component	Description	Value	Niros No.
T8	Transistor	BCW60D	40156
T9	Transistor	BCW60D	40156
T10	Transistor	BCW60D	40156
T11	Transistor	BC817-40	40180
T12	Transistor	BCW60D	40156
D1	Diode	BAW56	45147
D2	Diode	CH113	BY510-45
	Diode	CH114	BY510-45
	Diode	CH313	Not used
	Diode	CH314	Not used
D3	Diode	CH113	BY510-45
	Diode	CH114	BY510-45
	Resistor, chip1206	CH313	0 Ohm
	Resistor, chip1206	CH314	0 Ohm
D4	Diode	CH113	BY510-45
	Diode	CH114	BY510-45
	Resistor, chip1206	CH313	0 Ohm
	Resistor, chip1206	CH314	0 Ohm
D5	Diode	CH113	BY510-45
	Diode	CH114	BY510-45
	Diode	CH313	Not used
	Diode	CH314	Not used
D6	Diode, zener		BZX84C5V6
D7	Diode, zener		BZX84C11
LED1	Light_diode	RED	45182
LED2	Light_diode	GREEN	45184
LED3	Light_diode	RED	45182
LED4	Light_diode	GREEN	45184
IC1	Integrated_circuit	MC3403	46136
IC2	Integrated_circuit	4521BT	46236
IC3	Integrated_circuit	LP2951	46531
IC4	Integrated_circuit	MC3403	46136
IC5	Integrated_circuit	LM317	46106
SW1	Switch		81206
FUSE1	Fuse	CH113	2.5AT
	Fuse	CH114	Not used
	Fuse	CH313	2.5AT
	Fuse	CH314	Not used
FUSE2	Fuse		PCB

p. 3 of 4

PC. Board No. 791-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-11-99	1	PA

PARTLIST FOR Charger CH113/CH114 & CH313/CH314
 DRAWING NO. 0-9643-03-1

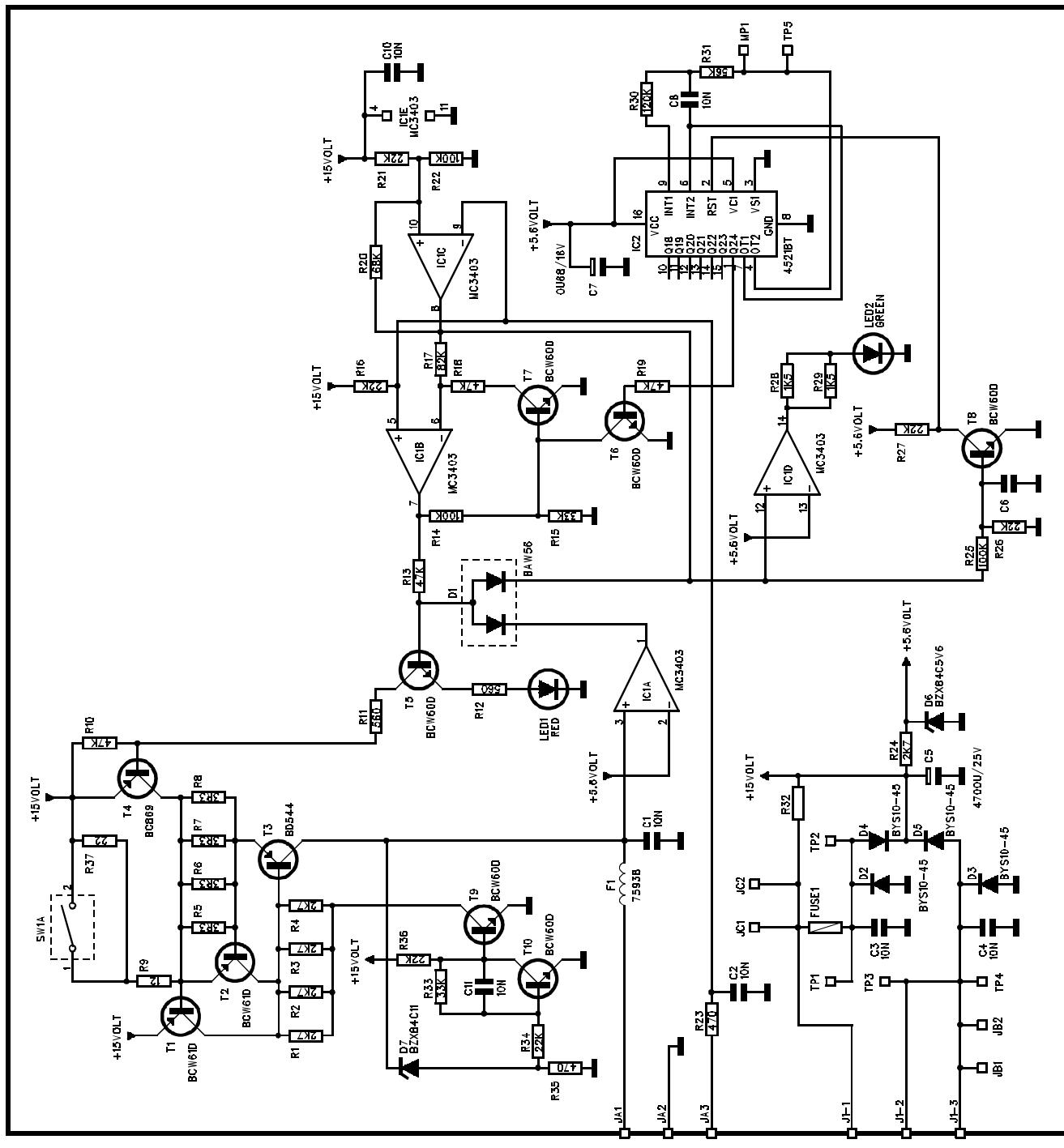
DATE 1-11-99
 UNIT NO. 5791

Component	Description	Value	Niros No.
J1	Connector CH113	Not used	
	Connector CH114	HTJ-020-05A	83346
	Connector CH313	Not used	
	Connector CH314	HTJ-020-05B	83347
JA1	Contact_spring		83348
JD1	Contact_spring		83348
JA2	Contact_spring		83348
JD2	Contact_spring		83348
JA3	Contact_spring		83348
	Insulator	1 pcs	85180
	Insulating_bush	1 pcs	85238
	Screw M3X12 PHJZ	1 pcs	92424
	Washer 3,2X7,0X0,5	1 pcs	92425
	Washer M3	1 pcs	92448
	Nut M3	1 pcs	92449
	Pc._board_no. 791-0	1 pcs	95791
	Heat_sink	1 pcs	98094
	Washer	2 pcs	98183

6.7 Charger CH115

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	03-02-00	0	PA

6.7.1 Diagram

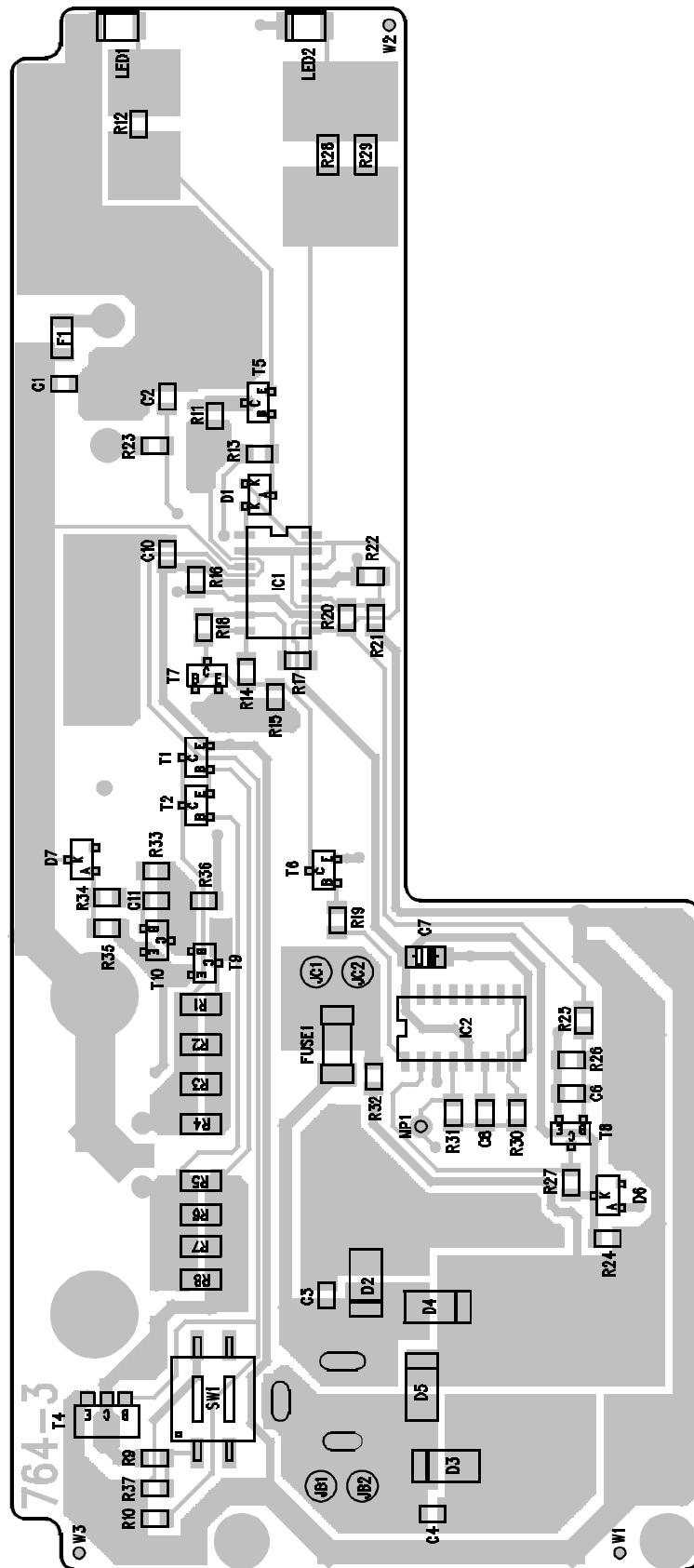


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 3-2-00	SIGN: PH	O	NIROS TELECOMMUNICATION A/S
DATE:	SIGN:		HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		NICd/NiMH Charger CH115
DATE:	SIGN:		for TRX1001/TRX1012
DATE:	SIGN:		
DRAWING NO: O-9845-03-D			PCB NO: 784-3 UNIT NO: 5778

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	03-02-00	0	PA

6.7.2 Componentside



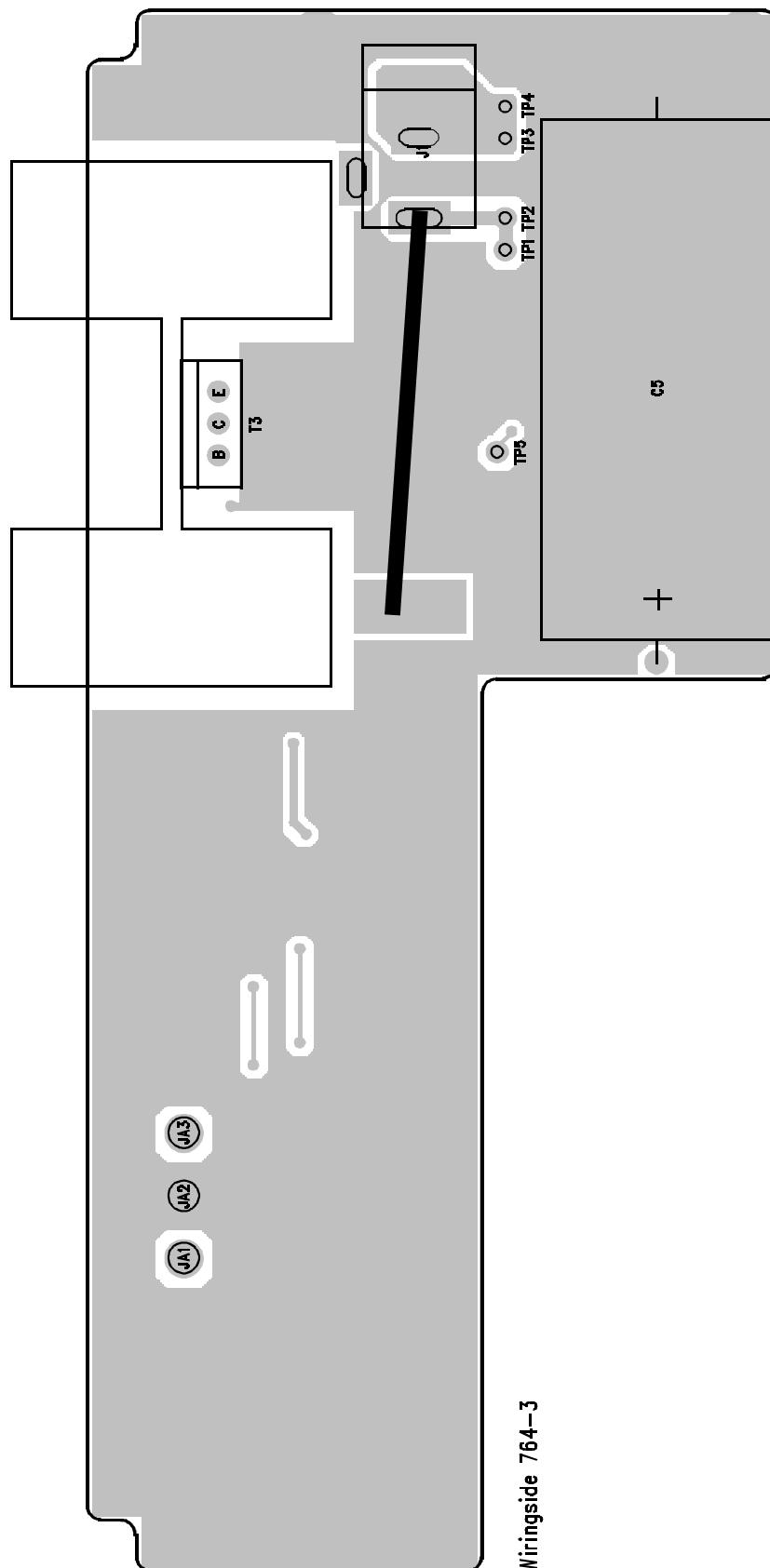
Componentside 764-3

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 3-2-00	SIGN: PH	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		NICd/NIMH Charger CH115 for TRX1001/TRX1012
DATE:	SIGN:		
DRAWING NO: 0-9845-05-0			PCB NO: 764-3 UNIT NO: 5778

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	03-02-00	0	PA

6.7.3 Wiringside



Wiringside 764-3

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 3-2-00	SIGN: PH	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		NICd/NIMH Charger CH115 for TRX1001/TRX1012
DATE:	SIGN:		
DRAWING NO: 0-9845-04-0			PCB NO: 764-3 UNIT NO: 5778

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	03-02-00	0	PA

6.7.4 Partlist

PARTLIST FOR Charger CH115 for TRX1001/TRX1012 DRAWING NO. 0-9645-03-0			DATE 3-2-00	UNIT NO. 5778
Component	Description	Value	Niros No.	
R1	Resistor, chip1206	2,7 Kohm	12272	
R2	Resistor, chip1206	2,7 Kohm	12272	
R3	Resistor, chip1206	2,7 Kohm	12272	
R4	Resistor, chip1206	2,7 Kohm	12272	
R5	Resistor, chip1206	3,3 Ohm	12339	
R6	Resistor, chip1206	3,3 Ohm	12339	
R7	Resistor, chip1206	3,3 Ohm	12339	
R8	Resistor, chip1206	3,3 Ohm	12339	
R9	Resistor, chip805	12 Ohm	13120	
R10	Resistor, chip805	47 Kohm	13473	
R11	Resistor, chip805	560 Ohm	13561	
R12	Resistor, chip805	560 Ohm	13561	
R13	Resistor, chip805	47 Kohm	13473	
R14	Resistor, chip805	100 Kohm	13104	
R15	Resistor, chip805	33 Kohm	13333	
R16	Resistor, chip805	22 Kohm	13223	
R17	Resistor, chip805	82 Kohm	13823	
R18	Resistor, chip805	47 Kohm	13473	
R19	Resistor, chip805	47 Kohm	13473	
R20	Resistor, chip805	68 Kohm	13683	
R21	Resistor, chip805	22 Kohm	13223	
R22	Resistor, chip805	100 Kohm	13104	
R23	Resistor, chip805	470 Ohm	13471	
R24	Resistor, chip805	2,7 Kohm	13272	
R25	Resistor, chip805	100 Kohm	13104	
R26	Resistor, chip805	22 Kohm	13223	
R27	Resistor, chip805	22 Kohm	13223	
R28	Resistor, chip1206	1,5 Kohm	12152	
R29	Resistor, chip1206	1,5 Kohm	12152	
R30	Resistor, chip805	120 Kohm	13124	
R31	Resistor, chip805	56 Kohm	13563	
R32	Resistor, chip805	Not used		
R33	Resistor, chip805	33 Kohm	13333	
R34	Resistor, chip805	22 Kohm	13223	
R35	Resistor, chip805	470 Ohm	13471	
R36	Resistor, chip805	22 Kohm	13223	
R37	Resistor, chip805	22 Ohm	13220	
C1	Capacitor, chip805	10 nF	20600	
C2	Capacitor, chip805	10 nF	20600	
C3	Capacitor, chip805	10 nF	20600	
C4	Capacitor, chip805	10 nF	20600	
C5	Capacitor, lyt	4700 uF/25V	26026	
C6	Capacitor, chip805	Not used		

PARTLIST FOR Charger CH115 for TRX1001/TRX1012 DRAWING NO. 0-9645-03-0		DATE 3-2-00 UNIT NO. 5778	
Component	Description	Value	Niros No.
C7	Capacitor,ctan a	0,68 uF/16V	25611
C8	Capacitor,chip805	10 nF	20600
C10	Capacitor,chip805	10 nF	20600
C11	Capacitor,chip805	10 nF	20600
F1	Filter	75938	75938
T1	Transistor	BCW61D	40157
T2	Transistor	BCW61D	40157
T3	Transistor	BD544	40196
T4	Transistor	BC869	40185
T5	Transistor	BCW60D	40156
T6	Transistor	BCW60D	40156
T7	Transistor	BCW60D	40156
T8	Transistor	BCW60D	40156
T9	Transistor	BCW60D	40156
T10	Transistor	BCW60D	40156
D1	Diode	BAW56	45147
D2	Diode	BYS10-45	45186
D3	Diode	BYS10-45	45186
D4	Diode	BYS10-45	45186
D5	Diode	BYS10-45	45186
D6	Diode,zener	BZX84C5V6	41241
D7	Diode,zener	BZX84C11	41248
LED1	Light_diode	RED	45182
LED2	Light_diode	GREEN	45184
IC1	Integrated_circuit	MC3403	46136
IC2	Integrated_circuit	4521BT	46236
SW1	Switch		81206
FUSE1	Fuse	2.5AT	83392
J1	Connector	HTJ-020-05A	83346
JA1	Contact_spring		83348
JA2	Contact_spring		83348
JA3	Contact_spring		83348
	Wire	1 pcs	82045

PARTLIST FOR Charger CH115 for TRX1001/TRX1012
DRAWING NO. 0-9645-03-0

DATE 3-2-00
UNIT NO. 5778

Component	Description	Value	Niros No.
	Screw M3X6 PHJZ	1 pcs	92416
	Washer M3	1 pcs	92448
	Nut M3	1 pcs	92449
	Pc._board_no. 764-3	1 pcs	95764
	Heat_sink	1 pcs	98094

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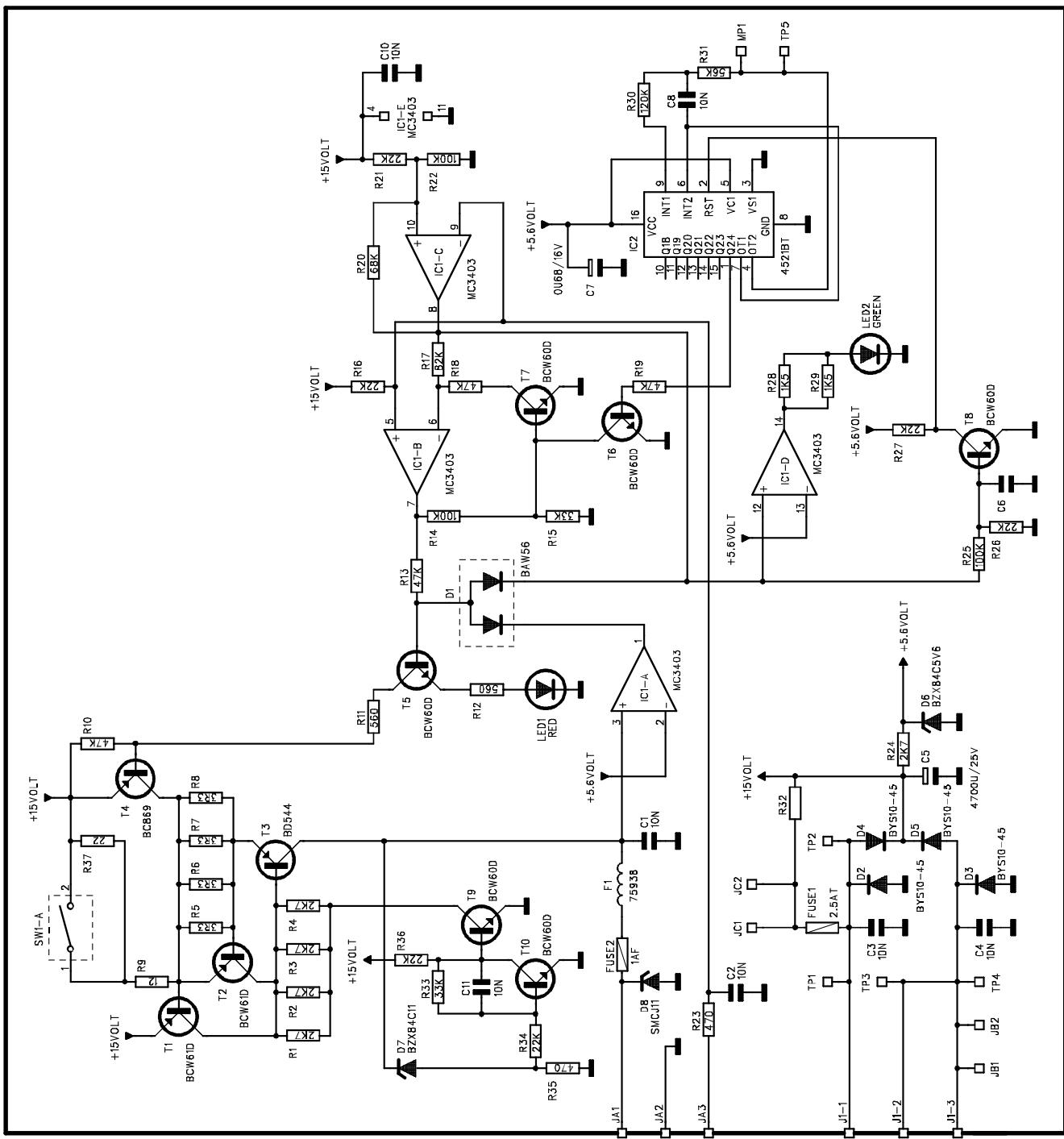
PC. Board No. 764-3

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	03-02-00	0	PA

6.8 Charger CH110B

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.8.1 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE

CH110B Unit No.: 7387
 CH113B Unit No.: 7389
 CH310B Unit No.: 7377
 CH313B Unit No.: 7397

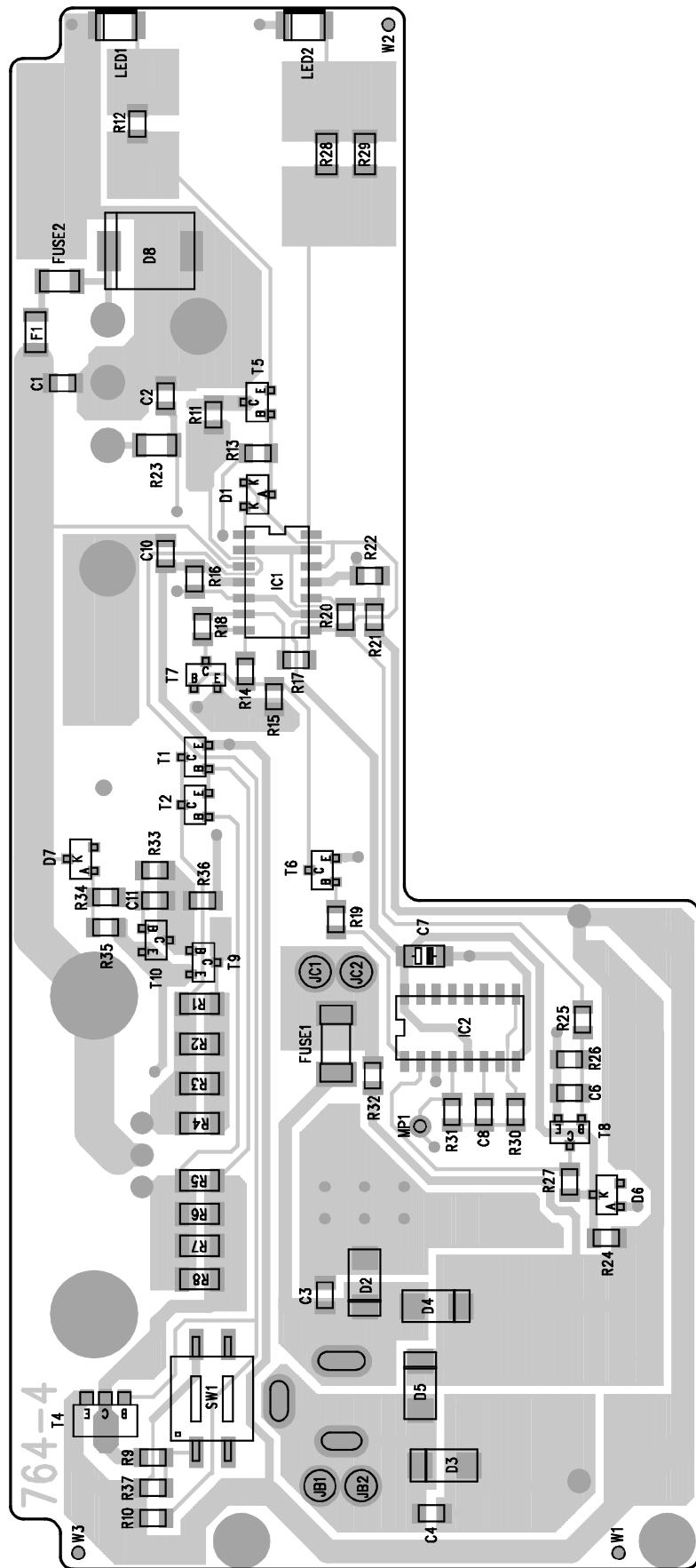
Date: 12-2-03 Sign: PH 0
 Date: Sign:
 Drawing No.: 0-9716-03-0

NIROS TELECOMMUNICATION A/S
 Hirsemarken 5, 3520 Forum
 P.C. Board No.: 764-4

NiCd/NiMH Charger for
 TRX1001/TRX1012

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.8.2 Componentside



Componentside 764-4

SUBJECT TO CHANGE WITHOUT NOTICE

CH110B Unit No.: 7387
CH113B Unit No.: 7389
CH310B Unit No.: 7377
CH313B Unit No.: 7397

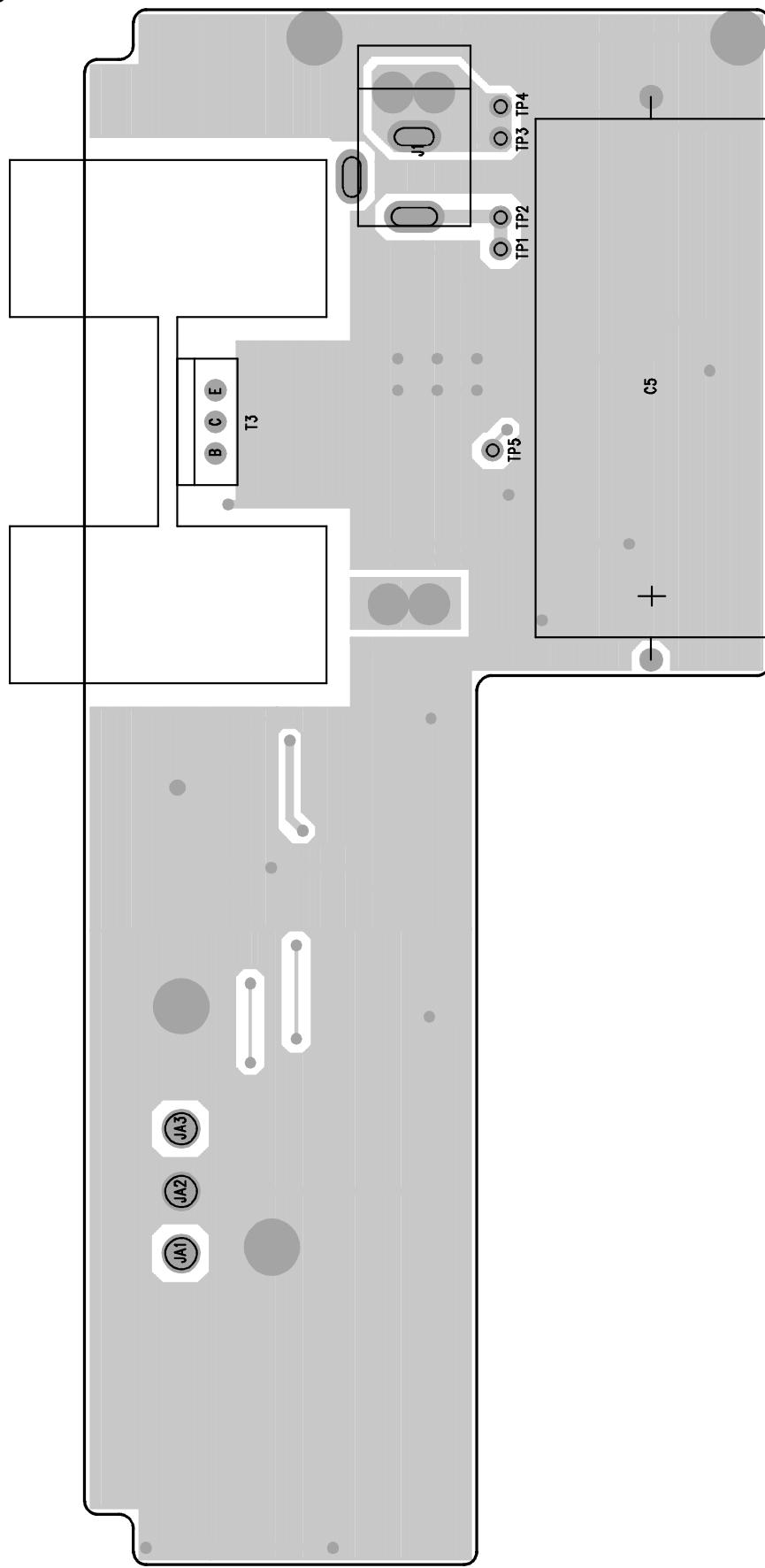
Date: 12-2-03 Sign: PH 0
Date: Sign:
Drawing No.: 0-9716-05-0

NIROS TELECOMMUNICATION A/S
Hirsemarken 5, 3520 Forum
P.C. Board No.: 764-4

NiCd/NiMH Charger for
TRX1001/TRX1012

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.8.3 Wiringside



Wiringside 764-4

SUBJECT TO CHANGE WITHOUT NOTICE

CH110B Unit No.: 7387
 CH113B Unit No.: 7389
 CH310B Unit No.: 7377
 CH313B Unit No.: 7397

Date: 12-2-03	Sign: PH	0
Date:	Sign:	
Drawing No.: 0-9716-04-0		

NIROS TELECOMMUNICATION A/S
 Hirsemarken 5, 3520 Forum
 P.C. Board No.: 764-4

NiCd/NiMH Charger for
 TRX1001/TRX1012

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.8.4 Partlist

Partlist for NiCd/NiMH Charger TRX1001/TRX1012 Drawing No. 0-9716-03-0			Date 7-2-03	Unit No. 7387
Component	Description	Value	Niros No.	
	Charger CH110B		7387	
	Charger CH113B		7389	
	Charger CH310B		7377	
	Charger CH313B		7397	
R1	Resistor, chip1206	2,7 Kohm	12272	
R2	Resistor, chip1206	2,7 Kohm	12272	
R3	Resistor, chip1206	2,7 Kohm	12272	
R4	Resistor, chip1206	2,7 Kohm	12272	
R5	Resistor, chip1206	3,3 Ohm	12339	
R6	Resistor, chip1206	3,3 Ohm	12339	
R7	Resistor, chip1206	3,3 Ohm	12339	
R8	Resistor, chip1206	3,3 Ohm	12339	
R9	Resistor, chip805	12 Ohm	13120	
R10	Resistor, chip805	47 Kohm	13473	
R11	Resistor, chip805	560 Ohm	13561	
R12	Resistor, chip805	560 Ohm	13561	
R13	Resistor, chip805	47 Kohm	13473	
R14	Resistor, chip805	100 Kohm	13104	
R15	Resistor, chip805	33 Kohm	13333	
R16	Resistor, chip805	22 Kohm	13223	
R17	Resistor, chip805	82 Kohm	13823	
R18	Resistor, chip805	47 Kohm	13473	
R19	Resistor, chip805	47 Kohm	13473	
R20	Resistor, chip805	68 Kohm	13683	
R21	Resistor, chip805	22 Kohm	13223	
R22	Resistor, chip805	100 Kohm	13104	
R23	Resistor, chip1206	470 Ohm	12471	
R24	Resistor, chip805	2,7 Kohm	13272	
R25	Resistor, chip805	100 Kohm	13104	
R26	Resistor, chip805	22 Kohm	13223	
R27	Resistor, chip805	22 Kohm	13223	
R28	Resistor, chip1206	1,5 Kohm	12152	
R29	Resistor, chip1206	1,5 Kohm	12152	
R30	Resistor, chip805	120 Kohm	13124	
R31	Resistor, chip805	56 Kohm	13563	
R32	Resistor, chip805	Not used		
R33	Resistor, chip805	33 Kohm	13333	
R34	Resistor, chip805	22 Kohm	13223	
R35	Resistor, chip805	470 Ohm	13471	
R36	Resistor, chip805	22 Kohm	13223	
R37	Resistor, chip805	22 Ohm	13220	
C1	Capacitor, chip805	10 nF	20600	

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PC. Board No. 764-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

Partlist for NiCd/NiMH Charger TRX1001/TRX1012
Drawing No. 0-9716-03-0

Date 7-2-03
Unit No. 7387

Component	Description	Value	Niros No.
C2	Capacitor, chip805	10 nF	20600
C3	Capacitor, chip805	10 nF	20600
C4	Capacitor, chip805 CH110B	10 nF	20600
	Capacitor, chip805 CH113B	10 nF	20600
	Capacitor, chip805 CH310B	Not used	
	Capacitor, chip805 CH313B	Not used	
C5	Capacitor, lyt	4700 uF/25V	26026
C6	Capacitor, chip805	Not used	
C7	Capacitor, ctan_a	0,68 uF/16V	25611
C8	Capacitor, chip805	10 nF	20600
C10	Capacitor, chip805	10 nF	20600
C11	Capacitor, chip805	10 nF	20600
F1	Filter	75938	75938
T1	Transistor	BCW61D	40157
T2	Transistor	BCW61D	40157
T3	Transistor	BD544	40196
T4	Transistor	BC869	40185
T5	Transistor	BCW60D	40156
T6	Transistor	BCW60D	40156
T7	Transistor	BCW60D	40156
T8	Transistor	BCW60D	40156
T9	Transistor	BCW60D	40156
T10	Transistor	BCW60D	40156
D1	Diode	BAW56	45147
D2	Diode CH110B	BYS10-45	45186
	Diode CH113B	BYS10-45	45186
	Diode CH310B	Not used	
	Diode CH313B	Not used	
D3	Diode CH110B	BYS10-45	45186
	Diode CH113B	BYS10-45	45186
	Resistor, chip1206 CH310B	0 Ohm	12000
	Resistor, chip1206 CH313B	0 Ohm	12000
D4	Diode CH110B	BYS10-45	45186
	Diode CH113B	BYS10-45	45186
	Resistor, chip1206 CH310B	0 Ohm	12000
	Resistor, chip1206 CH313B	0 Ohm	12000
D5	Diode CH110B	BYS10-45	45186
	Diode CH113B	BYS10-45	45186
	Diode CH310B	Not used	
	Diode CH313B	Not used	
D6	Diode, zener	BZX84C5V6	41241

Partlist for NiCd/NiMH Charger TRX1001/TRX1012
Drawing No. 0-9716-03-0

Date 7-2-03
Unit No. 7387

Component	Description	Value	Niros No.
D7	Diode, zener	BZX84C11	41248
D8	Diode, zener	SMCJ11	41251
LED1	Light_diode	RED	45182
LED2	Light_diode	GREEN	45184
IC1	Integrated_circuit	MC3403	46136
IC2	Integrated_circuit	4521BT	46236
SW1	Switch		81206
FUSE1	Fuse	CH110B	Not used
	Fuse	CH113B	2.5AT
	Fuse	CH310B	2.5AT
	Fuse	CH313B	2.5AT
FUSE2	Fuse_chip1206		1AF
J1	Connector	CH110B	HTJ-020-05A
	Connector	CH113B	Not used
	Connector	CH310B	HTJ-020-05B
	Connector	CH313B	Not used
JA1	Contact_spring		83348
JA2	Contact_spring		83348
JA3	Contact_spring		83348
	Rubber_stand_off	CH110B	4 pcs
	Rubber_stand_off	CH113B	0 pcs
	Rubber_stand_off	CH310B	4 pcs
	Rubber_stand_off	CH313B	0 pcs
	Screw K18X4	CH110B	4 pcs
	Screw K18X4	CH113B	0 pcs
	Screw K18X4	CH310B	4 pcs
	Screw K18X4	CH313B	0 pcs
	Screw K25X8	CH110B	4 pcs
	Screw K25X8	CH113B	0 pcs
	Screw K25X8	CH310B	4 pcs
	Screw K25X8	CH313B	0 pcs
	Screw M3X6 PHJZ		1 pcs
	Washer M3		92448
	Nut M3		92449
	Pc._board_no. 764-4		95764
	Charger_cabinet	CH110B	1 pcs
	Charger_cabinet	CH113B	0 pcs
	Charger_cabinet	CH310B	1 pcs

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PC. Board No. 764-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

Partlist for NiCd/NiMH Charger TRX1001/TRX1012
Drawing No. 0-9716-03-0

Date 7-2-03
Unit No. 7387

Component	Description	Value	Niros No.
	Charger_cabinet CH313B	0 pcs	
	Bottom_plate CH110B	1 pcs	98082
	Bottom_plate CH113B	0 pcs	
	Bottom_plate CH310B	1 pcs	98082
	Bottom_plate CH313B	0 pcs	

p. 4 of 4

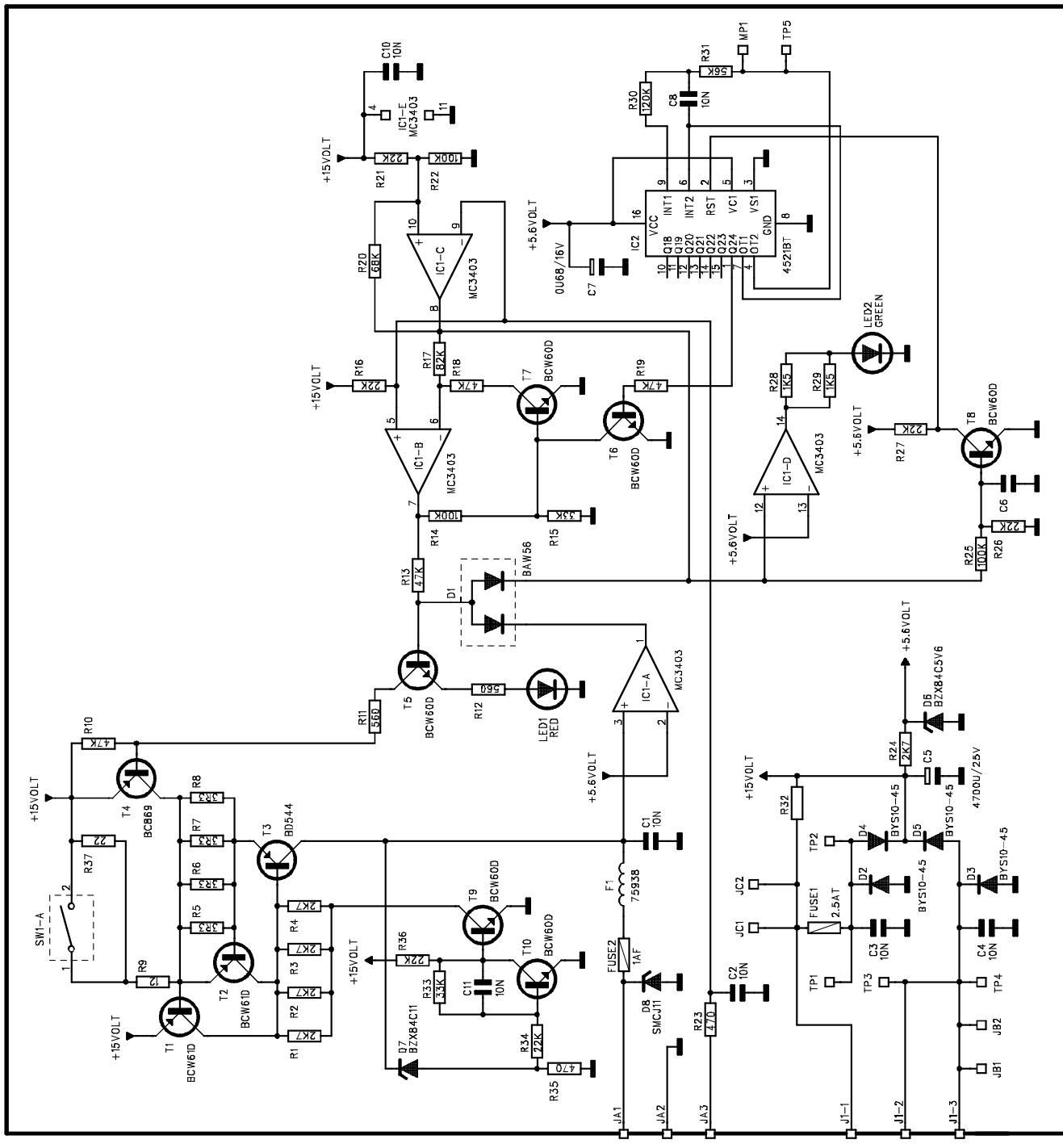
PC. Board No. 764-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.9 Charger CH115B

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.9.1 Diagram

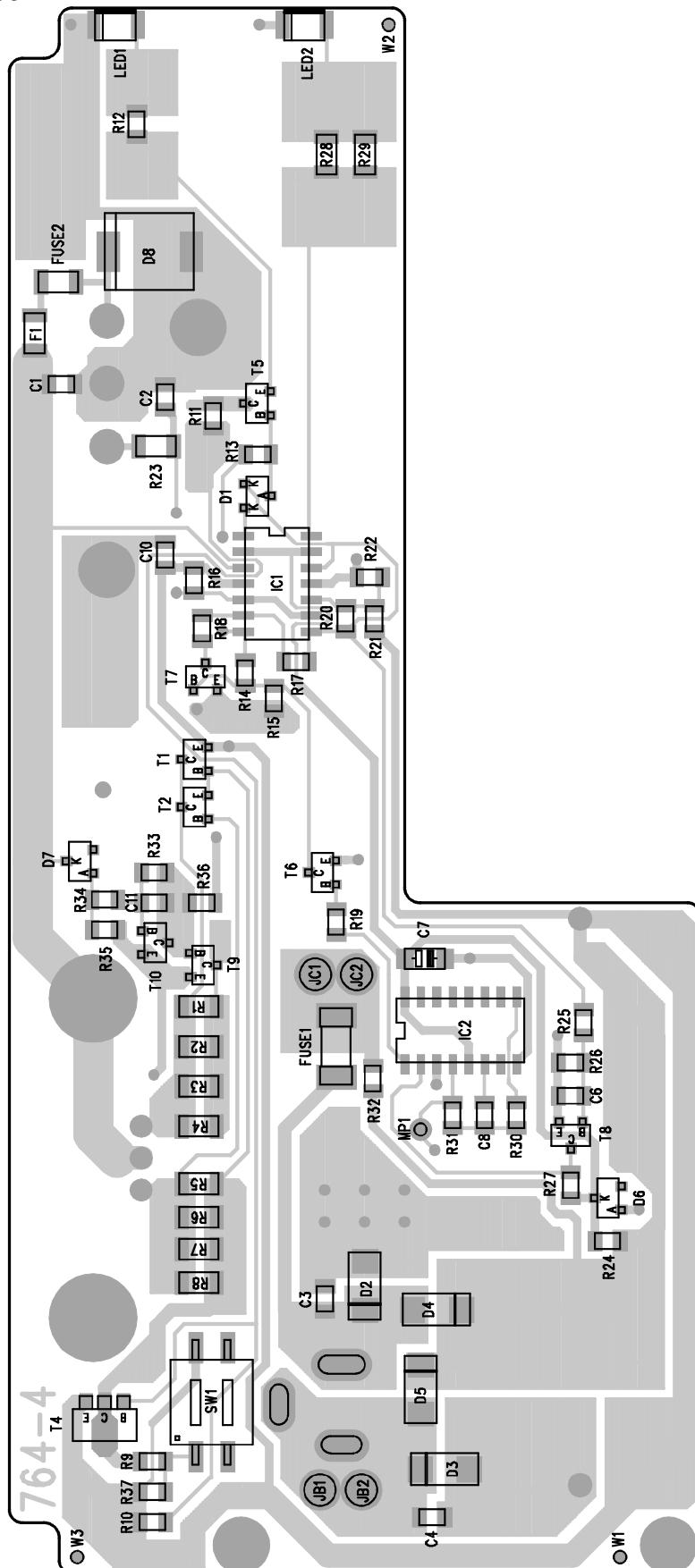


SUBJECT TO CHANGE WITHOUT NOTICE

Date: 12-2-03	Sign: PH	0	NIROS TELECOMMUNICATION A/S Hirsemarken 5, 3520 Forum	NiCd/NiMH Charger CH115B for TRX1001/TRX1012
Date:	Sign:			
Drawing No.: 0-9717-03-0			PC. Board No.: 764-4	Unit No.: 7378

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

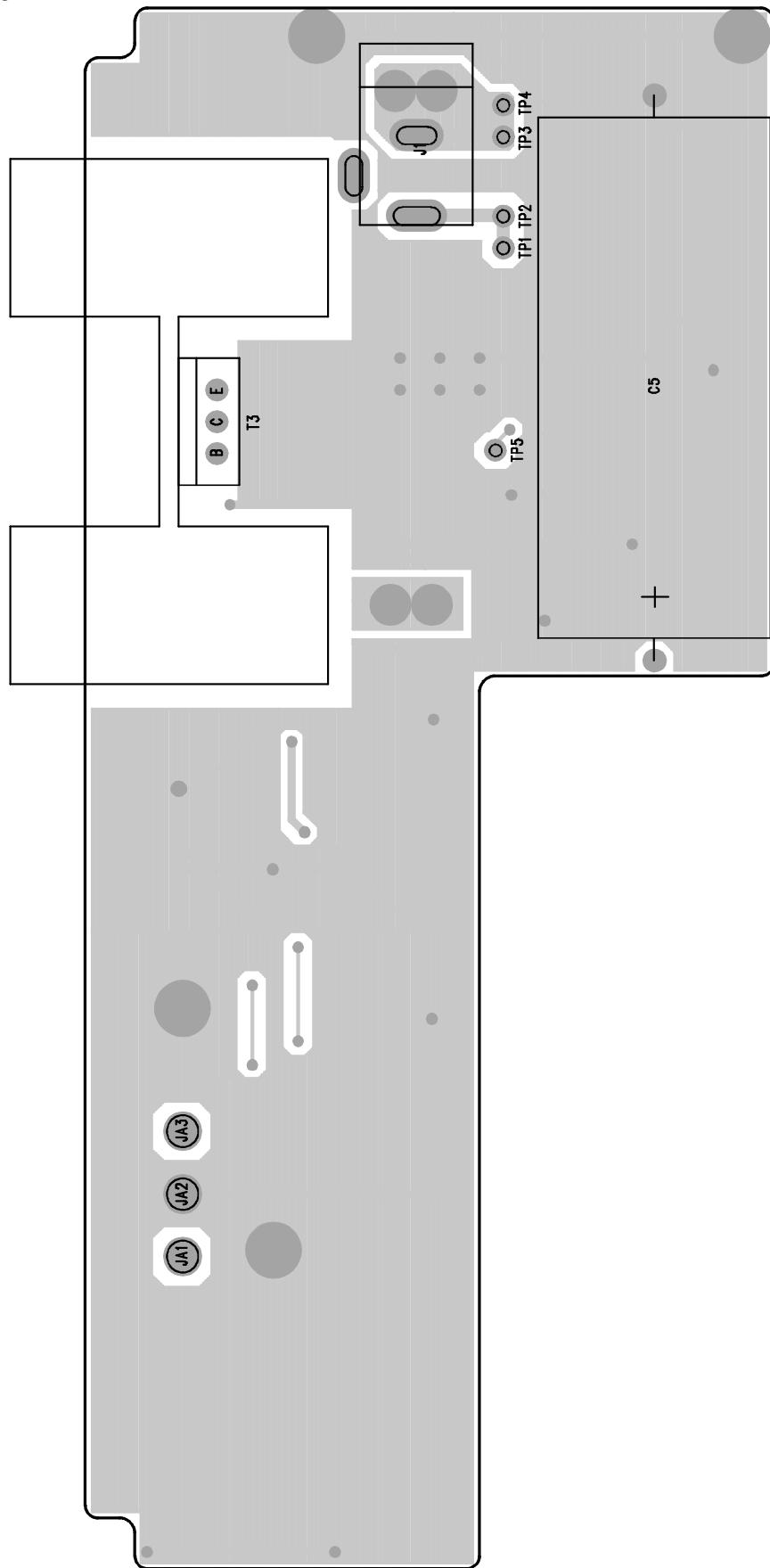
6.9.2 Componentside



Componentside 764-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.9.3 Wiringside



Wiringside 764-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.9.4 Partlist

Partlist for Charger CH115B Drawing No. 0-9717-03-0		Date 7-2-03 Unit No. 7378	
Component	Description	Value	Niros No.
R1	Resistor, chip1206	2,7 Kohm	12272
R2	Resistor, chip1206	2,7 Kohm	12272
R3	Resistor, chip1206	2,7 Kohm	12272
R4	Resistor, chip1206	2,7 Kohm	12272
R5	Resistor, chip1206	3,3 Ohm	12339
R6	Resistor, chip1206	3,3 Ohm	12339
R7	Resistor, chip1206	3,3 Ohm	12339
R8	Resistor, chip1206	3,3 Ohm	12339
R9	Resistor, chip805	12 Ohm	13120
R10	Resistor, chip805	47 Kohm	13473
R11	Resistor, chip805	560 Ohm	13561
R12	Resistor, chip805	560 Ohm	13561
R13	Resistor, chip805	47 Kohm	13473
R14	Resistor, chip805	100 Kohm	13104
R15	Resistor, chip805	33 Kohm	13333
R16	Resistor, chip805	22 Kohm	13223
R17	Resistor, chip805	82 Kohm	13823
R18	Resistor, chip805	47 Kohm	13473
R19	Resistor, chip805	47 Kohm	13473
R20	Resistor, chip805	68 Kohm	13683
R21	Resistor, chip805	22 Kohm	13223
R22	Resistor, chip805	100 Kohm	13104
R23	Resistor, chip1206	470 Ohm	12471
R24	Resistor, chip805	2,7 Kohm	13272
R25	Resistor, chip805	100 Kohm	13104
R26	Resistor, chip805	22 Kohm	13223
R27	Resistor, chip805	22 Kohm	13223
R28	Resistor, chip1206	1,5 Kohm	12152
R29	Resistor, chip1206	1,5 Kohm	12152
R30	Resistor, chip805	120 Kohm	13124
R31	Resistor, chip805	56 Kohm	13563
R32	Resistor, chip805	Not used	
R33	Resistor, chip805	33 Kohm	13333
R34	Resistor, chip805	22 Kohm	13223
R35	Resistor, chip805	470 Ohm	13471
R36	Resistor, chip805	22 Kohm	13223
R37	Resistor, chip805	22 Ohm	13220
C1	Capacitor, chip805	10 nF	20600
C2	Capacitor, chip805	10 nF	20600
C3	Capacitor, chip805	10 nF	20600
C4	Capacitor, chip805	10 nF	20600
C5	Capacitor, lyt	4700 uF/25V	26026
C6	Capacitor, chip805	Not used	

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PC. Board No. 764-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

Partlist for Charger CH115B Drawing No. 0-9717-03-0		Date 7-2-03 Unit No. 7378	
Component	Description	Value	Niros No.
C7	Capacitor,ctan_a	0,68 uF/16V	25611
C8	Capacitor,chip805	10 nF	20600
C10	Capacitor,chip805	10 nF	20600
C11	Capacitor,chip805	10 nF	20600
F1	Filter	75938	75938
T1	Transistor	BCW61D	40157
T2	Transistor	BCW61D	40157
T3	Transistor	BD544	40196
T4	Transistor	BC869	40185
T5	Transistor	BCW60D	40156
T6	Transistor	BCW60D	40156
T7	Transistor	BCW60D	40156
T8	Transistor	BCW60D	40156
T9	Transistor	BCW60D	40156
T10	Transistor	BCW60D	40156
D1	Diode	BAW56	45147
D2	Diode	BYS10-45	45186
D3	Diode	BYS10-45	45186
D4	Diode	BYS10-45	45186
D5	Diode	BYS10-45	45186
D6	Diode,zener	BZX84C5V6	41241
D7	Diode,zener	BZX84C11	41248
D8	Diode,zener	SMCJ11	41251
LED1	Light_diode	RED	45182
LED2	Light_diode	GREEN	45184
IC1	Integrated_circuit	MC3403	46136
IC2	Integrated_circuit	4521BT	46236
SW1	Switch		81206
FUSE1	Fuse	2.5AT	83392
FUSE2	Fuse_chip1206	1AF	83441
J1	Connector	HTJ-020-05A	83346
JA1	Contact_spring		83348
JA2	Contact_spring		83348
JA3	Contact_spring		83348

Partlist for Charger CH115B
Drawing No. 0-9717-03-0

Date 7-2-03
Unit No. 7378

Component	Description	Value	Niros No.
	Wire	1 pcs	82045
	Screw M3X6 PHJZ	1 pcs	92416
	Washer M3	1 pcs	92448
	Nut M3	1 pcs	92449
	Pc._board_no. 764-4	1 pcs	95764
	Heat_sink	1 pcs	98094

p. 3 of 3

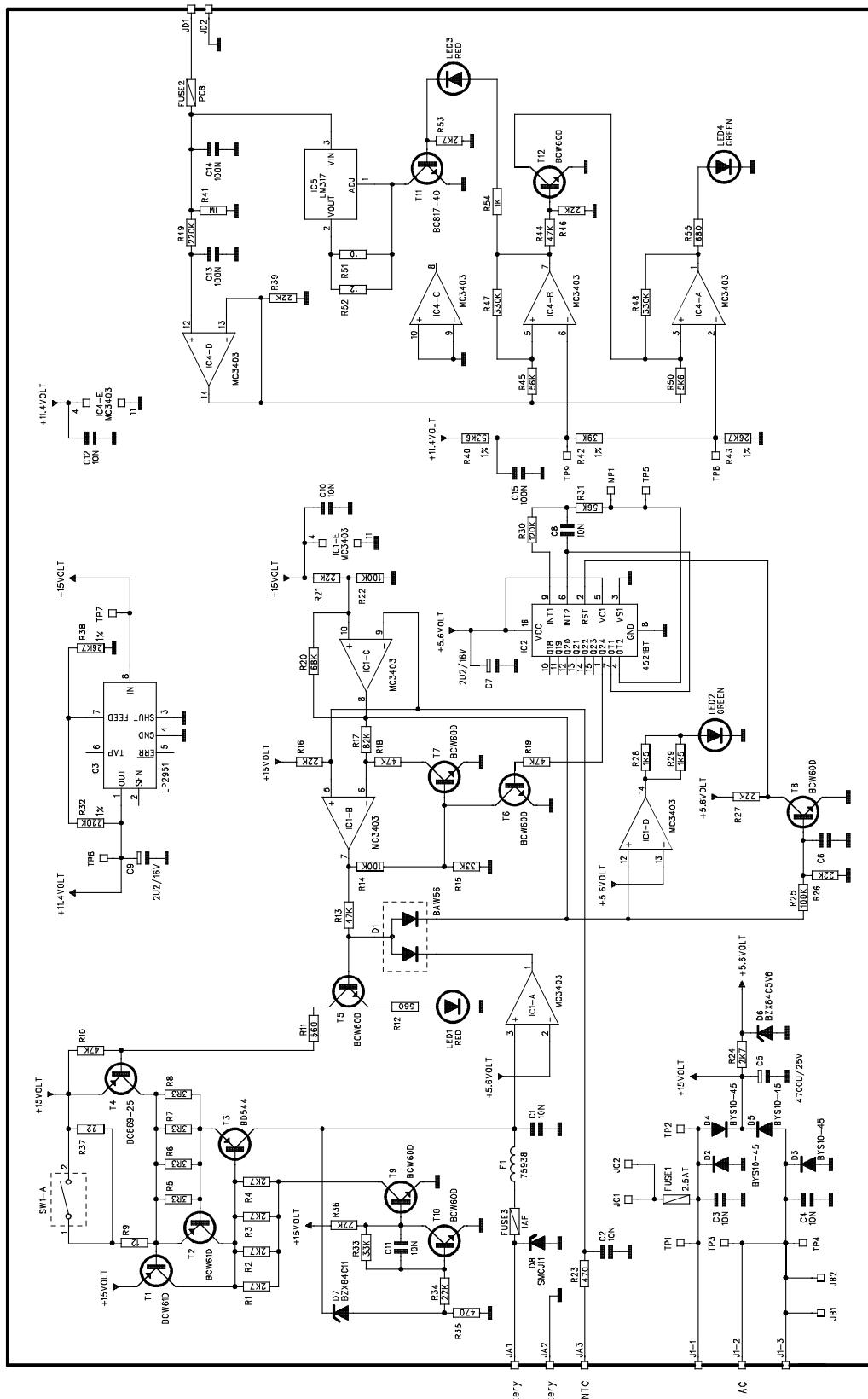
PC. Board No. 764-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.10 Charger CH113B/CH114B & CH313B/CH314B

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.10.1 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE

CH113B Unit No.: 7391
 CH114B Unit No.: 7394
 CH313B Unit No.: 7398
 CH314B Unit No.: 7374

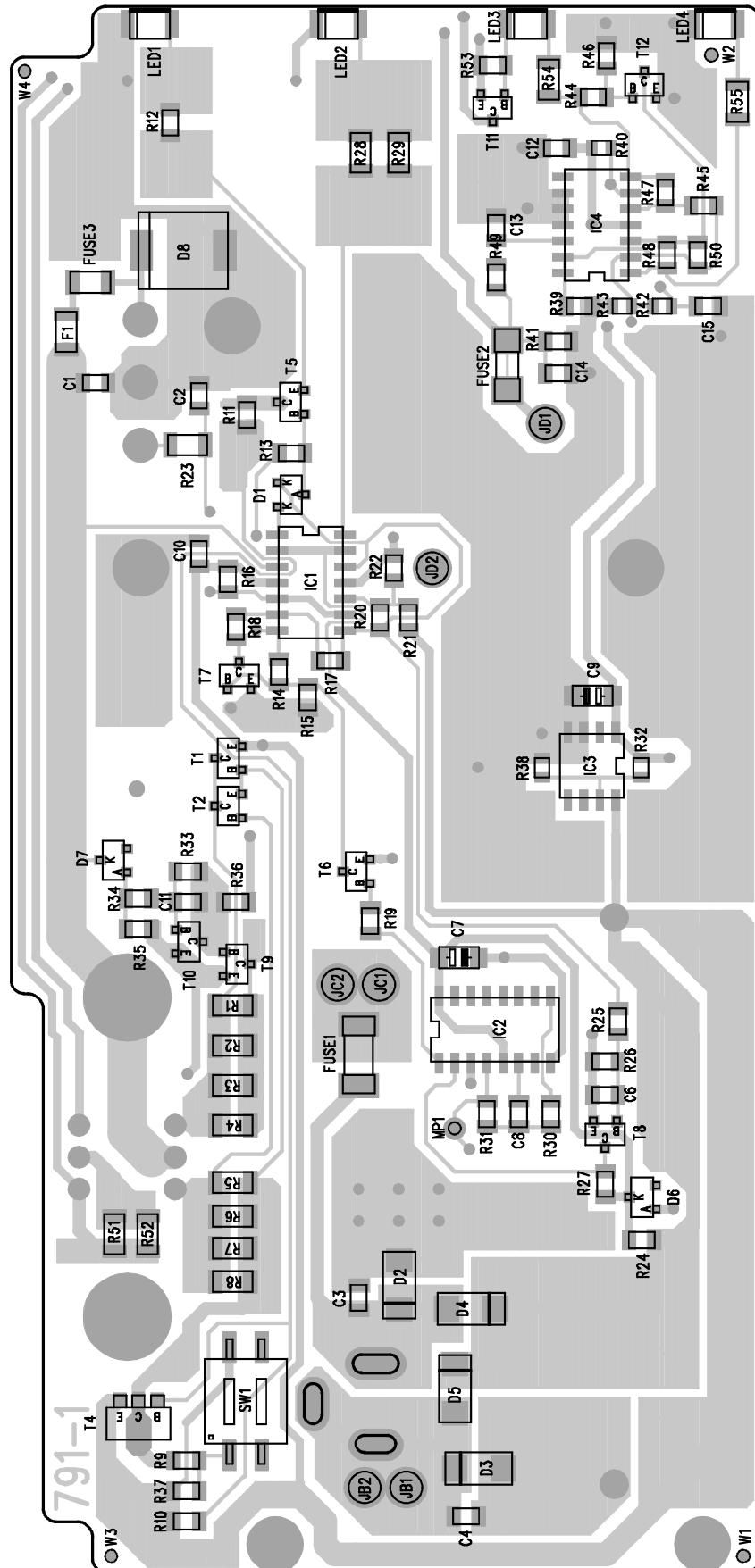
Date: 13-2-03 Sign: PH 0
 Date: Sign:
 Drawing No.: 0-9718-03-0

NIROS TELECOMMUNICATION A/S
 Hirsemarken 5, 3520 Forum
 P.C. Board No.: 791-1

Charger / Discharger
 CH113B/CH114B & CH313B/CH314B

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

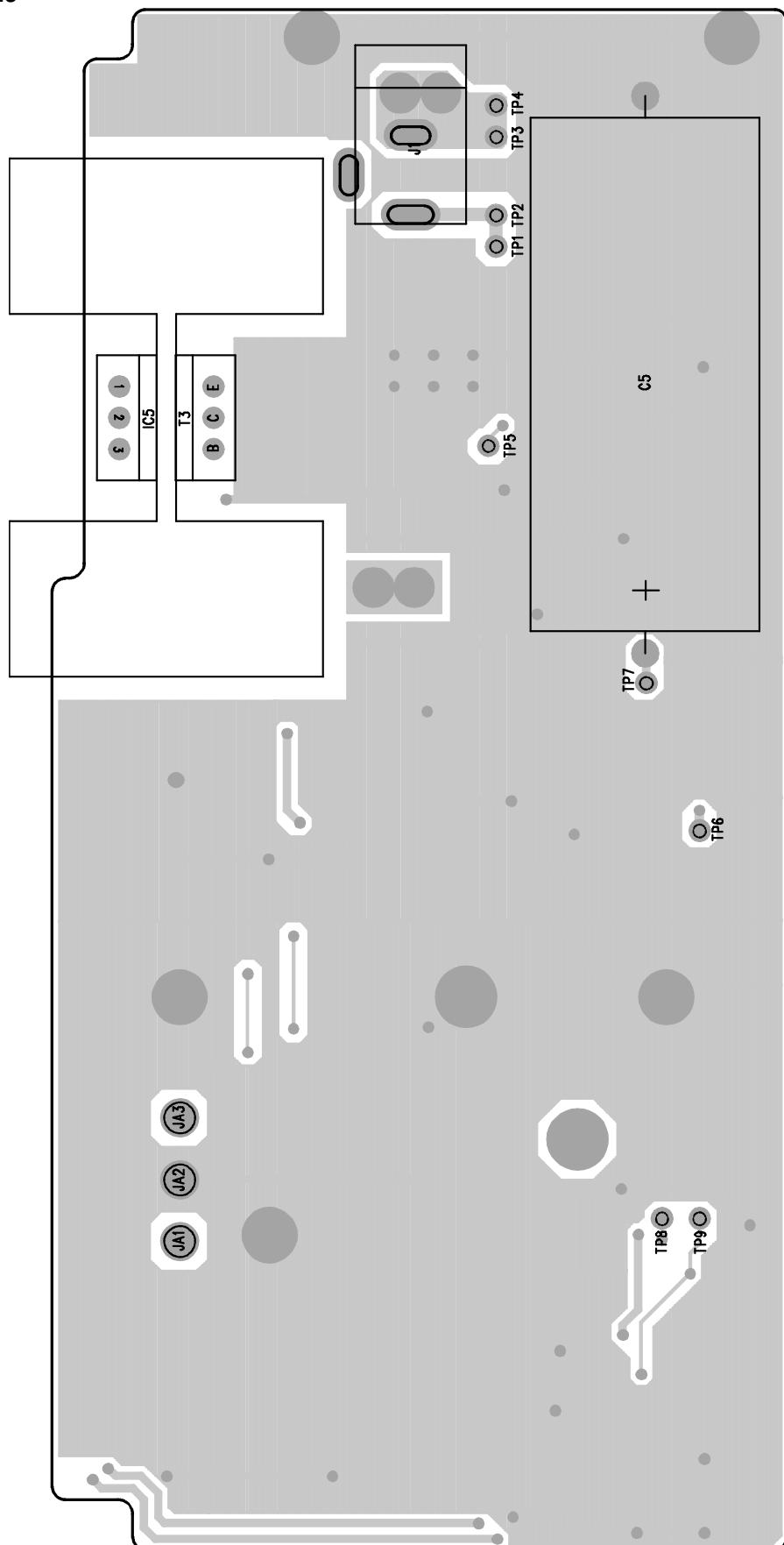
6.10.2 Componentside



Componentside 791-1

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.10.3 Wiringside



SUBJECT TO CHANGE WITHOUT NOTICE

CH113B Unit No.: 7391
 CH114B Unit No.: 7394
 CH313B Unit No.: 7398
 CH314B Unit No.: 7374

Date: 13-2-03 Sign: PH 0
 Date: Sign:
 Drawing No.: 0-9718-04-0

NIROS TELECOMMUNICATION A/S
 Hirsemarken 5, 3520 Forum
 P.C. Board No.: 791-1

Charger / Discharger
 CH113B/CH114B & CH313B/CH314B

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

6.10.4 Partlist

Partlist for Charger CH113B/CH114B & CH313B/CH314B			Date	7-2-03
Drawing No. 0-9718-03-0			Unit No.	7391
Component	Description	Value	Niros No.	
	Charger CH113B			7391
	Charger CH114B			7394
	Charger CH313B			7398
	Charger CH314B			7374
R1	Resistor, chip1206	2,7 Kohm		12272
R2	Resistor, chip1206	2,7 Kohm		12272
R3	Resistor, chip1206	2,7 Kohm		12272
R4	Resistor, chip1206	2,7 Kohm		12272
R5	Resistor, chip1206	3,3 Ohm		12339
R6	Resistor, chip1206	3,3 Ohm		12339
R7	Resistor, chip1206	3,3 Ohm		12339
R8	Resistor, chip1206	3,3 Ohm		12339
R9	Resistor, chip805	12 Ohm		13120
R10	Resistor, chip805	47 Kohm		13473
R11	Resistor, chip805	560 Ohm		13561
R12	Resistor, chip805	560 Ohm		13561
R13	Resistor, chip805	47 Kohm		13473
R14	Resistor, chip805	100 Kohm		13104
R15	Resistor, chip805	33 Kohm		13333
R16	Resistor, chip805	22 Kohm		13223
R17	Resistor, chip805	82 Kohm		13823
R18	Resistor, chip805	47 Kohm		13473
R19	Resistor, chip805	47 Kohm		13473
R20	Resistor, chip805	68 Kohm		13683
R21	Resistor, chip805	22 Kohm		13223
R22	Resistor, chip805	100 Kohm		13104
R23	Resistor, chip1206	470 Ohm		12471
R24	Resistor, chip805	2,7 Kohm		13272
R25	Resistor, chip805	100 Kohm		13104
R26	Resistor, chip805	22 Kohm		13223
R27	Resistor, chip805	22 Kohm		13223
R28	Resistor, chip1206	1,5 Kohm		12152
R29	Resistor, chip1206	1,5 Kohm		12152
R30	Resistor, chip805	120 Kohm		13124
R31	Resistor, chip805	56 Kohm		13563
R32	Resistor, chip603_1%	220 Kohm		10923
R33	Resistor, chip805	33 Kohm		13333
R34	Resistor, chip805	22 Kohm		13223
R35	Resistor, chip805	470 Ohm		13471
R36	Resistor, chip805	22 Kohm		13223
R37	Resistor, chip805	22 Ohm		13220
R38	Resistor, chip603_1%	26,7 Kohm		10909
R39	Resistor, chip805	22 Kohm		13223
R40	Resistor, chip603_1%	53,6 Kohm		10928

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PC. Board No. 791-1

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-02-03	0	PA

Partlist for Charger CH113B/CH114B & CH313B/CH314B Date 7-2-03
 Drawing No. 0-9718-03-0 Unit No. 7391

Component	Description	Value	Niros No.
R41	Resistor,chip805	1 Mohm	13105
R42	Resistor,chip603 1%	39 Kohm	10918
R43	Resistor,chip603 1%	26,7 Kohm	10909
R44	Resistor,chip805	47 Kohm	13473
R45	Resistor,chip805	56 Kohm	13563
R46	Resistor,chip805	22 Kohm	13223
R47	Resistor,chip805	330 Kohm	13334
R48	Resistor,chip805	330 Kohm	13334
R49	Resistor,chip805	220 Kohm	13224
R50	Resistor,chip805	5,6 Kohm	13562
R51	Resistor,chip1206	10 Ohm	12100
R52	Resistor,chip1206	12 Ohm	12120
R53	Resistor,chip805	2,7 Kohm	13272
R54	Resistor,chip1206	1 Kohm	12102
R55	Resistor,chip1206	680 Ohm	12681
C1	Capacitor,chip805	10 nF	20600
C2	Capacitor,chip805	10 nF	20600
C3	Capacitor,chip805	10 nF	20600
C4	Capacitor,chip805 CH113B	10 nF	20600
	Capacitor,chip805 CH114B	10 nF	20600
C5	Capacitor,chip805 CH313B	Not used	
	Capacitor,chip805 CH314B	Not used	
C6	Capacitor,lyt	4700 uF/25V	26026
C7	Capacitor,chip805	Not used	
C8	Capacitor,ctan_a	2,2 uF/16V	25613
C9	Capacitor,chip805	10 nF	20600
C10	Capacitor,ctan_a	2,2 uF/16V	25613
	Capacitor,chip805	10 nF	20600
C11	Capacitor,chip805	10 nF	20600
C12	Capacitor,chip805	10 nF	20600
C13	Capacitor,chip805	100 nF	20654
C14	Capacitor,chip805	100 nF	20654
C15	Capacitor,chip805	100 nF	20654
F1	Filter	75938	75938
T1	Transistor	BCW61D	40157
T2	Transistor	BCW61D	40157
T3	Transistor	BD544	40196
T4	Transistor	BC869-25	40185
T5	Transistor	BCW60D	40156
T6	Transistor	BCW60D	40156
T7	Transistor	BCW60D	40156

Partlist for Charger CH113B/CH114B & CH313B/CH314B Date 7-2-03
 Drawing No. 0-9718-03-0 Unit No. 7391

Component	Description	Value	Niros No.
T8	Transistor	BCW60D	40156
T9	Transistor	BCW60D	40156
T10	Transistor	BCW60D	40156
T11	Transistor	BC817-40	40180
T12	Transistor	BCW60D	40156
D1	Diode	BAW56	45147
D2	Diode	CH113B	45186
	Diode	CH114B	45186
	Diode	CH313B	Not used
	Diode	CH314B	Not used
D3	Diode	CH113B	BYS10-45
	Diode	CH114B	BYS10-45
	Resistor, chip1206	CH313B	0 Ohm
	Resistor, chip1206	CH314B	0 Ohm
D4	Diode	CH113B	BYS10-45
	Diode	CH114B	BYS10-45
	Resistor, chip1206	CH313B	0 Ohm
	Resistor, chip1206	CH314B	0 Ohm
D5	Diode	CH113B	BYS10-45
	Diode	CH114B	BYS10-45
	Diode	CH313B	Not used
	Diode	CH314B	Not used
D6	Diode, zener		BZX84C5V6
D7	Diode, zener		41248
D8	Diode, zener		41251
LED1	Light_diode	RED	45182
LED2	Light_diode	GREEN	45184
LED3	Light_diode	RED	45182
LED4	Light_diode	GREEN	45184
IC1	Integrated_circuit	MC3403	46136
IC2	Integrated_circuit	4521BT	46236
IC3	Integrated_circuit	LP2951	46531
IC4	Integrated_circuit	MC3403	46136
IC5	Integrated_circuit	LM317	46106
SW1	Switch		81206
FUSE1	Fuse	CH113B	2.5AT
	Fuse	CH114B	Not used
	Fuse	CH313B	2.5AT
	Fuse	CH314B	Not used
FUSE2	Fuse	PCB	83392

Partlist for Charger CH113B/CH114B & CH313B/CH314B Date 7-2-03			
Drawing No. 0-9718-03-0 Unit No. 7391			
Component	Description	Value	Niros No.
FUSE3	Fuse_chip1206	1AF	83441
J1	Connector CH113B	Not used	
	Connector CH114B	HTJ-020-05A	83346
	Connector CH313B	Not used	
	Connector CH314B	HTJ-020-05B	83347
JA1	Contact_spring		83348
JD1	Contact_spring		83348
JA2	Contact_spring		83348
JD2	Contact_spring		83348
JA3	Contact_spring		83348
	Rubber_stand_off CH113B	0 pcs	91403
	Rubber_stand_off CH114B	4 pcs	
	Rubber_stand_off CH313B	0 pcs	
	Rubber_stand_off CH314B	4 pcs	91403
	Screw K18X4 CH113B	0 pcs	
	Screw K18X4 CH114B	4 pcs	92030
	Screw K18X4 CH313B	0 pcs	
	Screw K18X4 CH314B	4 pcs	92030
	Screw K25X8 CH113B	0 pcs	
	Screw K25X8 CH114B	4 pcs	92348
	Screw K25X8 CH313B	0 pcs	
	Screw K25X8 CH314B	4 pcs	92348
	Bottom_plate CH113B	0 pcs	
	Bottom_plate CH114B	1 pcs	98092
	Bottom_plate CH313B	0 pcs	
	Bottom_plate CH314B	1 pcs	98092
	Spring CH113B	0 pcs	
	Spring CH114B	1 pcs	98182
	Spring CH313B	0 pcs	
	Spring CH314B	1 pcs	98182
	Charger_cabinet CH113B	0 pcs	
	Charger_cabinet CH114B	1 pcs	99002
	Charger_cabinet CH313B	0 pcs	
	Charger_cabinet CH314B	1 pcs	99002
	Insulator	1 pcs	85180
	Insulating_bush	1 pcs	85238
	Screw M3X1 $\frac{1}{2}$ PHJZ	1 pcs	92424
	Washer 3,2X7,0X0,5	1 pcs	92425
	Washer M3	1 pcs	92448
	Nut M3	1 pcs	92449
	Pc_board_no. 791-1	1 pcs	95791
	Heat_sink	1 pcs	98094
	Washer	2 pcs	98183

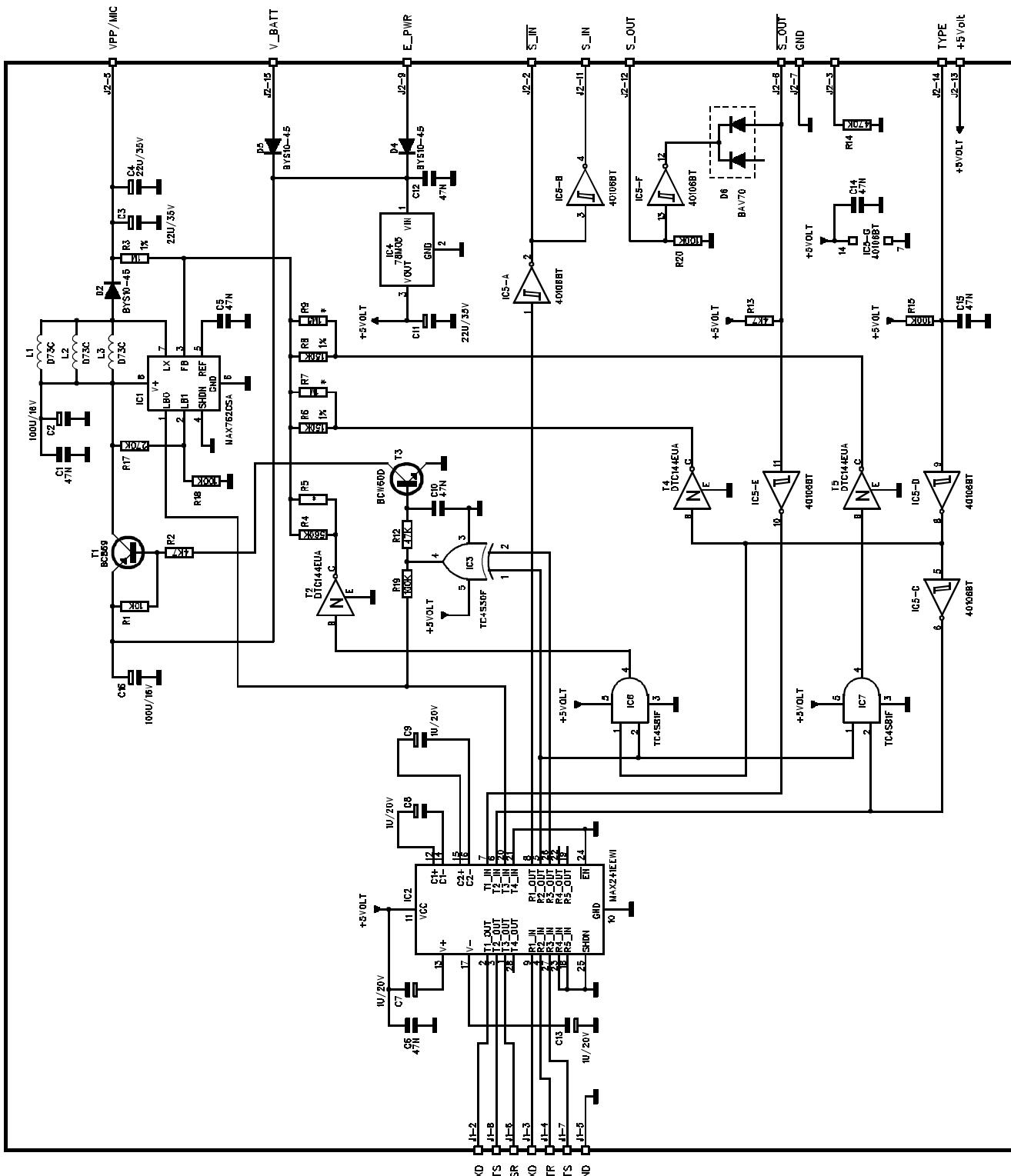
7. PC programming interface

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	27-07-98	0	PA

7.1 Programming interface TRX1001/TRX1012/TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	31-08-00	1	PA

7.1.1 Diagram

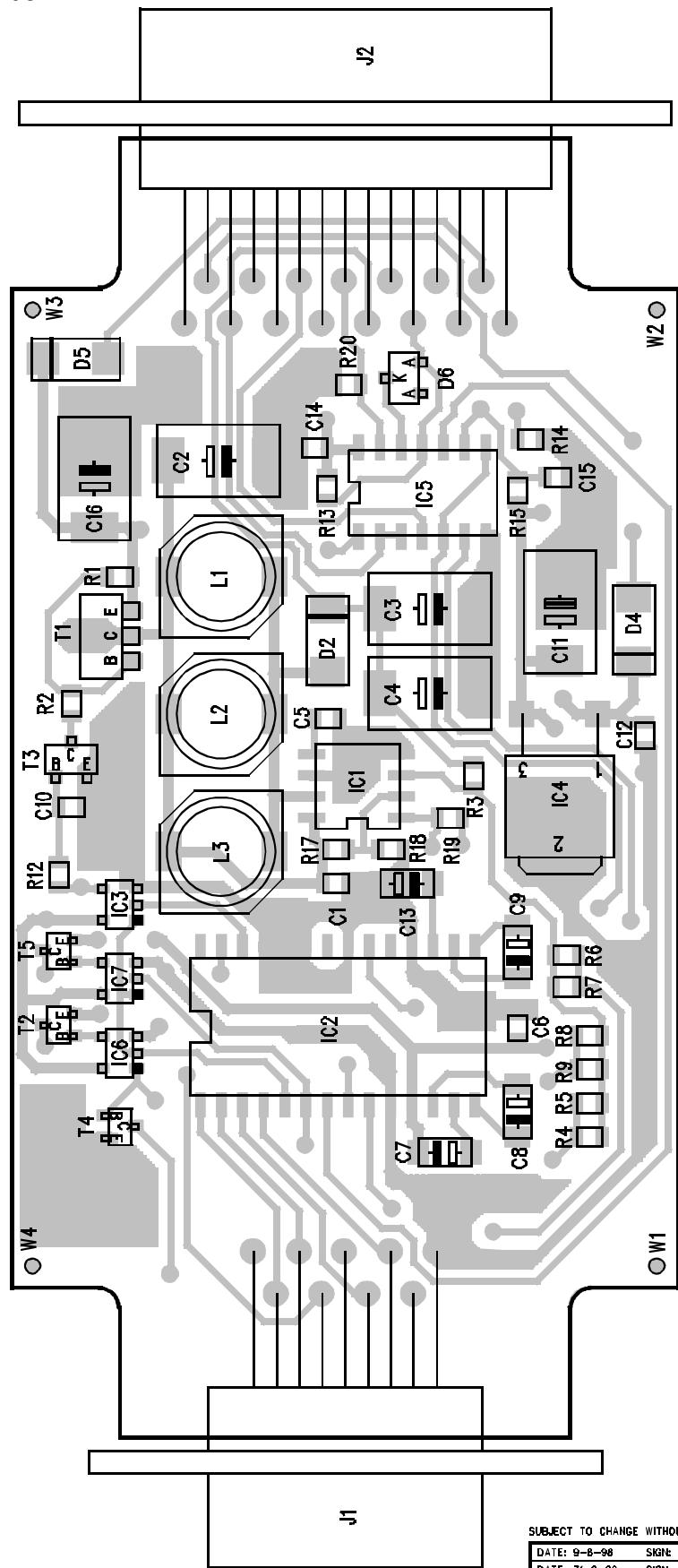


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DATE: 9-6-98	SIGN: PA	1	NIROS TELECOMMUNICATION A/S
DATE: 31-8-00	SIGN: PA	2	HØSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		Programming interface
DATE:	SIGN:		TRX1001/TRX1012/TRX3001
DATE:	SIGN:		
DRAWING NO: 0-3004-03-2			PCB NO: 781-1 UNIT NO: 3080

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	31-08-00	1	PA

7.1.2 Componentside



SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 9-8-98	SIGN: PA	1	NIROS TELECOMMUNICATION A/S
DATE: 31-8-00	SIGN: PA	2	HØSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		Programming Interface
DATE:	SIGN:		TRX1001/TRX1012/TRX3001
DATE:	SIGN:		
DRAWING NO: 0-3004-05-2			PCB NO: 781-1 UNIT NO: 3080

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	31-08-00	1	PA

7.1.3 Partlist

PARTLIST FOR Programming interface TRX1001/TRX1012			DATE	31-8-00
DRAWING NO. 0-3004-03-2			TRX3001	UNIT NO. 3080
Component	Description	Value	Niros No.	
R1	Resistor, chip603	10 Kohm	14103	
R2	Resistor, chip603	4,7 Kohm	14472	
R3	Resistor, chip603 1%	1 Mohm	10924	
R4	Resistor, chip603	560 Kohm	14564	
R5	Resistor, chip603	Selected		
R6	Resistor, chip603 1%	150 Kohm	10920	
R7	Resistor, chip603	1 Mohm	14105	
R8	Resistor, chip603 1%	150 Kohm	10920	
R9	Resistor, chip603	1,5 Mohm	14155	
R12	Resistor, chip603	47 Kohm	14473	
R13	Resistor, chip603	4,7 Kohm	14472	
R14	Resistor, chip603	470 Kohm	14474	
R15	Resistor, chip603	100 Kohm	14104	
R17	Resistor, chip603	270 Kohm	14274	
R18	Resistor, chip603	100 Kohm	14104	
R19	Resistor, chip603	100 Kohm	14104	
R20	Resistor, chip603	100 Kohm	14104	
C1	Capacitor, chip603	47 nF	21473	
C2	Capacitor, ctan_e	100 uF/16V	25621	
C3	Capacitor, ctan_e	22 uF/35V	25624	
C4	Capacitor, ctan_e	22 uF/35V	25624	
C5	Capacitor, chip603	47 nF	21473	
C6	Capacitor, chip603	47 nF	21473	
C7	Capacitor, ctan_a	1 uF/20V	25617	
C8	Capacitor, ctan_a	1 uF/20V	25617	
C9	Capacitor, ctan_a	1 uF/20V	25617	
C10	Capacitor, chip603	47 nF	21473	
C11	Capacitor, ctan_e	22 uF/35V	25624	
C12	Capacitor, chip603	47 nF	21473	
C13	Capacitor, ctan_a	1 uF/20V	25617	
C14	Capacitor, chip603	47 nF	21473	
C15	Capacitor, chip603	47 nF	21473	
C16	Capacitor, ctan_e	100 uF/16V	25621	
T1	Transistor	BC869	40185	
T2	Transistor	DTC144EUA	40209	
T3	Transistor	BCW60D	40156	
T4	Transistor	DTC144EUA	40209	
T5	Transistor	DTC144EUA	40209	
D2	Diode	BYS10-45	45186	
D4	Diode	BYS10-45	45186	
D5	Diode	BYS10-45	45186	

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PC. Board No. 781-2

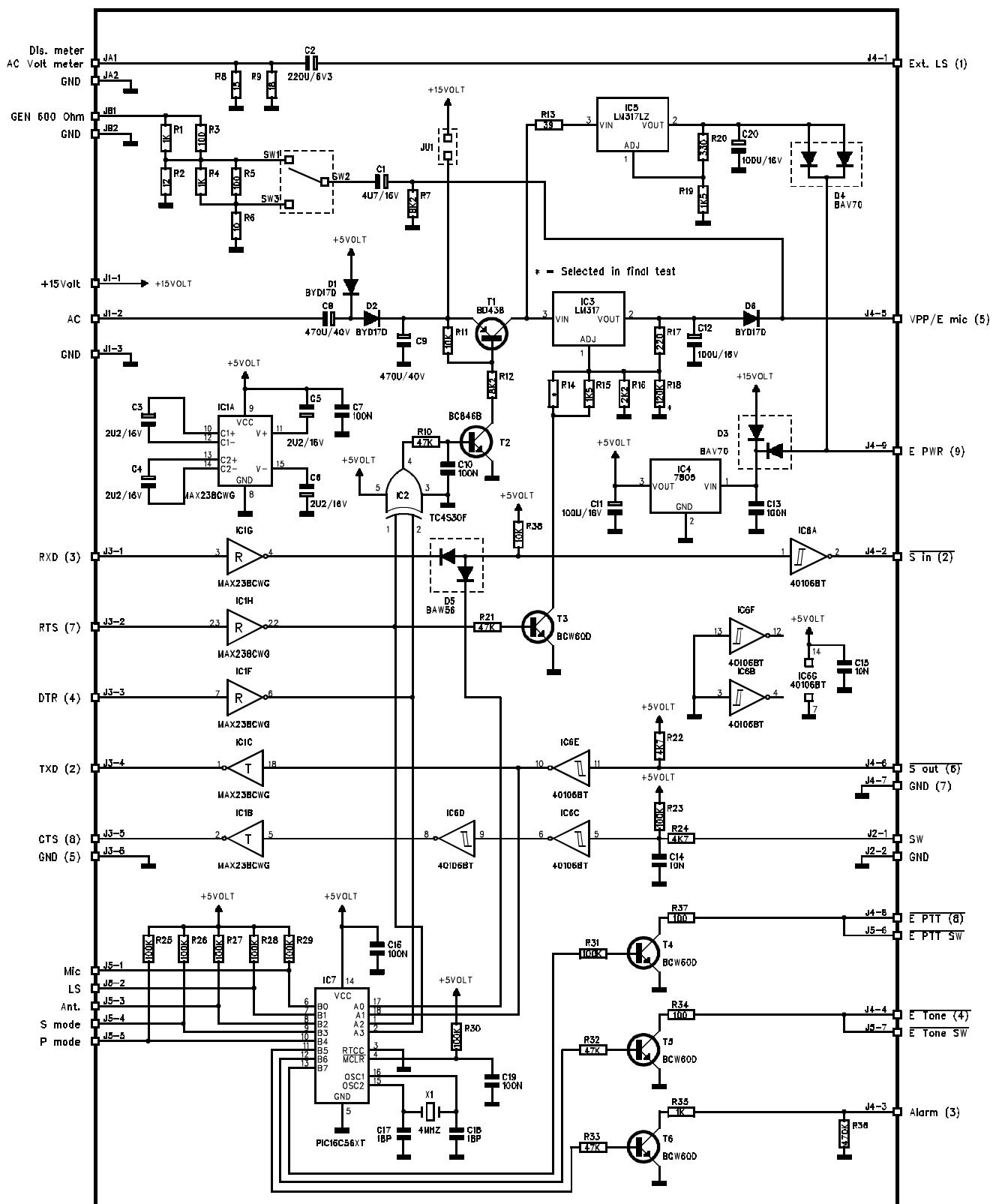
File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	31-08-00	1	PA

PARTLIST FOR Programming interface TRX1001/TRX1012			DATE	31-8-00
DRAWING NO. 0-3004-03-2			TRX3001	UNIT NO. 3080
Component	Description	Value	Niros No.	
D6	Diode	BAV70	45146	
IC1	Integrated_circuit	MAX762CSA	46540	
IC2	Integrated_circuit	MAX241EEWI	46509	
IC3	Integrated_circuit	TC4S30F	46282	
IC4	Integrated_circuit	78M05	46530	
IC5	Integrated_circuit	40106BT	46116	
IC6	Integrated_circuit	TC4S81F	46532	
IC7	Integrated_circuit	TC4S81F	46532	
L1	Coil	D73C	75929	
L2	Coil	D73C	75929	
L3	Coil	D73C	75929	
J1	Connector D-SUB-9 MALE		83376	
J2	Connector D-SUB-15 FEMALE		83375	
	Cord_9_pol	1 pcs	82082	
	Label	1 pcs	88140	
	Label	1 pcs	88148	
	Nut M2,5	4 pcs	92320	
	Screw M2,5X6 PHJ	4 pcs	92329	
	Pc._board_no. 781-2	1 pcs	95781	
	Plast_box	1 pcs	98164	
p. 2 of 2		PC. Board No. 781-2		

7.2 Programming interface TRX1001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-03-99	0	PA

7.2.1 Diagram



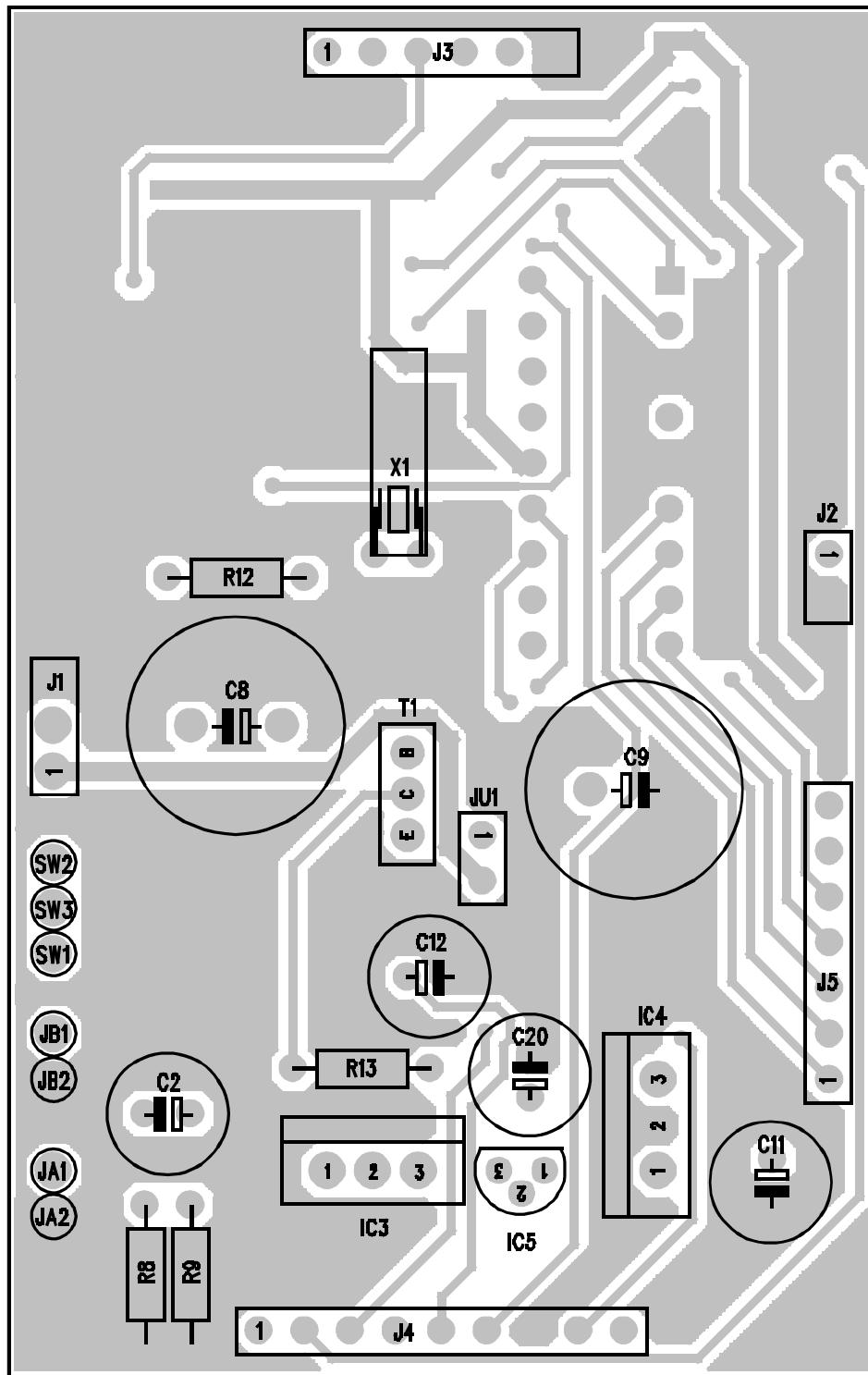
SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 31-3-93	SIGN: PA	D	NIROS TELECOMMUNICATION A/S HØIPSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		PC Interface
DATE:	SIGN:		TRX1001
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: O-9614-03-0		PCB NO: 723-D	

- Unit No: 5751 Standard PC interface for Charger
- Unit No: 5755 Stand alone PC interface
- Unit No: 5756 Service interface
- Unit No: 5757 User service Interface

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-03-99	0	PA

7.2.2 Componentside

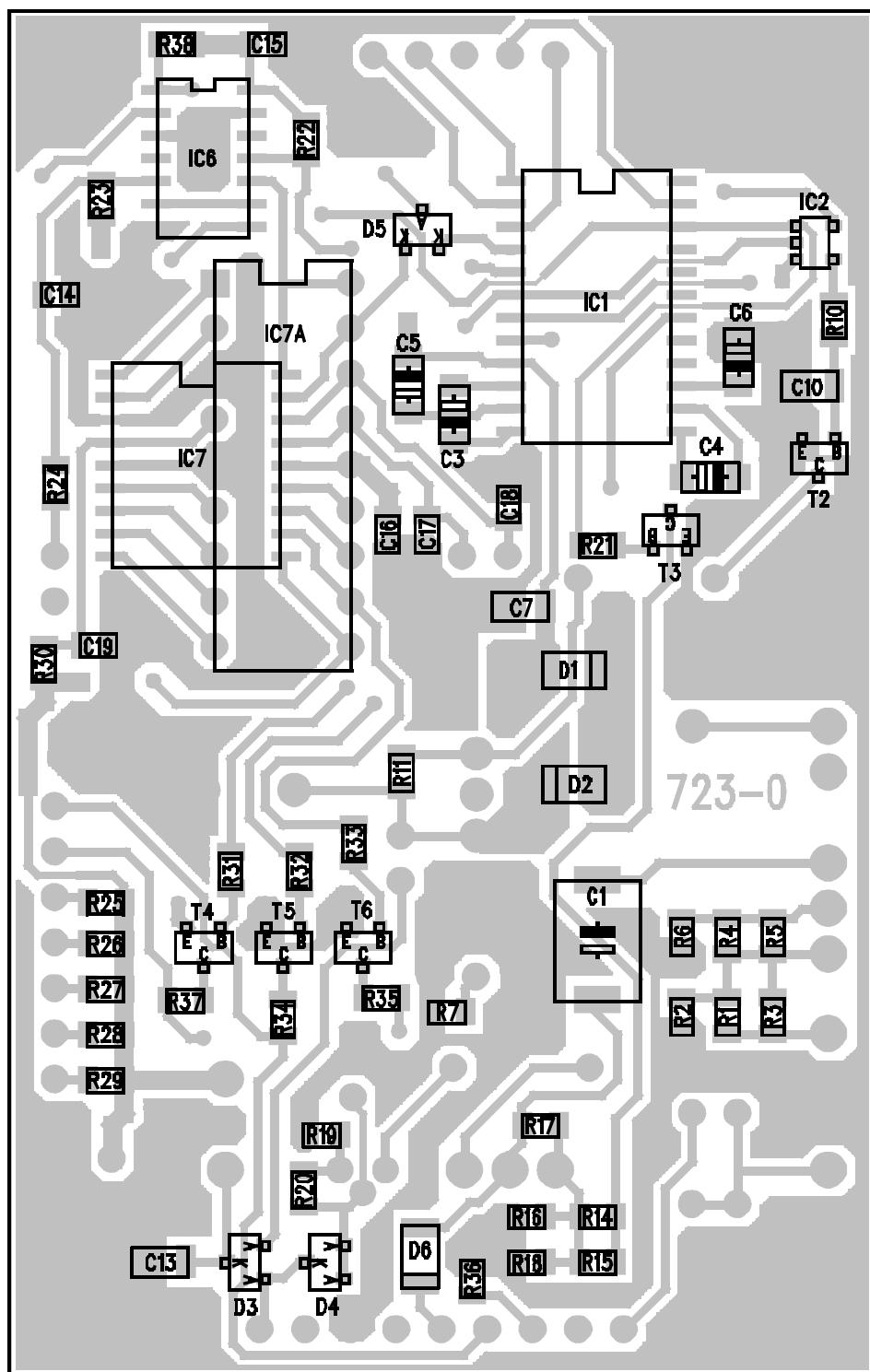


Componentside 723-0

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DATE: 31-3-93	SIGN: PA	D	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		PC interface
DATE:	SIGN:		TRX1001
DATE:	SIGN:		
DRAWING NO: 0-9514-03-0			PCB NO: 723-0
Unit No: 5751	Standard PC Interface for Charger		
Unit No: 5755	Stand alone PC Interface		
Unit No: 5756	Service Interface		
Unit No: 5757	User service Interface		

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-03-99	0	PA

7.2.3 Wiringside



Wiringside 723-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 31-5-83	SIGN: PA	D	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		PC Interface
DATE:	SIGN:		TRX1001
DATE:	SIGN:		
DRAWING NO: 0-9614-04-0			PCB NO: 723-0

Unit No: 5751 Standard PC interface for Charger
 Unit No: 5755 Stand alone PC interface
 Unit No: 5756 Service Interface
 Unit No: 5757 User service Interface

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-03-99	0	PA

7.2.4 Partlist

PARTLIST FOR PC interface TRX1001 DRAWING NO. 0-9614-03-0			DATE 31-3-93 UNIT NO. 5751
Component	Description	Value	Niros No.
	Standard PC interface Stand along PC interface Service interface User service interface		5751 5755 5756 5757
R1	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	1 Kohm
	Resistor,chip805	5757	Not used
R2	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	12 Ohm
	Resistor,chip805	5757	Not used
R3	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Ohm
R4	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	1 Kohm
	Resistor,chip805	5757	Not used
R5	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Ohm
R6	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	10 Ohm
	Resistor,chip805	5757	Not used
R7	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	8,2 Kohm
R8	Resistor,chip805	5757	Not used
	Resistor,sfr16	5751	Not used
	Resistor,sfr16	5755	Not used
	Resistor,sfr16	5756	15 Ohm
	Resistor,sfr16	5757	Not used
R9	Resistor,sfr16	5751	Not used
	Resistor,sfr16	5755	Not used
	Resistor,sfr16	5756	18 Ohm
R10	Resistor,sfr16	5757	Not used
	Resistor,chip805	5751	47 Kohm
	Resistor,chip805	5755	47 Kohm
	Resistor,chip805	5756	Not used
	Resistor,chip805	5757	Not used
R11	Resistor,chip805	5751	10 Kohm
	Resistor,chip805	5755	10 Kohm

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PC. Board No. 723-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-03-99	0	PA

PARTLIST FOR PC interface TRX1001
DRAWING NO. 0-9614-03-0

DATE 31-3-93
UNIT NO. 5751

Component	Description	Value	Niros No.
R12	Resistor,chip805	5756	
	Resistor,chip805	5757	
	Resistor,sfr16	5751	8,2 Kohm
	Resistor,sfr16	5755	8,2 Kohm
	Resistor,sfr16	5756	Not used
	Resistor,sfr16	5757	Not used
R13	Resistor,sfr16	5751	
	Resistor,sfr16	5755	39 Ohm
	Resistor,sfr16	5756	Not used
R14	Resistor,sfr16	5757	Not used
	Resistor,chip805	5751	Selected
	Resistor,chip805	5755	Selected
	Resistor,chip805	5756	Not used
	Resistor,chip805	5757	Not used
R15	Resistor,chip805	5751	1,5 Kohm
	Resistor,chip805	5755	1,5 Kohm
	Resistor,chip805	5756	Not used
R16	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	2,2 Kohm
	Resistor,chip805	5755	2,2 Kohm
	Resistor,chip805	5756	Not used
	Resistor,chip805	5757	Not used
R17	Resistor,chip805	5751	220 Ohm
	Resistor,chip805	5755	220 Ohm
	Resistor,chip805	5756	Not used
R18	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	120 Kohm
	Resistor,chip805	5755	120 Kohm
	Resistor,chip805	5756	Not used
	Resistor,chip805	5757	Not used
R19	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	1,5 Kohm
	Resistor,chip805	5756	Not used
R20	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	330 Ohm
	Resistor,chip805	5756	Not used
	Resistor,chip805	5757	Not used
R21	Resistor,chip805	5751	47 Kohm
	Resistor,chip805	5755	47 Kohm
	Resistor,chip805	5756	Not used
	Resistor,chip805	5757	Not used
R22	Resistor,chip805		4,7 Kohm
R23 R24 R25	Resistor,chip805		100 Kohm
	Resistor,chip805		4,7 Kohm
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used

PARTLIST FOR PC interface TRX1001
DRAWING NO. 0-9614-03-0

DATE 31-3-93
UNIT NO. 5751

Component	Description	Value	Niros No.
R26	Resistor,chip805	5756	100 Kohm
	Resistor,chip805	5757	100 Kohm
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Kohm
	Resistor,chip805	5757	100 Kohm
R27	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Kohm
R28	Resistor,chip805	5757	100 Kohm
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Kohm
	Resistor,chip805	5757	100 Kohm
	Resistor,chip805	5751	Not used
R29	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Kohm
R30	Resistor,chip805	5757	100 Kohm
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Kohm
	Resistor,chip805	5757	100 Kohm
	Resistor,chip805	5751	Not used
R31	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Kohm
R32	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	47 Kohm
	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	Not used
R33	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	47 Kohm
	Resistor,chip805	5757	Not used
R34	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Ohm
	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	Not used
	Resistor,chip805	5755	Not used
R35	Resistor,chip805	5756	1 Kohm
	Resistor,chip805	5757	Not used
R36	Resistor,chip805	5751	470 Kohm
	Resistor,chip805	5755	470 Kohm
	Resistor,chip805	5756	470 Kohm
	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	470 Kohm
	Resistor,chip805	5755	470 Kohm
R37	Resistor,chip805	5751	Not used

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PC. Board No. 723-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-03-99	0	PA

PARTLIST FOR PC interface TRX1001
DRAWING NO. 0-9614-03-0

DATE 31-3-93
UNIT NO. 5751

Component	Description	Value	Niros No.
R38	Resistor,chip805	5755	Not used
	Resistor,chip805	5756	100 Ohm
	Resistor,chip805	5757	Not used
	Resistor,chip805	5751	10 Kohm
	Resistor,chip805	5755	10 Kohm
	Resistor,chip805	5756	10 Kohm
	Resistor,chip805	5757	Not used
C1	Capacitor,ctan_c	5751	Not used
	Capacitor,ctan_c	5755	Not used
	Capacitor,ctan_c	5756	4,7 uF/16V
	Capacitor,ctan_c	5757	Not used
C2	Capacitor,lyt	5751	Not used
	Capacitor,lyt	5755	Not used
	Capacitor,lyt	5756	220 uF/6V3
	Capacitor,lyt	5757	Not used
C3	Capacitor,ctan_a	5751	2,2 uF/16V
	Capacitor,ctan_a	5755	2,2 uF/16V
	Capacitor,ctan_a	5756	Not used
	Capacitor,ctan_a	5757	Not used
C4	Capacitor,ctan_a	5751	2,2 uF/16V
	Capacitor,ctan_a	5755	2,2 uF/16V
	Capacitor,ctan_a	5756	Not used
	Capacitor,ctan_a	5757	Not used
C5	Capacitor,ctan_a	5751	2,2 uF/16V
	Capacitor,ctan_a	5755	2,2 uF/16V
	Capacitor,ctan_a	5756	Not used
	Capacitor,ctan_a	5757	Not used
C6	Capacitor,ctan_a	5751	2,2 uF/16V
	Capacitor,ctan_a	5755	2,2 uF/16V
	Capacitor,ctan_a	5756	Not used
	Capacitor,ctan_a	5757	Not used
C7	Capacitor,chip1206	5751	100 nF
	Capacitor,chip1206	5755	100 nF
	Capacitor,chip1206	5756	Not used
	Capacitor,chip1206	5757	Not used
C8	Capacitor,lyt	5751	470 uF/40V
	Capacitor,lyt	5755	Not used
	Capacitor,lyt	5756	Not used
	Capacitor,lyt	5757	Not used
C9	Capacitor,lyt	5751	470 uF/40V
	Capacitor,lyt	5755	470 uF/40V
	Capacitor,lyt	5756	Not used
	Capacitor,lyt	5757	Not used
C10	Capacitor,chip1206	5751	100 nF
	Capacitor,chip1206	5755	100 nF
	Capacitor,chip1206	5756	Not used
	Capacitor,chip1206	5757	Not used

PARTLIST FOR PC interface TRX1001
DRAWING NO. 0-9614-03-0

DATE 31-3-93
UNIT NO. 5751

Component	Description	Value	Niros No.
C11	Capacitor,lyt	100 uF/16V	26022
C12	Capacitor,lyt	100 uF/16V	26022
	Capacitor,lyt	100 uF/16V	26022
	Capacitor,lyt	Not used	
	Capacitor,lyt	Not used	
C13	Capacitor,chip1206	100 nF	20632
C14	Capacitor,chip805	10 nF	20600
C15	Capacitor,chip805	10 nF	20600
C16	Capacitor,chip805	5751	Not used
	Capacitor,chip805	5755	Not used
	Capacitor,chip805	5756	100 nF
	Capacitor,chip805	5757	100 nF
C17	Capacitor,chip805	5751	Not used
	Capacitor,chip805	5755	Not used
	Capacitor,chip805	5756	18 pF
	Capacitor,chip805	5757	18 pF
C18	Capacitor,chip805	5751	Not used
	Capacitor,chip805	5755	Not used
	Capacitor,chip805	5756	18 pF
	Capacitor,chip805	5757	18 pF
C19	Capacitor,chip805	5751	Not used
	Capacitor,chip805	5755	Not used
	Capacitor,chip805	5756	100 nF
C20	Capacitor,chip805	5757	100 nF
	Capacitor,lyt	5751	Not used
	Capacitor,lyt	5755	100 uF/16V
	Capacitor,lyt	5756	Not used
	Capacitor,lyt	5757	Not used
X1	Crystal	5751	Not used
	Crystal	5755	Not used
	Crystal	5756	4 MHz
	Crystal	5757	4 MHz
T1	Transistor	5751	BD438
	Transistor	5755	BD438
	Transistor	5756	Not used
T2	Transistor	5757	Not used
	Transistor	5751	BC846B
	Transistor	5755	BC846B
	Transistor	5756	Not used
	Transistor	5757	Not used
T3	Transistor	5751	BCW60D
	Transistor	5755	BCW60D
	Transistor	5756	Not used
	Transistor	5757	Not used
T4	Transistor	5751	Not used

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PC. Board No. 723-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-03-99	0	PA

PARTLIST FOR PC interface TRX1001 DRAWING NO. 0-9614-03-0				DATE 31-3-93 UNIT NO. 5751
Component	Description	Value	Niros No.	
T5	Transistor	5755	Not used	40156
	Transistor	5756	BCW60D	
	Transistor	5757	Not used	
	Transistor	5751	Not used	
	Transistor	5755	Not used	
	Transistor	5756	BCW60D	
	Transistor	5757	Not used	
T6	Transistor	5751	Not used	40156
	Transistor	5755	Not used	
	Transistor	5756	BCW60D	
	Transistor	5757	Not used	
D1	Diode	5751	BYD17D	45176
	Diode	5755	Not used	
	Diode	5756	Not used	
D2	Diode	5757	Not used	45176
	Diode	5751	BYD17D	
	Diode	5755	Not used	
	Diode	5756	Not used	
	Diode	5757	Not used	
D3	Diode		BAV70	45146
D4	Diode	5751	Not used	45146
	Diode	5755	BAV70	
	Diode	5756	Not used	
	Diode	5757	Not used	
D5	Diode		BAW56	45147
D6	Diode	5751	BYD17D	45176
	Diode	5755	BYD17D	45176
	Diode	5756	Not used	
	Diode	5757	Not used	
IC1	Integrated_circuit	5751	MAX238CWG	46275
	Integrated_circuit	5755	MAX238CWG	46275
	Integrated_circuit	5756	Not used	
	Integrated_circuit	5757	Not used	
IC2	Integrated_circuit	5751	TC4S30F	46282
	Integrated_circuit	5755	TC4S30F	46282
	Integrated_circuit	5756	Not used	
	Integrated_circuit	5757	Not used	
IC3	Integrated_circuit	5751	LM317	46106
	Integrated_circuit	5755	LM317	46106
	Integrated_circuit	5756	Not used	
	Integrated_circuit	5757	Not used	
IC4	Integrated_circuit		7805	46056
IC5	Integrated_circuit	5751	Not used	
	Integrated_circuit	5755	LM317LZ	46212

PARTLIST FOR PC interface TRX1001
DRAWING NO. 0-9614-03-0

DATE 31-3-93
UNIT NO. 5751

Component	Description	Value	Niros No.
IC6	Integrated_circuit	5756	Not used
	Integrated_circuit	5757	Not used
	Integrated_circuit		40106BT
	Integrated_circuit	5751	Not used
	Integrated_circuit	5755	Not used
	Integrated_circuit	5756	PIC16C56XT
	Integrated_circuit	5757	PIC16C56XT
JU1	Jumper	5751	Not used
	Jumper	5755	Used
	Jumper	5756	Not used
	Jumper	5757	Not used

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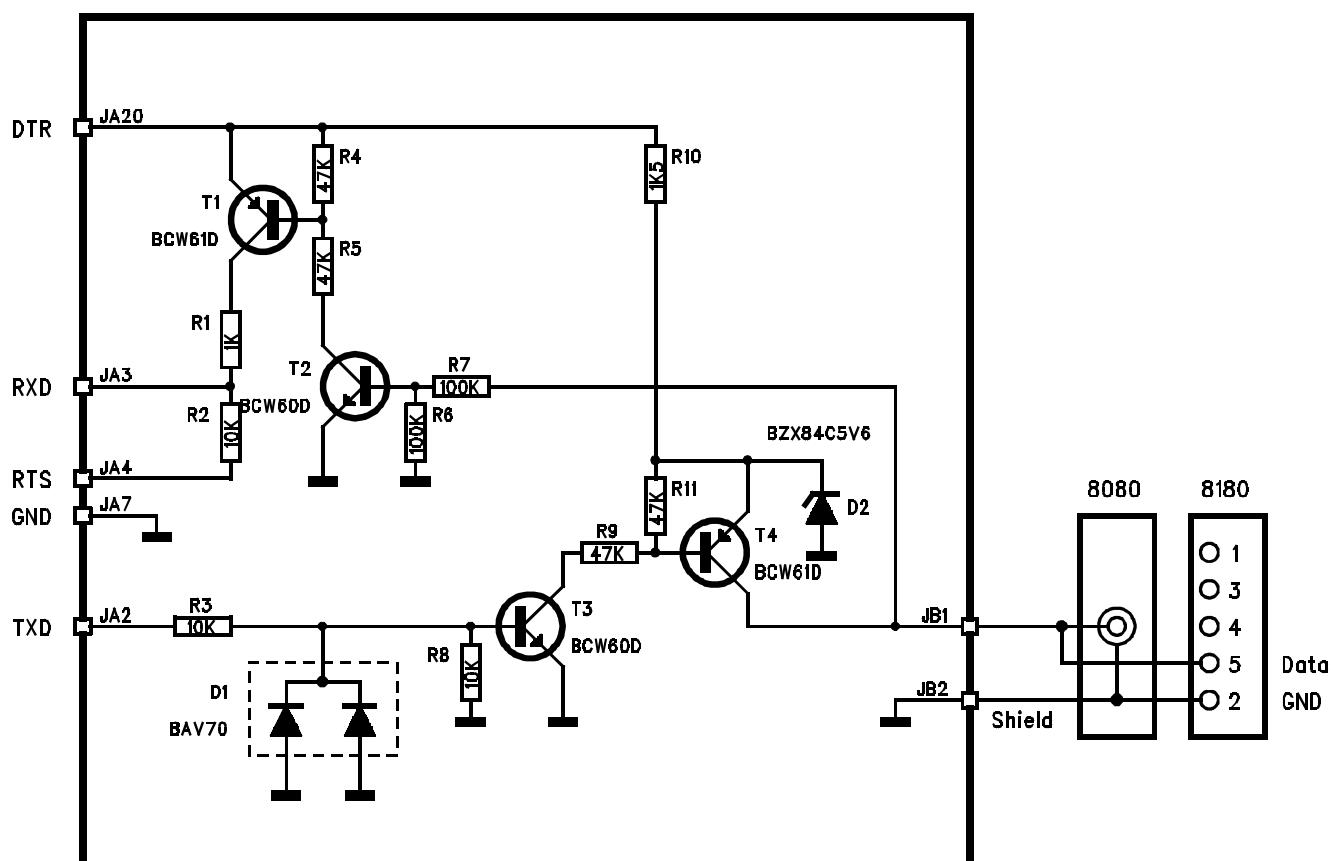
PC. Board No. 723-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	02-03-99	0	PA

7.3 Programming interface RX8008

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	19-04-99	0	PA

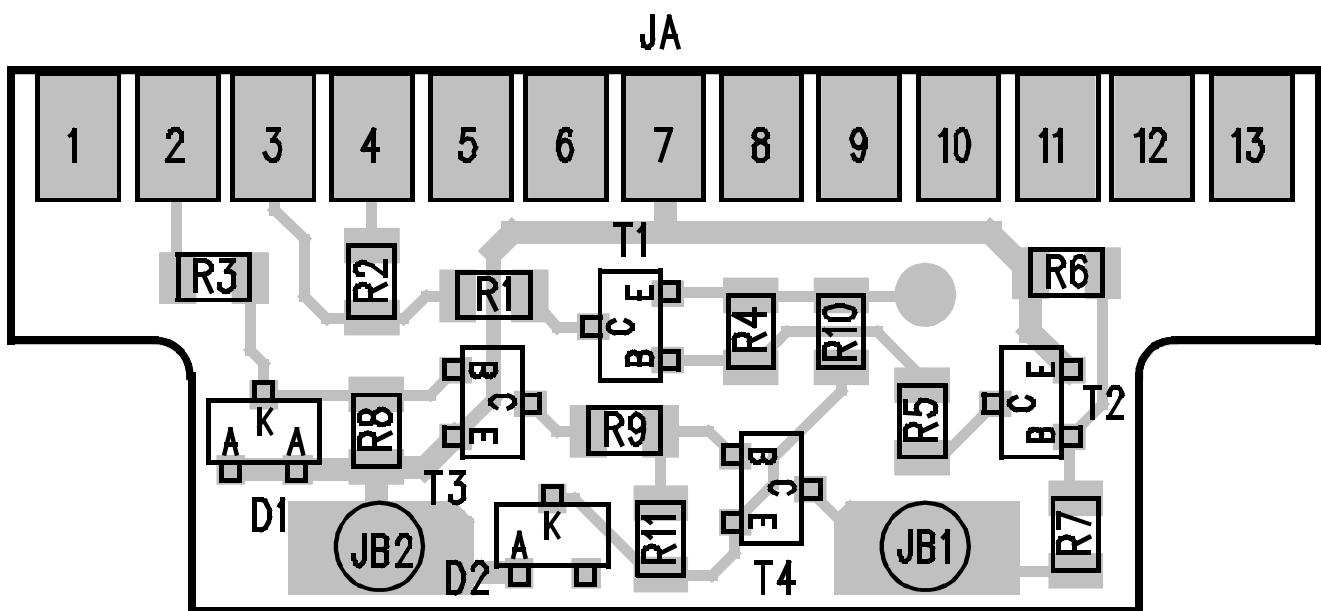
7.3.1 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE		CH108/CH208	UNIT NO: B080
		CH308/CH309	UNIT NO: B081
DATE: 20-2-95	SIGN: PA	0	NIROS TELECOMMUNICATION A/S
DATE: 19-4-99	SIGN: PH	0	HØRSEMARKEN 5, 3320 FARUM
DATE:	SIGN:		
DRAWING NO: 0-8103-03-0		PCB NO: 753-0	PC interface RX8008

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	19-04-99	0	PA

7.3.2 Componentside

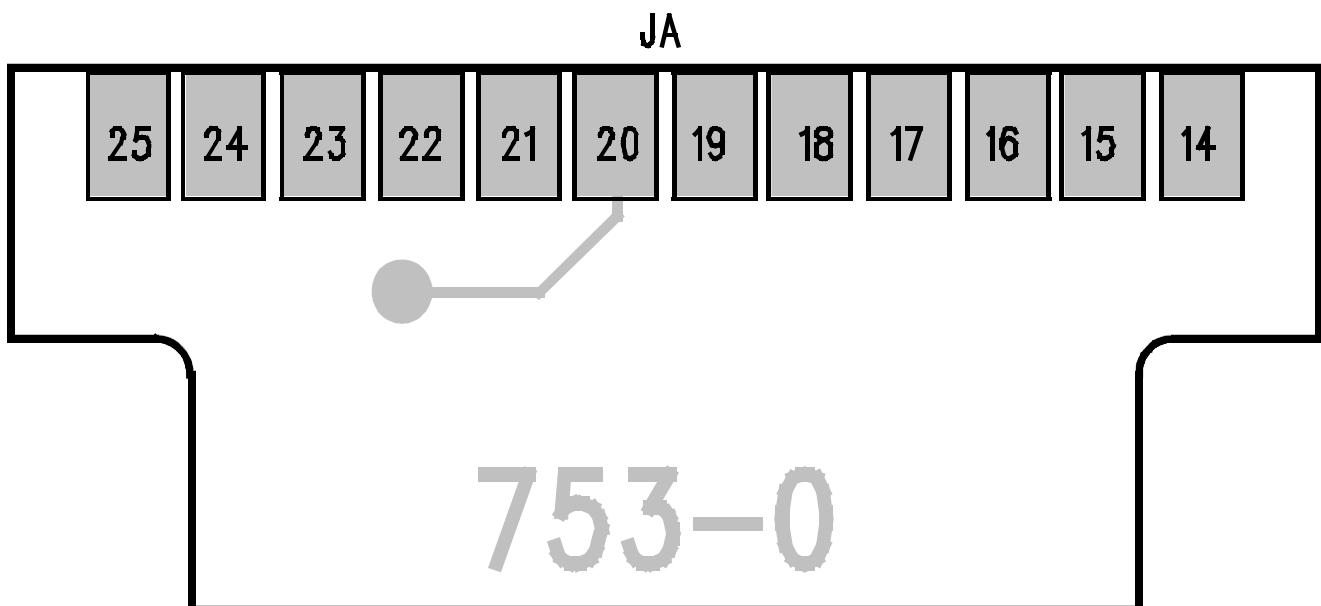


Componentside 753-0

SUBJECT TO CHANGE WITHOUT NOTICE			CH108/CH208	UNIT NO: 8080
			CH308/CH309	UNIT NO: 8081
DATE: 20-2-95	SIGN: PA	0	NIROS TELECOMMUNICATION A/S	
DATE: 19-4-99	SIGN: PH	0	HØRSEMARKEN 5, 3520 FARUM	
DATE:	SIGN:			
DRAWING NO: 0-B103-05-0			PC interface RXB008	
			PCB NO: 753-0	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	19-04-99	0	PA

7.3.3 Wiringside



Wiringside 753-0

SUBJECT TO CHANGE WITHOUT NOTICE		CH108/CH208 UNIT NO: B080
DATE: 20-2-95 SIGN: PA 0		CH308/CH309 UNIT NO: B081
DATE: 19-4-99 SIGN: PH 0		
DATE:	SIGN:	
DRAWING NO: 0-8103-04-0		PC interface RXB008
		PCB NO: 753-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	19-04-99	0	PA

7.3.4 Partlist

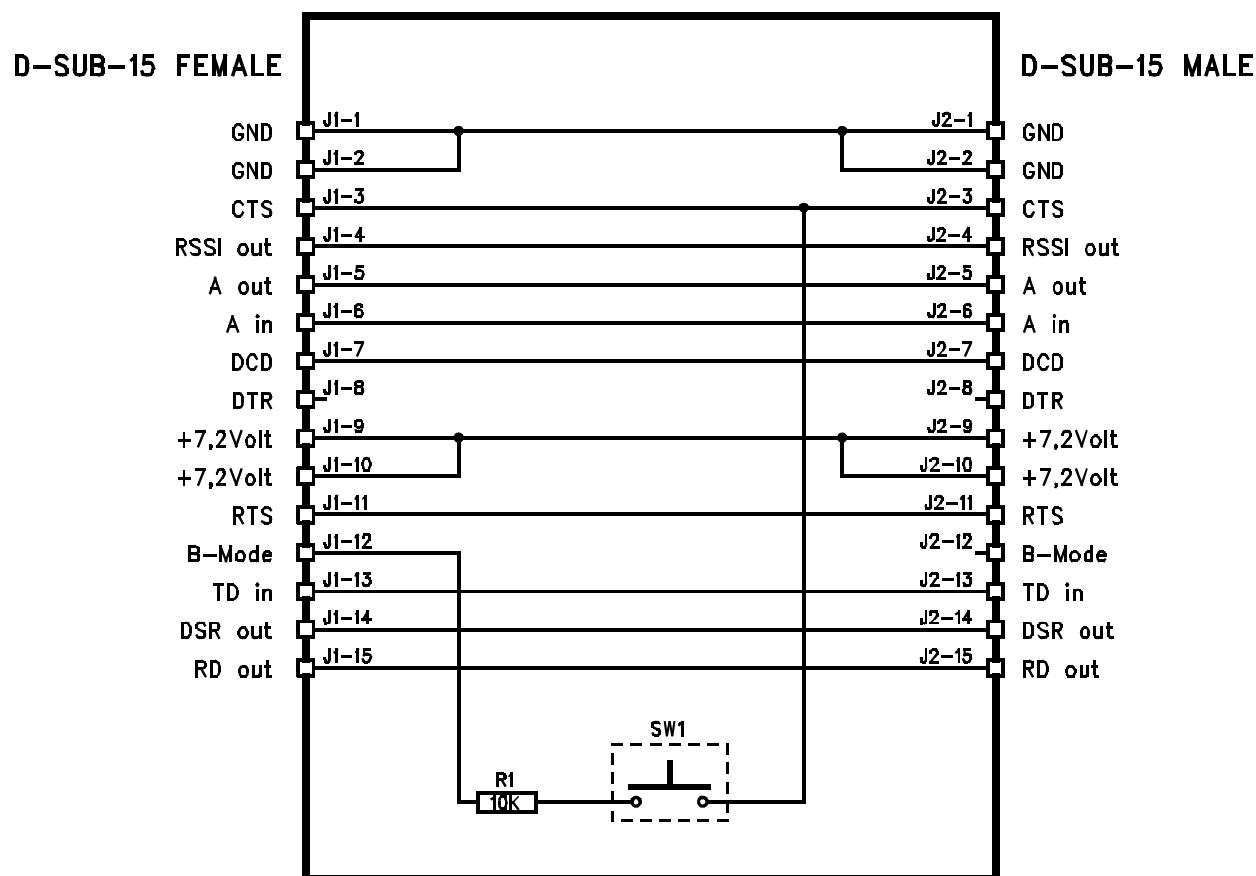
PARTLIST FOR PC interface for RX8008 DRAWING NO. 0-8103-03-0			DATE 7-4-99 UNIT NO. 8080
Component	Description	Value	Niros No.
	CH108/CH208 CH308/CH309		8080 8180
R1	Resistor,chip805	1 Kohm	13102
R2	Resistor,chip805	10 Kohm	13103
R3	Resistor,chip805	10 Kohm	13103
R4	Resistor,chip805	47 Kohm	13473
R5	Resistor,chip805	47 Kohm	13473
R6	Resistor,chip805	100 Kohm	13104
R7	Resistor,chip805	100 Kohm	13104
R8	Resistor,chip805	10 Kohm	13103
R9	Resistor,chip805	47 Kohm	13473
R10	Resistor,chip805	1,5 Kohm	13152
R11	Resistor,chip805	47 Kohm	13473
T1	Transistor	BCW61D	40157
T2	Transistor	BCW60D	40156
T3	Transistor	BCW60D	40156
T4	Transistor	BCW61D	40157
D1	Diode	BAV70	45146
D2	Diode,zener	BZX84C5V6	41241
	Coax_cable	1,5 pcs	82026
	Gummёт	1 pcs	82911
	Connector D-SUB-25	1 pcs	83037
	House_for D-SUB-25	1 pcs	83288
	Tracking_pin 0,8	1 pcs	83295
	Antenna_connector	8080	83344
	Connector_5pol-din	8180	83389
	Adaptor_25pol_9pol		83345
	Pc._board_no.:	753-0	95753
p. 1 of 1			
PC. Board No. 753-0			

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	19-04-99	0	PA

7.4 Programming interface TRX2001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-10-99	0	PA

7.4.1 Diagram

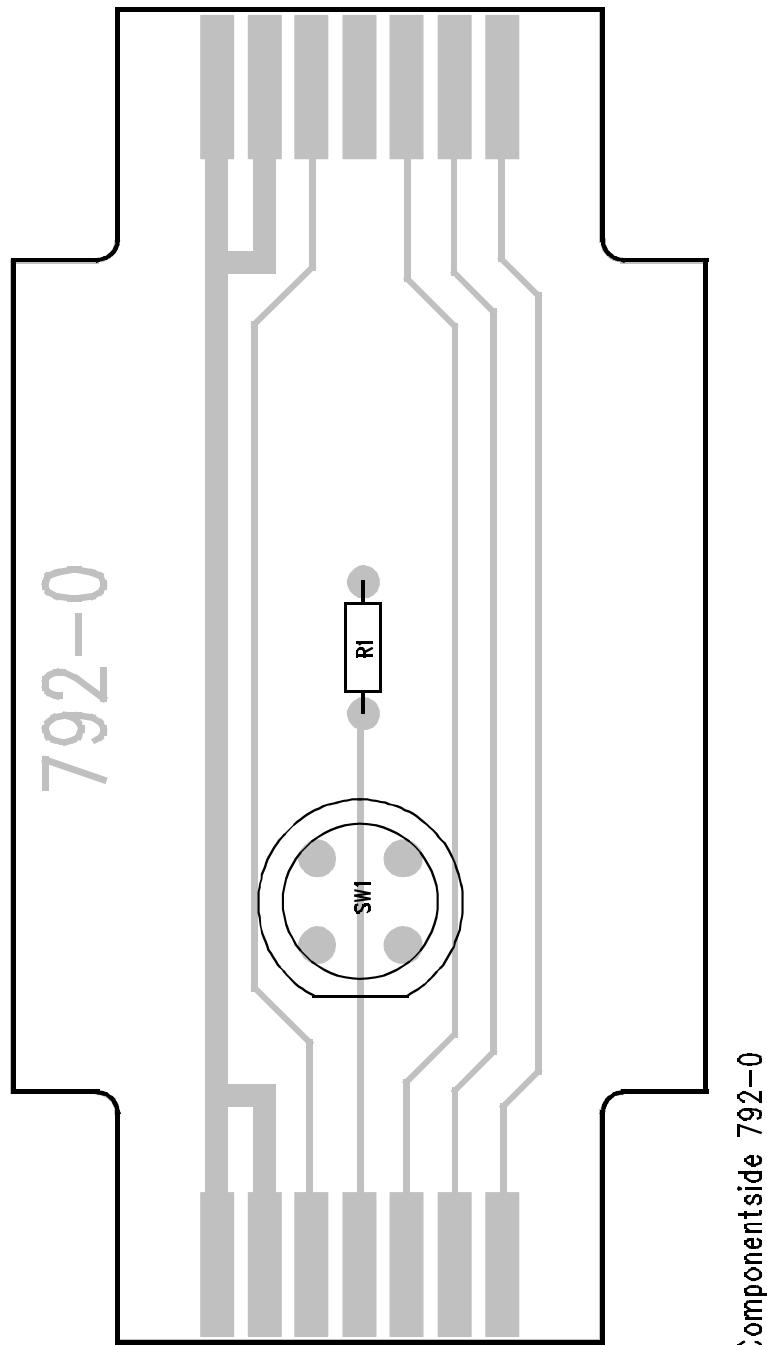


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 12-10-99	SIGN: BKA	O	NIROS TELECOMMUNICATION A/S HØSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		Programming interface TRX2001
DATE:	SIGN:		
DRAWING NO: 0-2005-03-0		PCB NO: 792-0	UNIT NO: 3082

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-10-99	0	PA

7.4.2 Componentside

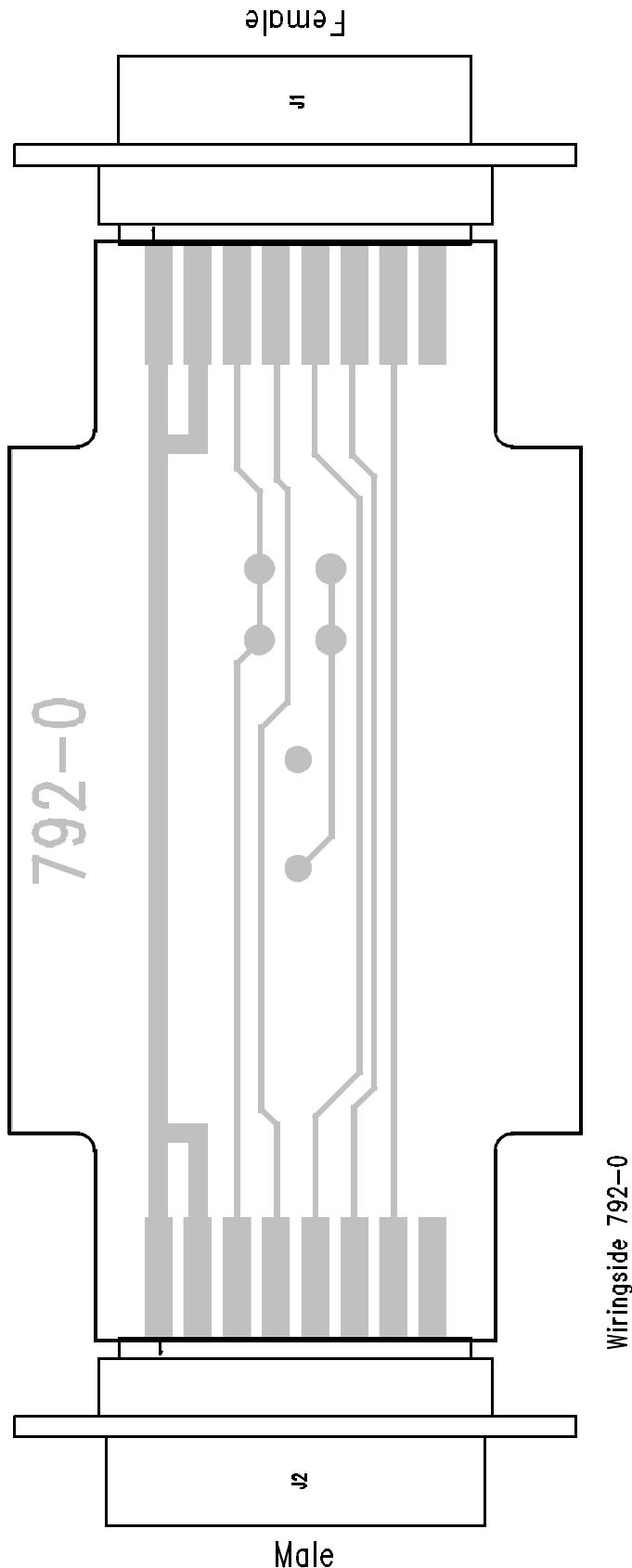


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 12-10-99	SIGN: BKA	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: 0-2005-05-0			PCB NO: 792-0 UNIT NO: 3082
			Programming interface TRX2001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-10-99	0	PA

7.4.3 Wiringside



SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 12-10-99	SIGN: BKA	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: 0-2005-04-0			PCB NO: 792-0 UNIT NO: 3082

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-10-99	0	PA

7.4.4 Partlist

PARTLIST FOR Programming interface TRX2001 DRAWING NO. 0-2005-03-0			DATE 21-9-99 UNIT NO. 3082
Component	Description	Value	Niros No.
R1	Resistor, sfr16	10 Kohm	10148
SW1	Switch		81208
J1	Connector D-SUB-15 FEMALE		83378
J2	Connector D-SUB-15 MALE		83260
	Pc_board_no.: 792-0 Box	1 pcs 1 pcs	95792 98187

p. 1 of 1

PC. Board No. 792-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-10-99	0	PA

8. Speaker

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	28-07-98	0	PA

9. Car adaptor

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

9.1 Vehicle adaptor CH105

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

9.1.1 Programming table for Autocassette CH105.

9.1.1.1 Internal/External control.

The coding of internal/external loudspeaker, microphone and antenna can be programmed in the software to fixed adjustments, or can be programmed to "external coding". A resistor, R33 to R41, regulates the "external coding" in the vehicle adaptor. The desired resistor value can be selected by moving a jumper, NIROS no. 83331, on the pin row, JU1.

At delivery from NIROS the jumper is mounted on pos. 7 at R36 = 68 Kohm.

INT./EXT. AUTO CONTROL

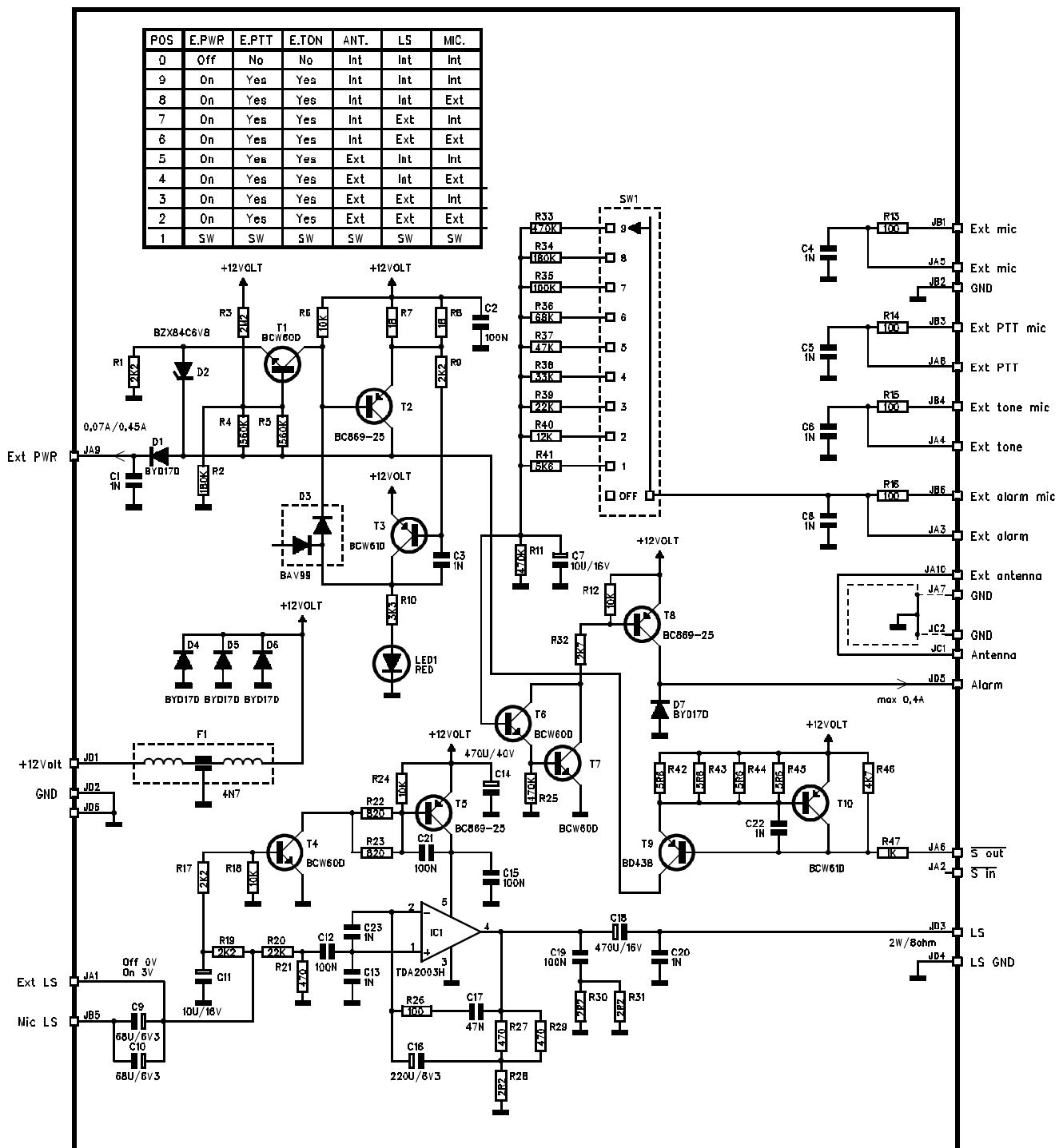
POS.	R VAL.	E. PWR	E. PTT	E. TONE	ANT.	LS	MIC.
OPEN	>560K	Off	No	No	Int.	Int.	Int.
10	470K	On	Yes	Yes	Int.	Int.	Int.
9	180K	On	Yes	Yes	Int.	Int.	Ext.
8	100K	On	Yes	Yes	Int.	Ext.	Int.
7	68K	On	Yes	Yes	Int.	Ext.	Ext.
6	47K	On	Yes	Yes	Ext.	Int.	Int.
5	33K	On	Yes	Yes	Ext.	Int.	Ext.
4	22K	On	Yes	Yes	Ext.	Ext.	Int.
3	12K	On	Yes	Yes	Ext.	Ext.	Ext.
2	5K6	SW	SW	SW	SW	SW	SW
1	<1K5	HW	HW	HW	HW	HW	HW

Explanation to abbreviations :

R	=	Resistor code.
R VAL.	=	Resistor value in ohms.
PWR	=	External power supply to accessories.
E. PTT	=	External "push to talk" switch.
E. TONE	=	External tone switch.
ANT.	=	Antenna, internal or external antenna.
LS	=	Loudspeaker, internal or external loudspeaker.
MIC.	=	Microphone, internal or external microphone.
Int.	=	Internal.
Ext.	=	External.
SW	=	Software.
HW	=	Hardware.

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

9.1.2 Diagram



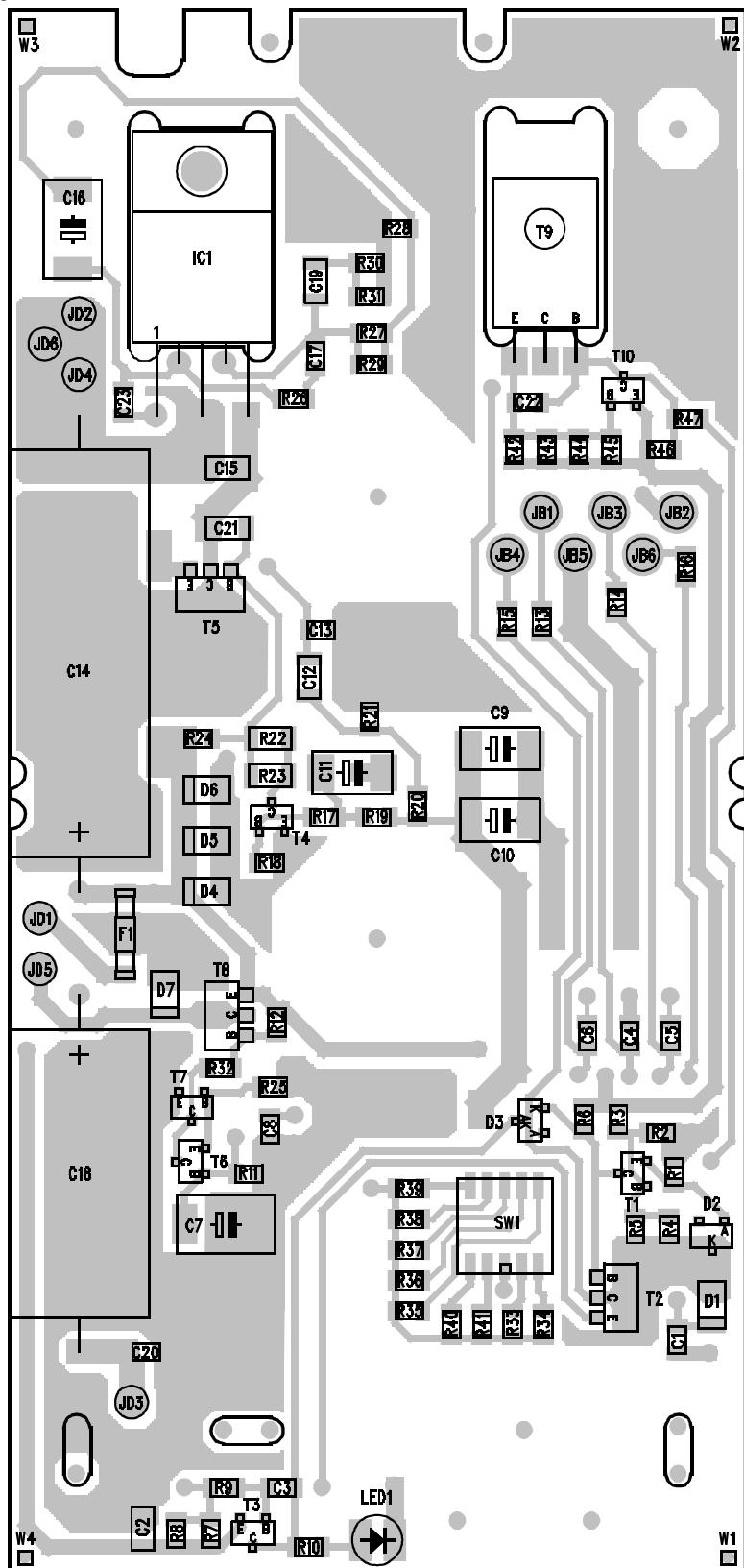
DC voltages are measured with 10Mohm instrument.

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 17-2-93	SIGN: JNC	1	NIROS TELECOMMUNICATION A/S
DATE: 17-5-93	SIGN: JNC	2	HØJMARKEN 5, 3520
DATE: 7-1-94	SIGN: JNC	3	
DATE: 22-1-97	SIGN: JNC	4	
DATE:	SIGN:		Vehicle adaptor CH105
DATE:	SIGN:		
DRAWING NO: 0-9611-03-4			PCB NO: 719-3 UNIT NO: 5752

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

9.1.3 Componentside

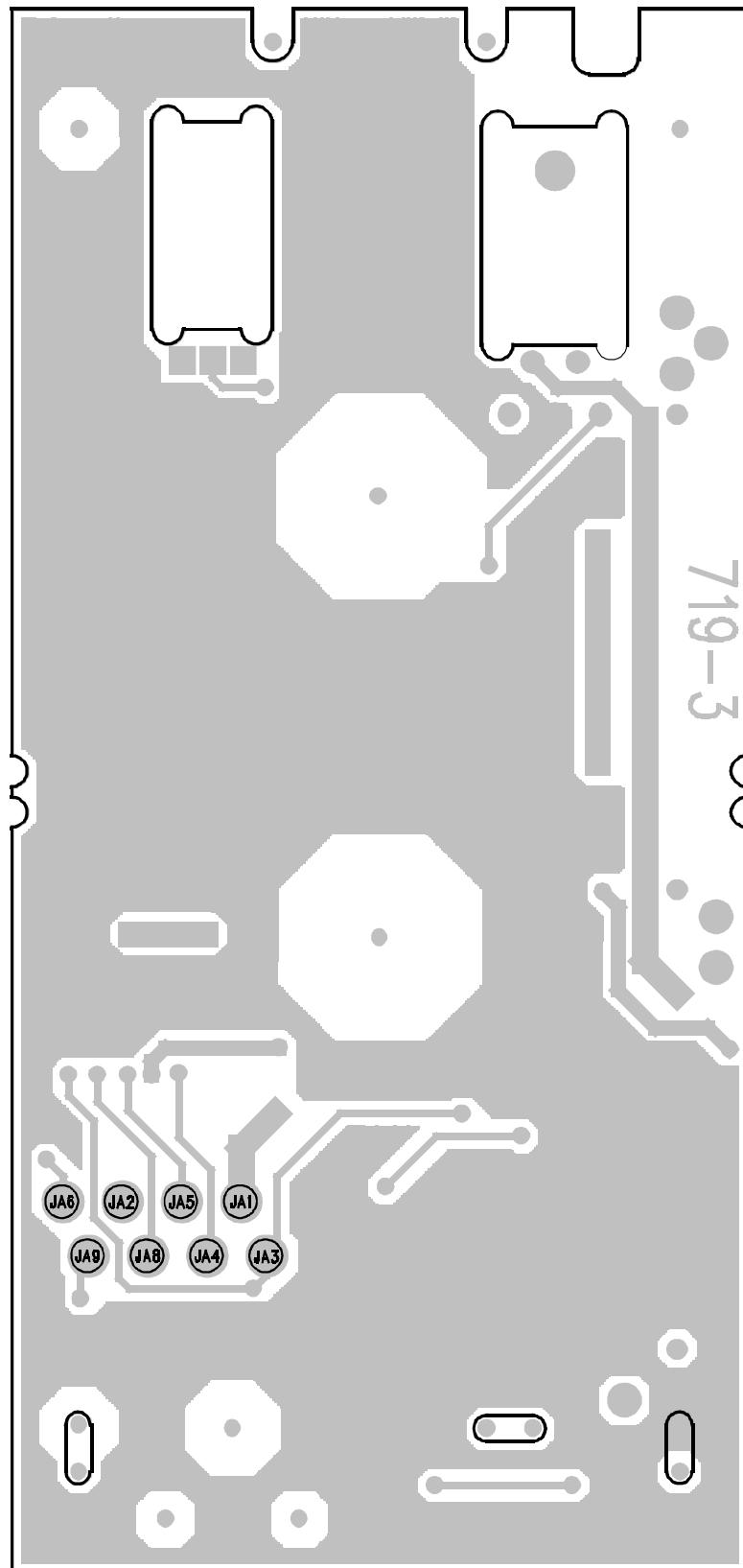


Componentside 719–3

SUBJECT1 TO CHANGE WITHOUT NOTICE		
DATE: 17-2-93	SIGN: JNC	1
DATE: 17-5-93	SIGN: JNC	2
DATE: 7-1-94	SIGN: JNC	3
DATE: 22-1-97	SIGN: JNC	4
DATE:	SIGN:	
DATE:	SIGN:	
DRAWING NO: 0-9811-03-4		NIROS TELECOMMUNICATION A/S HØSEMARKEN 5, 3820
		Vehicle adaptor CH105
		PCB NO: 719-3 UNIT NO: 5752

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

9.1.4 Wiringside



Wiringside 719-3

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 17-2-93	SIGN: JNC	1	NIROS TELECOMMUNICATION A/S
DATE: 17-5-93	SIGN: JNC	2	HØRSEMARKEN 5, 3520
DATE: 7-1-94	SIGN: JNC	3	
DATE: 22-1-97	SIGN: JNC	4	
DATE:	SIGN:		Vehicle adaptor CH105
DATE:	SIGN:		
DRAWING NO: 0-9611-04-4			PCB NO: 719-3 UNIT NO: 5752

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

9.1.5 Partlist

PARTLIST FOR Vehicle adaptor CH105 DRAWING NO. 0-9611-03-4			DATE 16-1-97	UNIT NO. 5752
Component	Description	Value	Niros No.	
R1	Resistor,chip805	2,2 Kohm	13222	
R2	Resistor,chip805	180 Kohm	13184	
R3	Resistor,chip805	2,2 Mohm	13225	
R4	Resistor,chip805	560 Kohm	13564	
R5	Resistor,chip805	560 Kohm	13564	
R6	Resistor,chip805	10 Kohm	13103	
R7	Resistor,chip805	18 Ohm	13180	
R8	Resistor,chip805	18 Ohm	13180	
R9	Resistor,chip805	2,2 Kohm	13222	
R10	Resistor,chip805	3,3 Kohm	13332	
R11	Resistor,chip805	470 Kohm	13474	
R12	Resistor,chip805	10 Kohm	13103	
R13	Resistor,chip805	100 Ohm	13101	
R14	Resistor,chip805	100 Ohm	13101	
R15	Resistor,chip805	100 Ohm	13101	
R16	Resistor,chip805	100 Ohm	13101	
R17	Resistor,chip805	2,2 Kohm	13222	
R18	Resistor,chip805	10 Kohm	13103	
R19	Resistor,chip805	2,2 Kohm	13222	
R20	Resistor,chip805	22 Kohm	13223	
R21	Resistor,chip805	470 Ohm	13471	
R22	Resistor,chip1206	820 Ohm	12821	
R23	Resistor,chip1206	820 Ohm	12821	
R24	Resistor,chip805	10 Kohm	13103	
R25	Resistor,chip805	470 Kohm	13474	
R26	Resistor,chip805	100 Ohm	13101	
R27	Resistor,chip805	470 Ohm	13471	
R28	Resistor,chip805	2,2 Ohm	13229	
R29	Resistor,chip805	470 Ohm	13471	
R30	Resistor,chip805	2,2 Ohm	13229	
R31	Resistor,chip805	2,2 Ohm	13229	
R32	Resistor,chip805	2,7 Kohm	13272	
R33	Resistor,chip805	470 Kohm	13474	
R34	Resistor,chip805	180 Kohm	13184	
R35	Resistor,chip805	100 Kohm	13104	
R36	Resistor,chip805	68 Kohm	13683	
R37	Resistor,chip805	47 Kohm	13473	
R38	Resistor,chip805	33 Kohm	13333	
R39	Resistor,chip805	22 Kohm	13223	
R40	Resistor,chip805	12 Kohm	13123	
R41	Resistor,chip805	5,6 Kohm	13562	
R42	Resistor,chip805	5,6 Ohm	13569	
R43	Resistor,chip805	5,6 Ohm	13569	
R44	Resistor,chip805	5,6 Ohm	13569	
R45	Resistor,chip805	5,6 Ohm	13569	

p. 1 of 3

PC. Board No. 719-3

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

PARTLIST FOR Vehicle adaptor CH105
DRAWING NO. 0-9611-03-4

DATE 16-1-97
UNIT NO. 5752

Component	Description	Value	Niros No.
R46	Resistor,chip805	4,7 Kohm	13472
R47	Resistor,chip805	1 Kohm	13102
C1	Capacitor,chip805	1 nF	20603
C2	Capacitor,chip1206	100 nF	20632
C3	Capacitor,chip805	1 nF	20603
C4	Capacitor,chip805	1 nF	20603
C5	Capacitor,chip805	1 nF	20603
C6	Capacitor,chip805	1 nF	20603
C7	Capacitor,chiptantal	10 uF/16V	25614
C8	Capacitor,chip805	1 nF	20603
C9	Capacitor,chiptantal	68 uF/6V3	25618
C10	Capacitor,chiptantal	68 uF/6V3	25618
C11	Capacitor,chiptantal	10 uF/16V	25614
C12	Capacitor,chip1206	100 nF	20632
C13	Capacitor,chip805	1 nF	20603
C14	Capacitor,lyt	470 uF/40V	26024
C15	Capacitor,chip1206	100 nF	20632
C16	Capacitor,chiptantal	220 uF/6V3	25620
C17	Capacitor,chip805	47 nF	20653
C18	Capacitor,lyt	470 uF/16V	26005
C19	Capacitor,chip1206	100 nF	20632
C20	Capacitor,chip805	1 nF	20603
C21	Capacitor,chip1206	100 nF	20632
C22	Capacitor,chip805	1 nF	20603
C23	Capacitor,chip805	1 nF	20603
F1	Filter	4N7	75906
T1	Transistor	BCW60D	40156
T2	Transistor	BC869-25	40185
T3	Transistor	BCW61D	40157
T4	Transistor	BCW60D	40156
T5	Transistor	BC869-25	40185
T6	Transistor	BCW60D	40156
T7	Transistor	BCW60D	40156
T8	Transistor	BC869-25	40185
T9	Transistor	BD438	40164
T10	Transistor	BCW61D	40157
D1	Diode	BYD17D	45176
D2	Diode, zener	BZX84C6V8	41234
D3	Diode	BAV99	45148
D4	Diode	BYD17D	45176

p. 2 of 3

PC. Board No. 719-3

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

PARTLIST FOR Vehicle adaptor CH105
 DRAWING NO. 0-9611-03-4

DATE 16-1-97
 UNIT NO. 5752

Component	Description	Value	Niros No.
D5	Diode	BYD17D	45176
D6	Diode	BYD17D	45176
D7	Diode	BYD17D	45176
LED1	Light diode	RED	45151
IC1	Integrated circuit	TDA2003H	46283
SW1	Switch		81203
	Cord	1.75 pcs	82081
	Wire 0.127mm brown	0.12 pcs	82111
	Wire 0.127mm grey	0.06 pcs	82112
	Wire 0.127mm red	0.06 pcs	82113
	Wire 0.127mm yellow	0.12 pcs	82114
	Wire 0.127mm green	0.12 pcs	82115
	Wire 0.127mm blue	0.12 pcs	82116
	Wire 0.127mm orange	0.12 pcs	82118
	Wire 0.127mm white	0.06 pcs	82119
	Gummet	1 pcs	82941
	Bnc connector	1 pcs	83111
	Fuse	1 pcs	83141
	Fuseholder	1 pcs	83167
	Socket hirose	1 pcs	83201
	Connector pin	9 pcs	83324
	Mica washer	1 pcs	85183
	Header	1 pcs	91332
	Nut m3	4 pcs	92405
	Screw m3x8 phj	2 pcs	92415
	Wather 3,2x7,0x0,5	1 pcs	92425
	Spring washer m3 hfc	3 pcs	92452
	Pc. board no. 719-3	1 pcs	95719
	Cable relief	1 pcs	97333
	Nut bnc	1 pcs	97782
	Pin retention for tower	1 pcs	97890
	Tower	1 pcs	98000
	Chassis	1 pcs	98003
	Coax cable	1 pcs	182526

p. 3 of 3

PC. Board No. 719-3

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	29-07-98	0	PA

9.2 Vehicle adaptor CH105B

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-02-03	0	PA

9.2.1 Programming table for Autocassette CH105B.

9.2.1.1 Internal/External control.

The coding of internal/external loudspeaker, microphone and antenna can be programmed in the software to fixed adjustments, or can be programmed to "external coding". A resistor, R33 to R41, regulates the "external coding" in the vehicle adaptor. The desired resistor value can be selected by moving a jumper, NIROS no. 83331, on the pin row, JU1.

At delivery from NIROS the jumper is mounted on pos. 7 at R36 = 68 Kohm.

INT./EXT. AUTO CONTROL

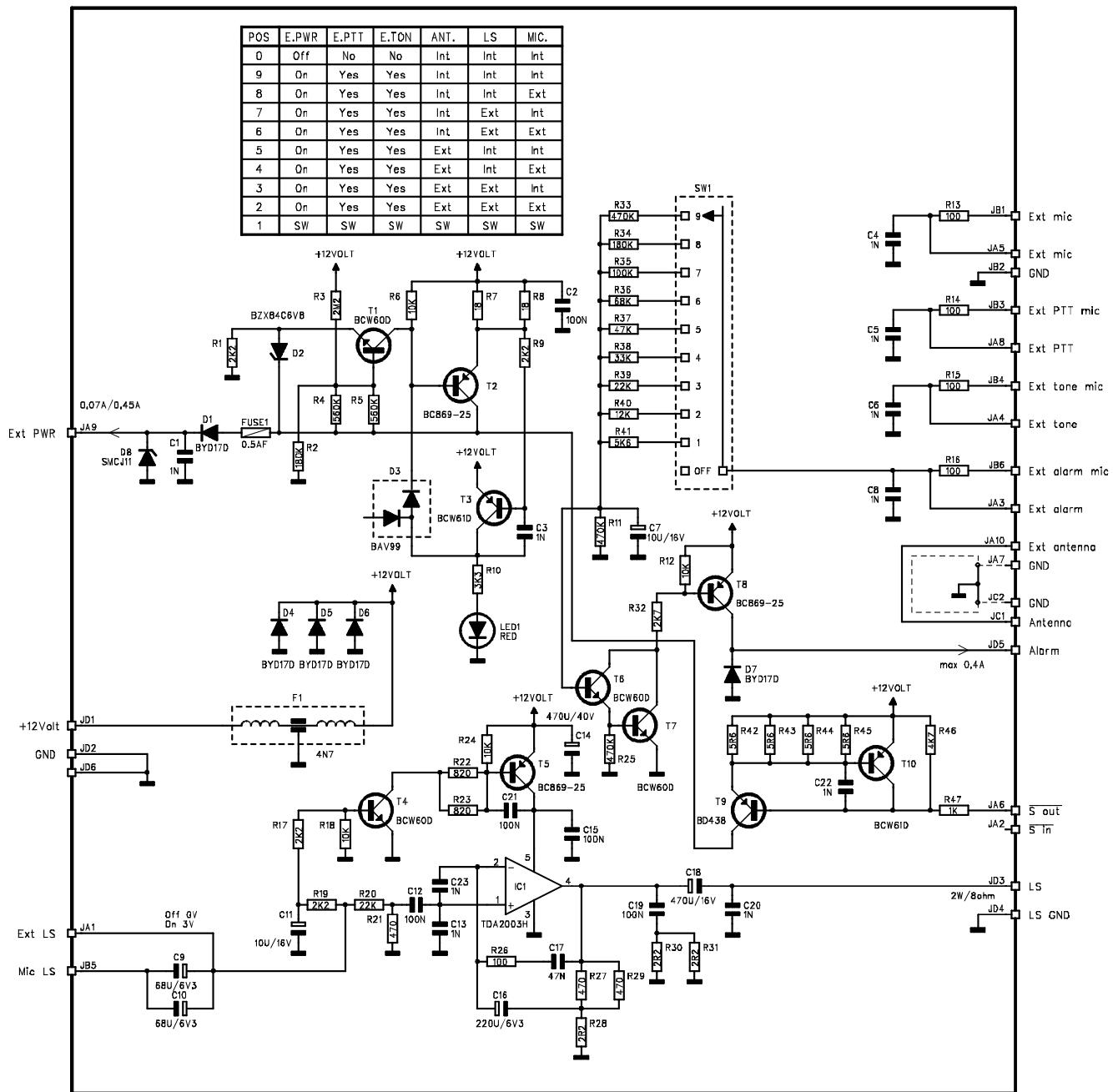
POS.	R VAL.	E. PWR	E. PTT	E. TONE	ANT.	LS	MIC.
OPEN	>560K	Off	No	No	Int.	Int.	Int.
10	470K	On	Yes	Yes	Int.	Int.	Int.
9	180K	On	Yes	Yes	Int.	Int.	Ext.
8	100K	On	Yes	Yes	Int.	Ext.	Int.
7	68K	On	Yes	Yes	Int.	Ext.	Ext.
6	47K	On	Yes	Yes	Ext.	Int.	Int.
5	33K	On	Yes	Yes	Ext.	Int.	Ext.
4	22K	On	Yes	Yes	Ext.	Ext.	Int.
3	12K	On	Yes	Yes	Ext.	Ext.	Ext.
2	5K6	SW	SW	SW	SW	SW	SW
1	<1K5	HW	HW	HW	HW	HW	HW

Explanation to abbreviations :

R	=	Resistor code.
R VAL.	=	Resistor value in ohms.
PWR	=	External power supply to accessories.
E. PTT	=	External "push to talk" switch.
E. TONE	=	External tone switch.
ANT.	=	Antenna, internal or external antenna.
LS	=	Loudspeaker, internal or external loudspeaker.
MIC.	=	Microphone, internal or external microphone.
Int.	=	Internal.
Ext.	=	External.
SW	=	Software.
HW	=	Hardware.

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-02-03	0	PA

9.2.2 Diagram



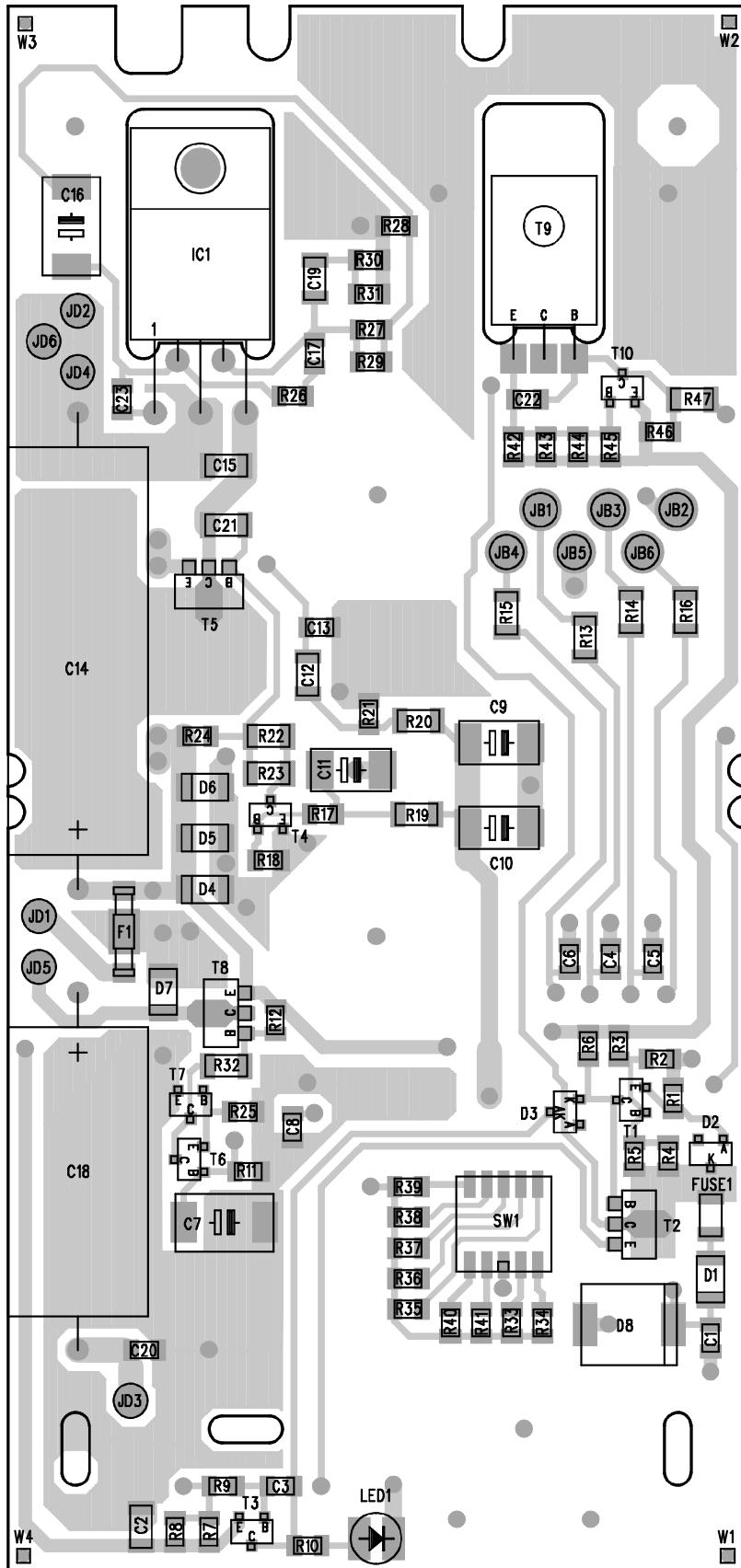
DC voltages are measured with 10Mohm instrument.

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 12-2-03	Sign: PH	0	NIROS TELECOMMUNICATION A/S Hirsemarken 5, 3520 Forum	Vehicle adaptor CH105B
Date:	Sign:			
Drawing No.: 0-9715-03-0			PC. Board No.: 719-4	Unit No.: 7352

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-02-03	0	PA

9.2.3 Componentside



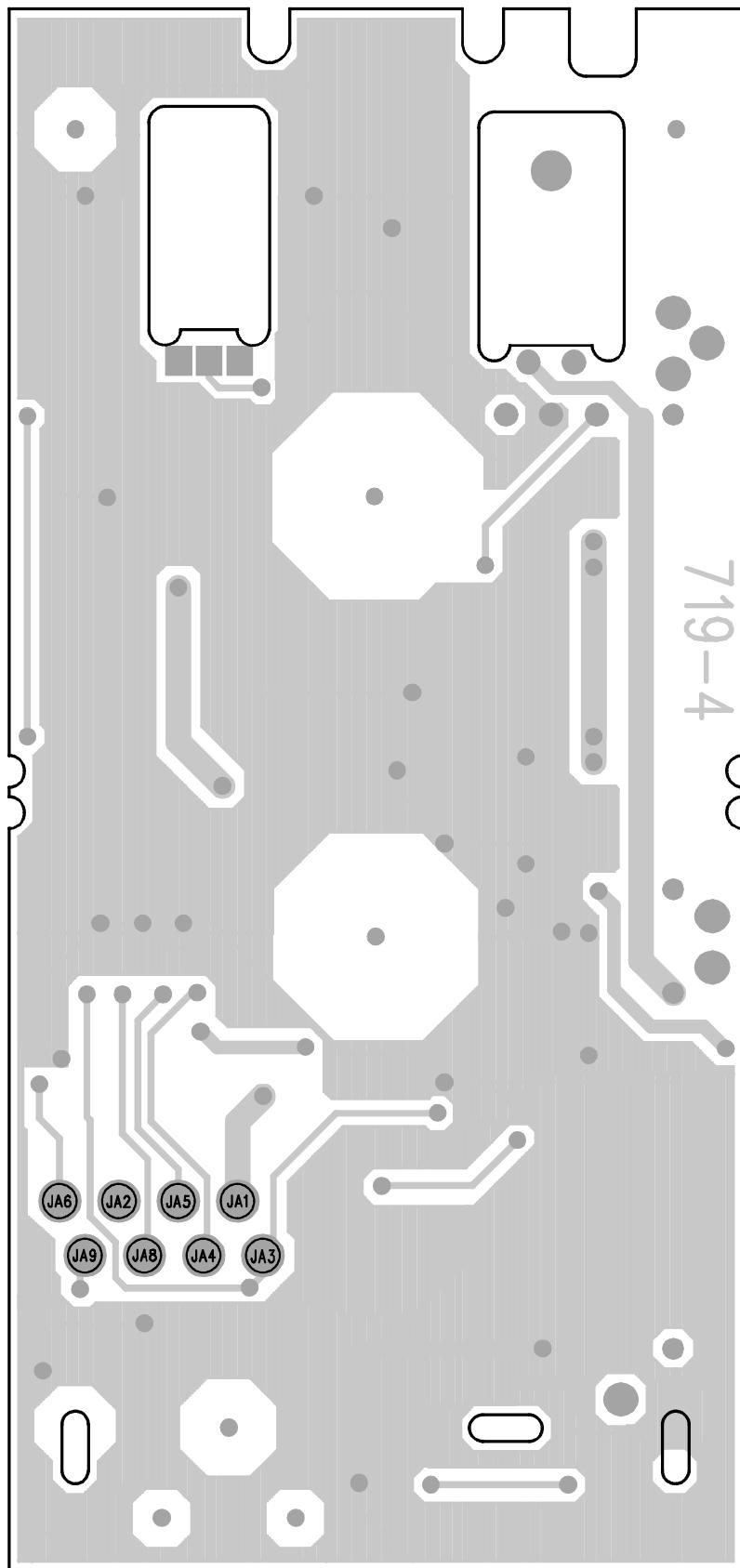
Componentside 719-4

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 12-2-03	Sign: PH	0	NIROS TELECOMMUNICATION A/S	Vehicle adaptor CH105B
Date:	Sign:		Hirsemarken 5, 3520 Forum	
Drawing No.: 0-9715-05-0	PC. Board No.:	719-4	Unit No.:	7352

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-02-03	0	PA

9.2.4 Wiringside



Wiringside 719-4

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 12-2-03	Sign: PH	0	NIROS TELECOMMUNICATION A/S Hirsemarken 5, 3520 Forum	Vehicle adaptor CH105B
Date:	Sign:			
Drawing No.: 0-9715-04-0			PC. Board No.: 719-4	Unit No.: 7352

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-02-03	0	PA

9.2.5 Partlist

Partlist for Vehicle adaptor CH105B Drawing No. 0-9715-03-0		Date 10-2-03 Unit No. 7352	
Component	Description	Value	Niros No.
R1	Resistor, chip805	2,2 Kohm	13222
R2	Resistor, chip805	180 Kohm	13184
R3	Resistor, chip805	2,2 Mohm	13225
R4	Resistor, chip805	560 Kohm	13564
R5	Resistor, chip805	560 Kohm	13564
R6	Resistor, chip805	10 Kohm	13103
R7	Resistor, chip805	18 Ohm	13180
R8	Resistor, chip805	18 Ohm	13180
R9	Resistor, chip805	2,2 Kohm	13222
R10	Resistor, chip805	3,3 Kohm	13332
R11	Resistor, chip805	470 Kohm	13474
R12	Resistor, chip805	10 Kohm	13103
R13	Resistor, chip1206	100 Ohm	12101
R14	Resistor, chip1206	100 Ohm	12101
R15	Resistor, chip1206	100 Ohm	12101
R16	Resistor, chip1206	100 Ohm	12101
R17	Resistor, chip805	2,2 Kohm	13222
R18	Resistor, chip805	10 Kohm	13103
R19	Resistor, chip1206	2,2 Kohm	12222
R20	Resistor, chip1206	22 Kohm	12223
R21	Resistor, chip805	470 Ohm	13471
R22	Resistor, chip1206	820 Ohm	12821
R23	Resistor, chip1206	820 Ohm	12821
R24	Resistor, chip805	10 Kohm	13103
R25	Resistor, chip805	470 Kohm	13474
R26	Resistor, chip805	100 Ohm	13101
R27	Resistor, chip805	470 Ohm	13471
R28	Resistor, chip805	2,2 Ohm	13229
R29	Resistor, chip805	470 Ohm	13471
R30	Resistor, chip805	2,2 Ohm	13229
R31	Resistor, chip805	2,2 Ohm	13229
R32	Resistor, chip1206	2,7 Kohm	12272
R33	Resistor, chip805	470 Kohm	13474
R34	Resistor, chip805	180 Kohm	13184
R35	Resistor, chip805	100 Kohm	13104
R36	Resistor, chip805	68 Kohm	13683
R37	Resistor, chip805	47 Kohm	13473
R38	Resistor, chip805	33 Kohm	13333
R39	Resistor, chip805	22 Kohm	13223
R40	Resistor, chip805	12 Kohm	13123
R41	Resistor, chip805	5,6 Kohm	13562
R42	Resistor, chip805	5,6 Ohm	13569
R43	Resistor, chip805	5,6 Ohm	13569
R44	Resistor, chip805	5,6 Ohm	13569
R45	Resistor, chip805	5,6 Ohm	13569

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PC. Board No. 719-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-02-03	0	PA

Partlist for Vehicle adaptor CH105B
Drawing No. 0-9715-03-0

Date 10-2-03
Unit No. 7352

Component	Description	Value	Niros No.
R46	Resistor,chip805	4,7 Kohm	13472
R47	Resistor,chip1206	1 Kohm	12102
C1	Capacitor,chip805	1 nF	20603
C2	Capacitor,chip1206	100 nF	20632
C3	Capacitor,chip805	1 nF	20603
C4	Capacitor,chip805	1 nF	20603
C5	Capacitor,chip805	1 nF	20603
C6	Capacitor,chip805	1 nF	20603
C7	Capacitor,ctan_c	10 uF/16V	25614
C8	Capacitor,chip805	1 nF	20603
C9	Capacitor,ctan_c	68 uF/6V3	25618
C10	Capacitor,ctan_c	68 uF/6V3	25618
C11	Capacitor,ctan_c	10 uF/16V	25614
C12	Capacitor,chip1206	100 nF	20632
C13	Capacitor,chip805	1 nF	20603
C14	Capacitor,lyt	470 uF/40V	26024
C15	Capacitor,chip1206	100 nF	20632
C16	Capacitor,ctan_e	220 uF/6V3	25620
C17	Capacitor,chip805	47 nF	20653
C18	Capacitor,lyt	470 uF/16V	26005
C19	Capacitor,chip1206	100 nF	20632
C20	Capacitor,chip805	1 nF	20603
C21	Capacitor,chip1206	100 nF	20632
C22	Capacitor,chip805	1 nF	20603
C23	Capacitor,chip805	1 nF	20603
F1	Filter	4N7	75906
T1	Transistor	BCW60D	40156
T2	Transistor	BC869-25	40185
T3	Transistor	BCW61D	40157
T4	Transistor	BCW60D	40156
T5	Transistor	BC869-25	40185
T6	Transistor	BCW60D	40156
T7	Transistor	BCW60D	40156
T8	Transistor	BC869-25	40185
T9	Transistor	BD438	40164
T10	Transistor	BCW61D	40157
D1	Diode	BYD17D	45176
D2	Diode, zener	BZX84C6V8	41234
D3	Diode	BAV99	45148
D4	Diode	BYD17D	45176

p. 2 of 4

PC. Board No. 719-4

Partlist for Vehicle adaptor CH105B
Drawing No. 0-9715-03-0

Date 10-2-03
Unit No. 7352

Component	Description	Value	Niros No.
D5	Diode	BYD17D	45176
D6	Diode	BYD17D	45176
D7	Diode	BYD17D	45176
D8	Diode, zener	SMCJ11	45251
LED1	Light_diode	RED	45151
IC1	Integrated_circuit	TDA2003H	46283
SW1	Switch		81203
FUSE1	Fuse_chip1206	0.5AF	83453
	Cord	1.75 pcs	82081
	Wire_0.127mm_brown	0.12 pcs	82111
	Wire_0.127mm_grey	0.06 pcs	82112
	Wire_0.127mm_red	0.06 pcs	82113
	Wire_0.127mm_yellow	0.12 pcs	82114
	Wire_0.127mm_green	0.12 pcs	82115
	Wire_0.127mm_blue	0.12 pcs	82116
	Wire_0.127mm_orange	0.12 pcs	82118
	Wire_0.127mm_white	0.06 pcs	82119
	Gummert	1 pcs	82941
	Bnc_connector	1 pcs	83111
	Fuse	1 pcs	83141
	Fuseholder	1 pcs	83167
	Socket_hirose	1 pcs	83201
	Connector_pin	9 pcs	83324
	Mica_washer	1 pcs	85183
	Header	1 pcs	91332
	Nut_M3	4 pcs	92405
	Screw_M3X8_PHJ	2 pcs	92415
	Wather_3,2x7,0x0,5	1 pcs	92425
	Spring_washer_M3_HFC	3 pcs	92452
	Pc._board_no. 719-4	1 pcs	95719
	Cable_relief	1 pcs	97333
	Cabinet	1 pcs	97599
	Nut_bnc	1 pcs	97782
	Retention	1 pcs	97779
	Spacer	2 pcs	97780
	Pin_retention_for_tower	1 pcs	97890
	Tower	1 pcs	98000
	Chassis	1 pcs	98003
p. 3 of 4		PC. Board No. 719-4	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-02-03	0	PA

Partlist for Vehicle adaptor CH105B
Drawing No. 0-9715-03-0

Date 10-2-03
Unit No. 7352

Component	Description	Value	Niros No.
	Pcb_spacer Coax_cable	4 pcs 1 pcs	98004 182526

p. 4 of 4

PC. Board No. 719-4

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	12-02-03	0	PA

10. Installation accessories

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	30-07-98	0	PA

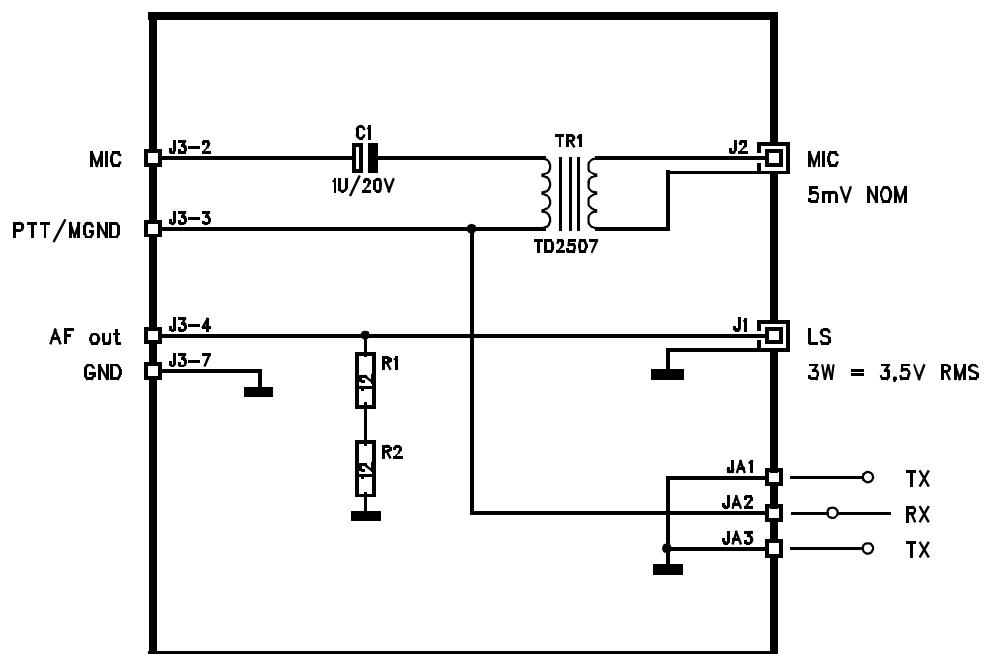
11. Testboxes

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	08-10-99	0	PA

11.1 Ext. Testbox for TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	08-10-99	0	PA

11.1.1 Diagram

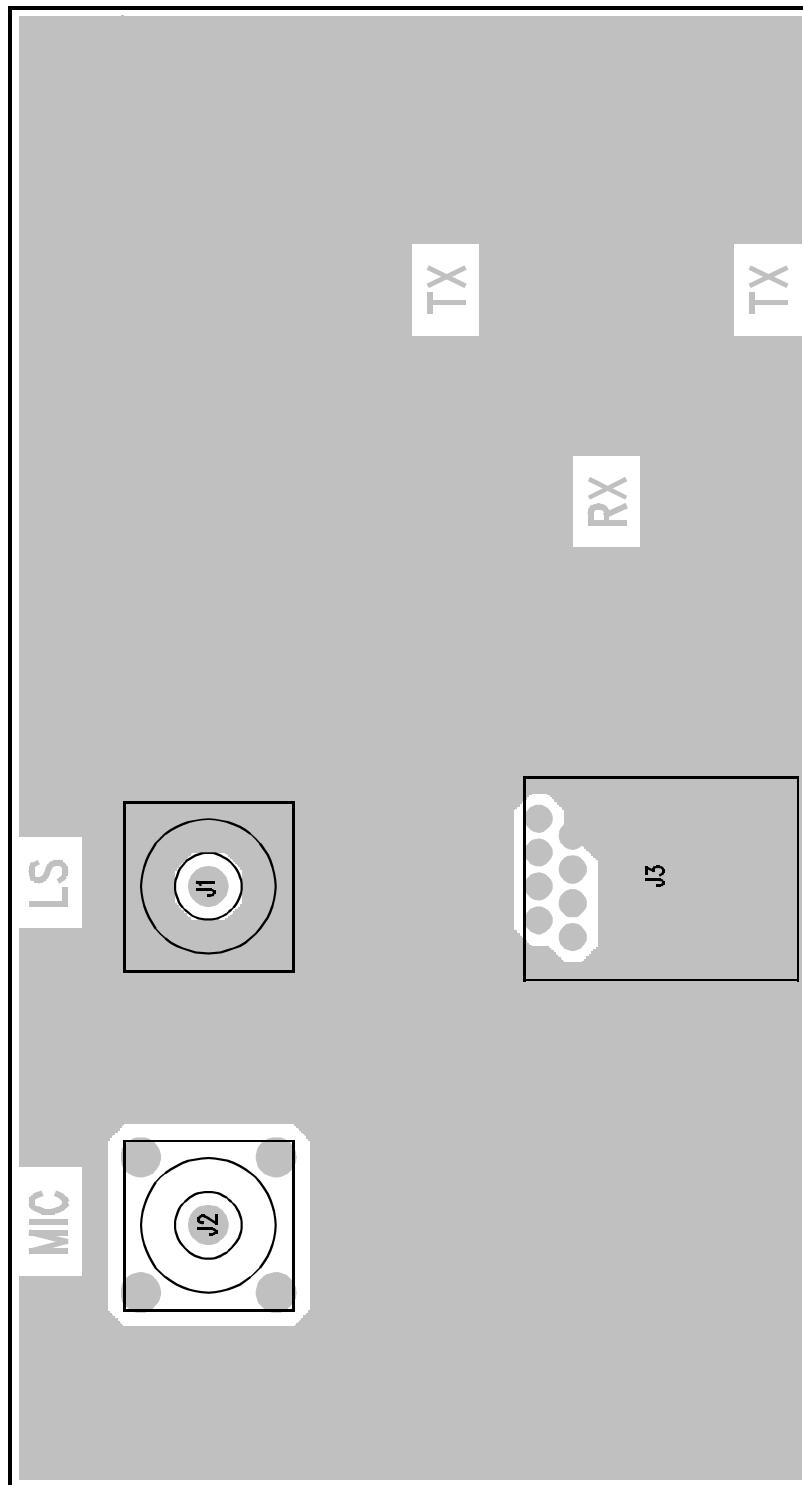


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 8-10-99	SIGN: EK	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		Ext. Testbox for TRX3001
DATE:	SIGN:		
DRAWING NO: O-5007-03-0			PCB NO: 7B5-O UNIT NO: 3090

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	08-10-99	0	PA

11.1.2 Componentside



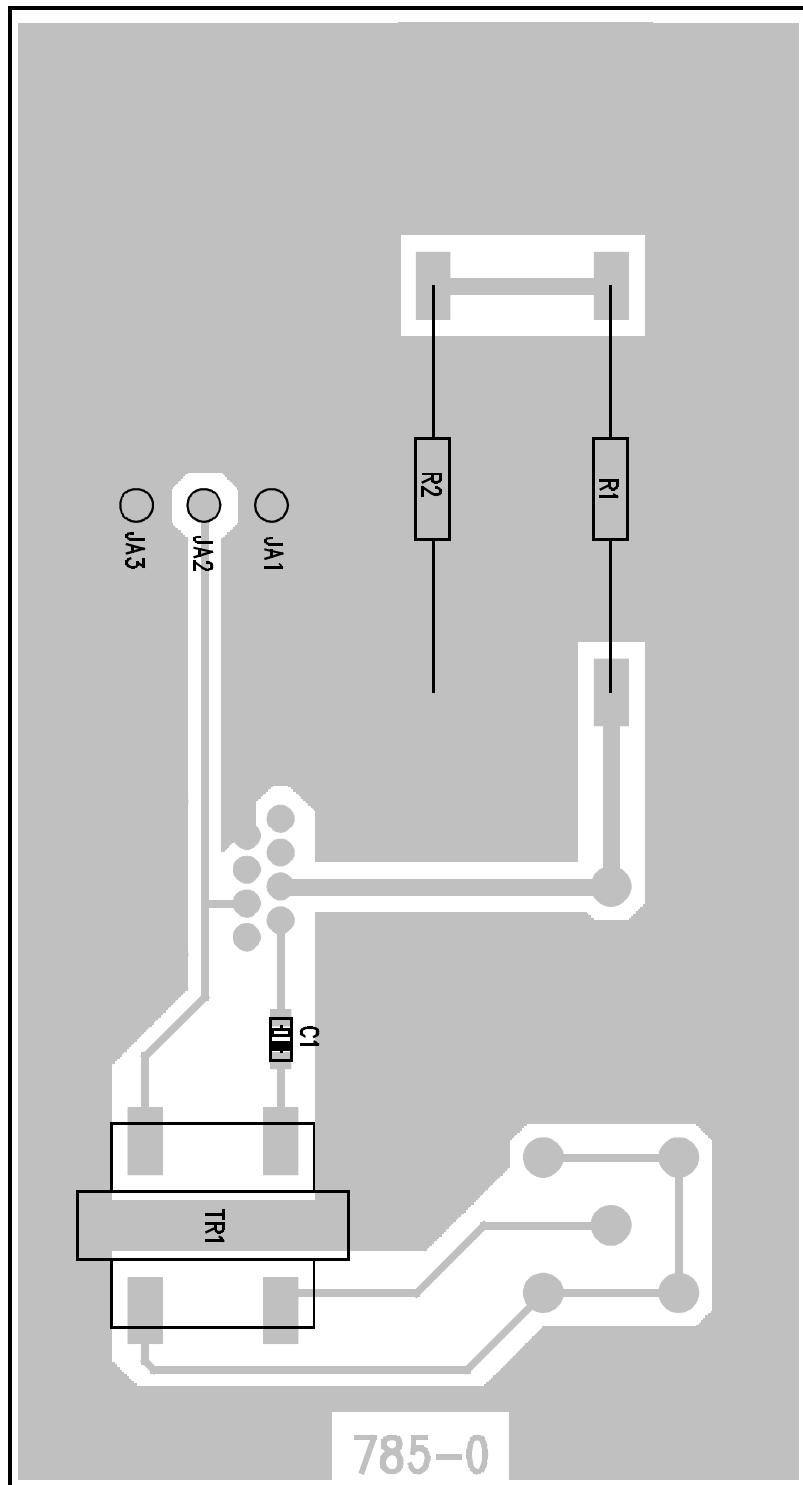
Componentside 785-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 08-10-99	SIGN: EK	0	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: 0-3007-05-0			Ext. Testbox for TRX3001
			PCB NO: 785-0 UNIT NO: 3090

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	08-10-99	0	PA

11.1.3 Wiringside



Wiringside 785-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 08-10-99	SIGN: EK	0	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DRAWING NO: 0-3007-04-D			Ext. Testbox for TRX3001
			PCB NO: 785-0 UNIT NO: 3090

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	08-10-99	0	PA

11.1.4 Partlist

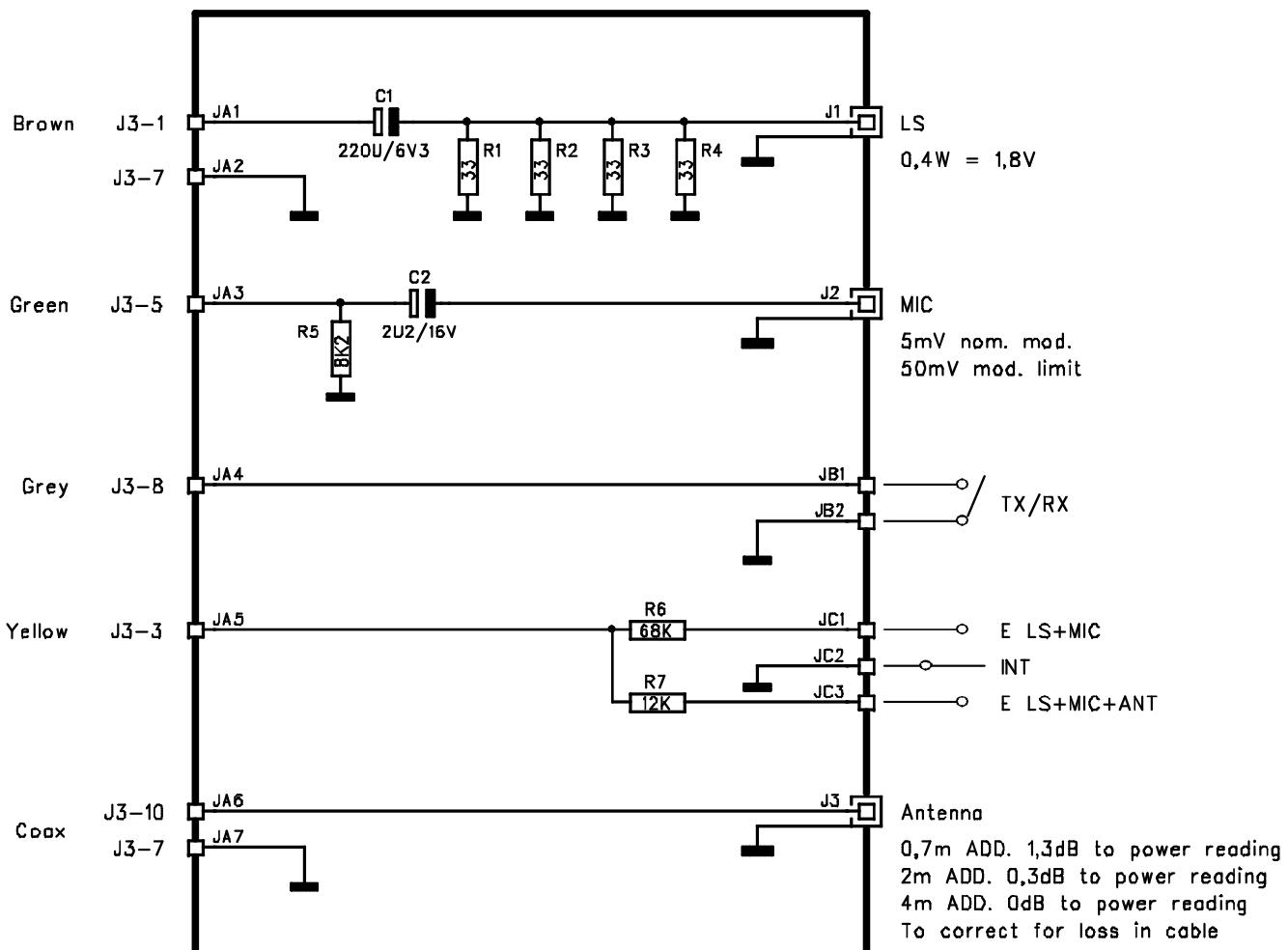
PARTLIST FOR Ext. Testbox for TRX3001 DRAWING NO. 0-3007-03-0			DATE 7-10-99 UNIT NO. 3090
Component	Description	Value	Niros No.
R1	Resistor, ac-07	12 Ohm	10613
R2	Resistor, ac-07	12 Ohm	10613
C1	Capacitor, ctan_a	1 uF/20V	25617
TR1	Trafo	TD2507	51101
J1	Connector_bnc		83343
J2	Connector_bnc		83343
J3	Connector_8pol		83368
	Switch	1 pcs	81199
	Cable	1 pcs	83380
	Pc_board_no.: 785-0	1 pcs	95785
	Box	1 pcs	98071
<hr/>			
p. 1 of 1	PC. Board No. 785-0		

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	08-10-99	0	PA

11.2 Ext. Testbox for TRX1001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-08-04	0	PA

11.2.1 Diagram

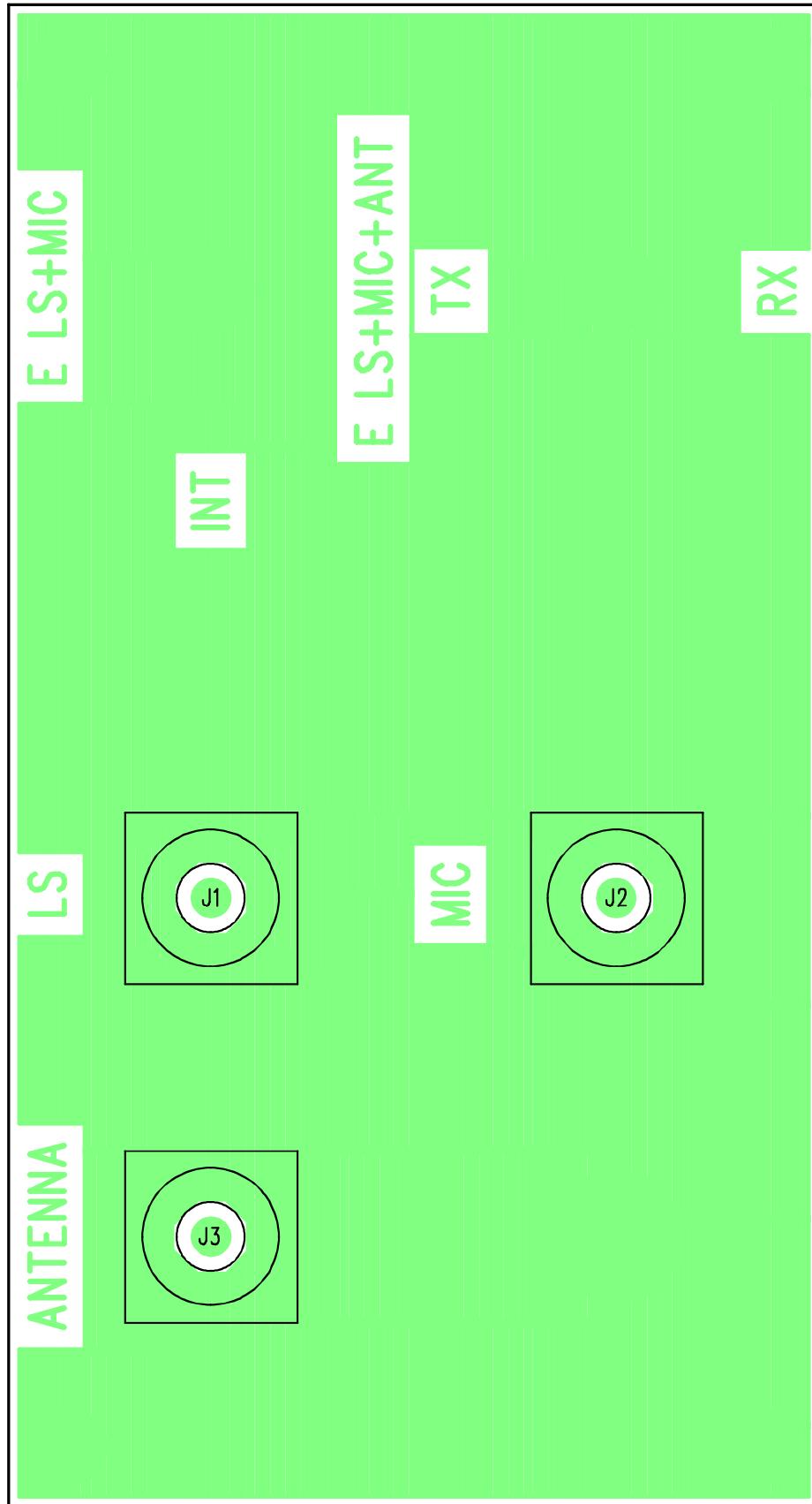


SUBJECT TO CHANGE WITHOUT NOTICE

D4-08-1995	Sign: PH	1	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Forum	Ext. Testbox for TRX1001
Date:	Sign:			
Drawing No.: 0-9636-03-1	PC. Board No.: 751-0		Unit No.: 5900	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-08-04	0	PA

11.2.2 Componentside



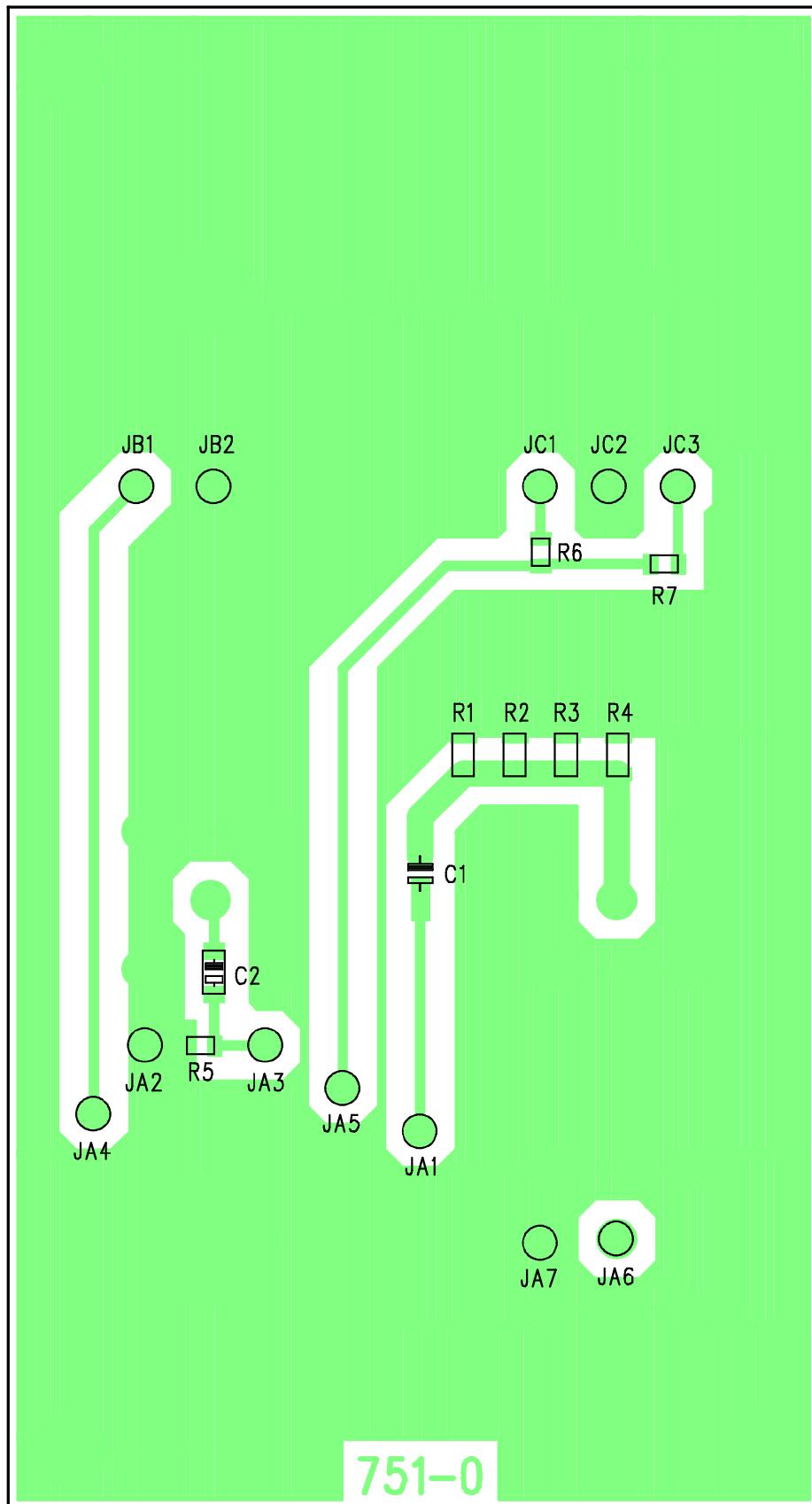
Componentside 751-0

SUBJECT TO CHANGE WITHOUT NOTICE

04-08-1995	Sign: PH	1	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Forum	Ext. Testbox for TRX1001
Date:	Sign:			
Drawing No.: 0-9636-05-1			PC. Board No.: 751-0	Unit No.: 5900

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-08-04	0	PA

11.2.3 Wiringside



Wiringside 751-0

SUBJECT TO CHANGE WITHOUT NOTICE

04-08-1995	Sign: PH	1	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Forum	Ext. Testbox for TRX1001
Date:	Sign:			
Drawing No.: 0-9636-04-1			PC. Board No.: 751-0	Unit No.: 590D

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-08-04	0	PA

11.2.4 Partlist

Partlist for Ext. Testbox for TRX1001 Drawing No. 0-9636-03-1		Date 04-08-1995	Unit No. 5900
Component	Description	Value	Niros No.
R1	Resistor, chip1206	33 Ohm	12330
R2	Resistor, chip1206	33 Ohm	12330
R3	Resistor, chip1206	33 Ohm	12330
R4	Resistor, chip1206	33 Ohm	12330
R5	Resistor, chip805	8,2 Kohm	13822
R6	Resistor, chip805	68 Kohm	13683
R7	Resistor, chip805	12 Kohm	13123
C1	Capacitor, lyt	220 uF/6V3	26023
C2	Capacitor, chiptantal	2,2 uF/16V	25613
J1	Connector_bnc		83343
J2	Connector_bnc		83343
J3	Connector_bnc		83343
	Switch	1 pcs	81198
	Switch	1 pcs	81199
	Connector	1 pcs	82088
	Cord_retention	1 pcs	91922
	Screw M3, 5X6 PHJ	4 pcs	92466
	Pc._board_no. 751-0	1 pcs	95751
	Box	1 pcs	98071
p. 1 of 1			
PC. Board No. 751-0			

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	24-08-04	0	PA

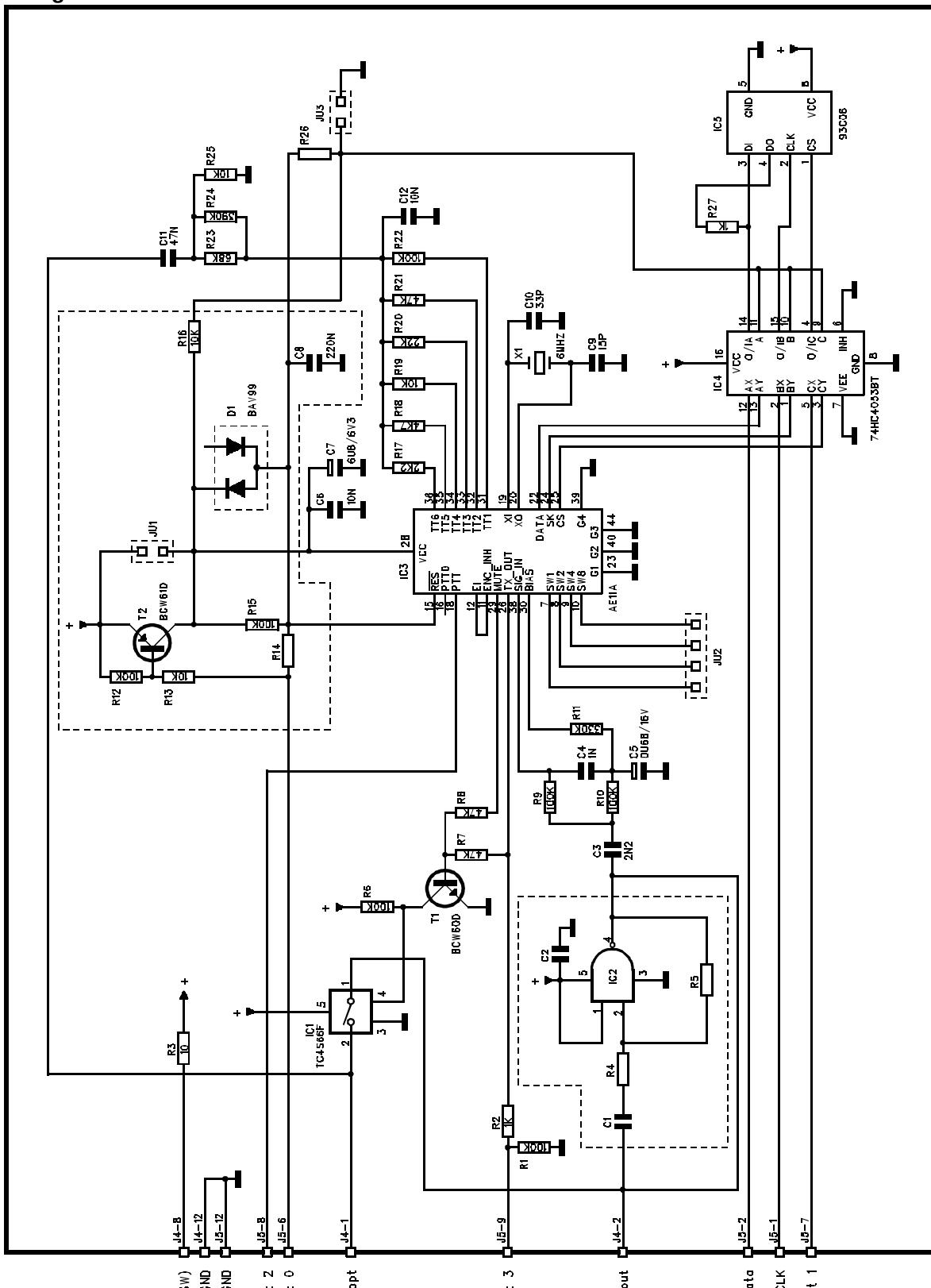
12. Option boards

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	16-12-99	0	PA

12.1 ATIS option board TRX1001/TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	16-12-99	0	PA

12.1.1 Diagram

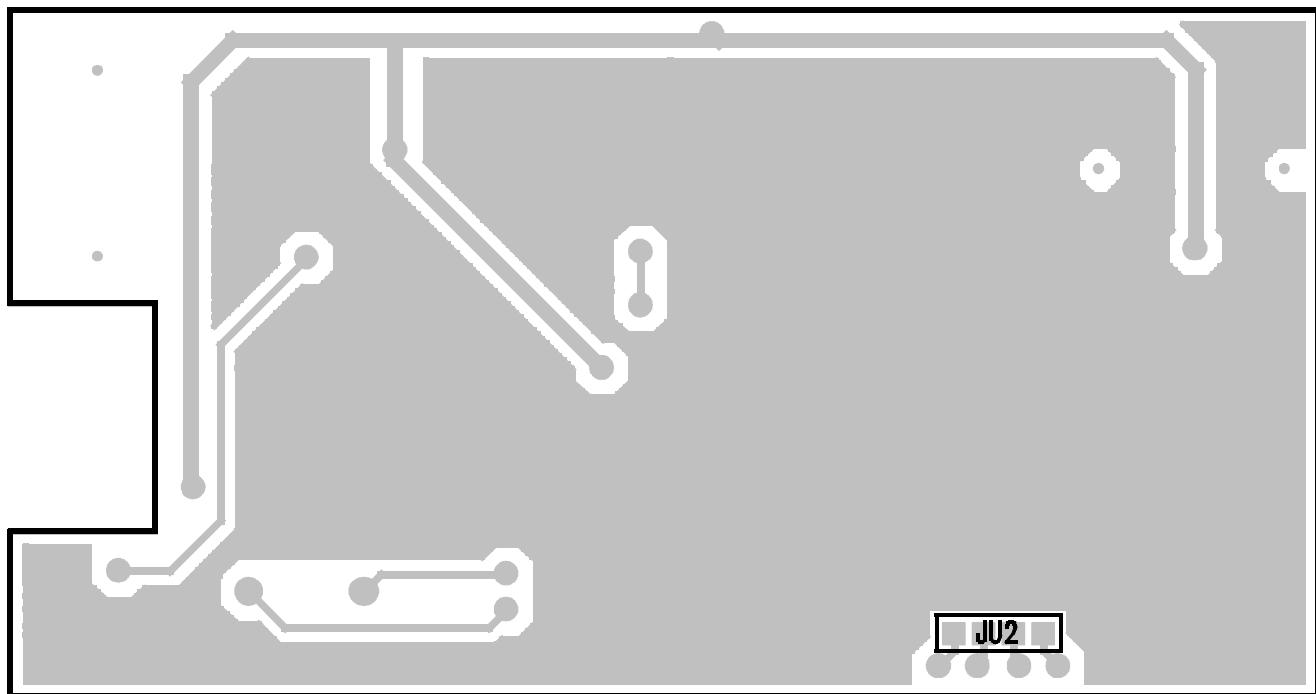


SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 9-1-96	SIGN: PA	1	NIROS TELECOMMUNICATION A/S
DATE:	SIGN:		HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		ATIS option board
DATE:	SIGN:		TRX1001/TRX3001
DATE:	SIGN:		
DRAWING NO: 0-0640-03-1			PCB NO: 761-0 UNIT NO: 5709

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	16-12-99	0	PA

12.1.2 Componentside



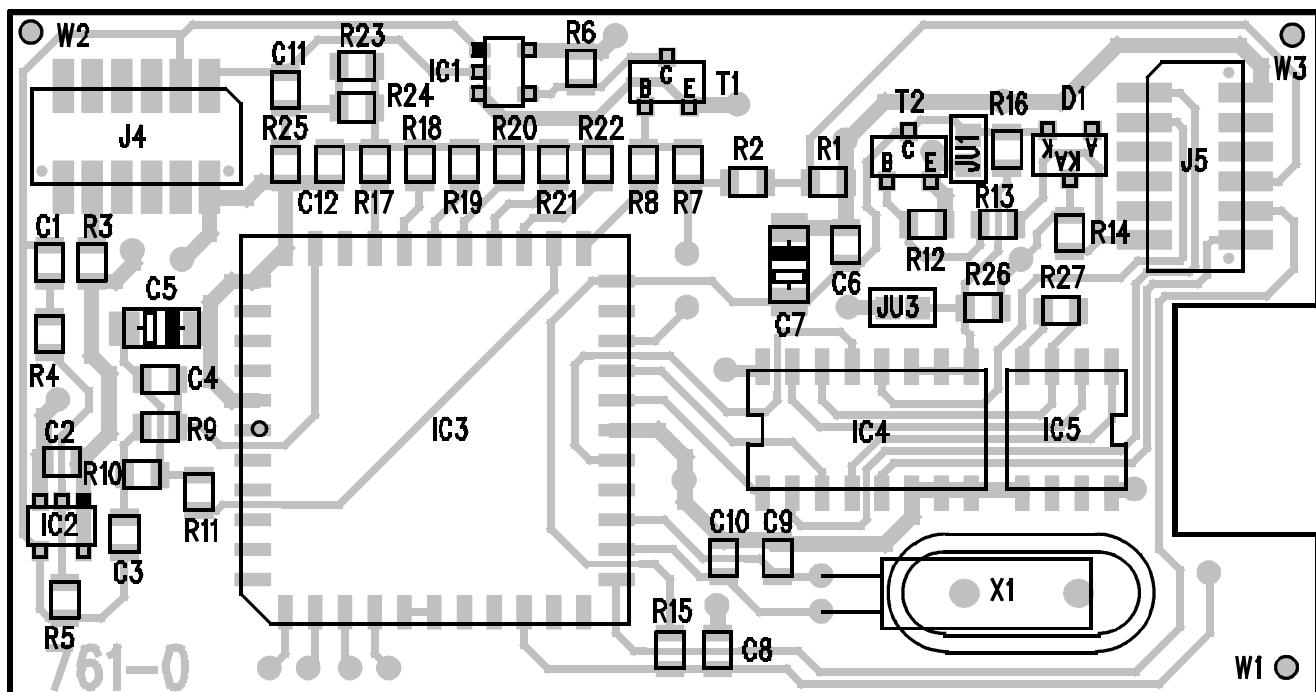
Componentside 761-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 9-1-96	SIGNE PA	1	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGNE		
DRAWING NO: 0-9840-05-1		PCB NO: 761-0	UNIT NO: 5709
			ATIS option board TRX1001/TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	16-12-99	0	PA

12.1.3 Wiringside



Wiringside 761-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 9-1-96	SIGN: PA	1	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		ATIS option board
DATE:	SIGN:		TRX1001/TRX3001
DRAWING NO: 0-0640-04-1			PCB NO: 761-0 UNIT NO: 5709

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	16-12-99	0	PA

12.1.4 Partlist

PARTLIST FOR ATIS option board TRX1001/TRX3001 DRAWING NO. 0-9640-03-1			DATE 9-1-96	UNIT NO. 5709
Component	Description	Value	Niros No.	
R1	Resistor, chip603	100 Kohm	14104	
R2	Resistor, chip603	1 Kohm	14102	
R3	Resistor, chip603	10 Ohm	14100	
R4	Resistor, chip603	Not used		
R5	Resistor, chip603	Not used		
R6	Resistor, chip603	100 Kohm	14104	
R7	Resistor, chip603	47 Kohm	14473	
R8	Resistor, chip603	47 Kohm	14473	
R9	Resistor, chip603	100 Kohm	14104	
R10	Resistor, chip603	100 Kohm	14104	
R11	Resistor, chip603	330 Kohm	14334	
R12	Resistor, chip603	100 Kohm	14104	
R13	Resistor, chip603	10 Kohm	14103	
R14	Resistor, chip603	Not used		
R15	Resistor, chip603	100 Kohm	14104	
R16	Resistor, chip603	10 Kohm	14103	
R17	Resistor, chip603	2,2 Kohm	14222	
R18	Resistor, chip603	4,7 Kohm	14472	
R19	Resistor, chip603	10 Kohm	14103	
R20	Resistor, chip603	22 Kohm	14223	
R21	Resistor, chip603	47 Kohm	14473	
R22	Resistor, chip603	100 Kohm	14104	
R23	Resistor, chip603	68 Kohm	14683	
R24	Resistor, chip603	390 Kohm	14394	
R25	Resistor, chip603	10 Kohm	14103	
R26	Resistor, chip603	Not used		
R27	Resistor, chip603	1 Kohm	14102	
C1	Capacitor, chip603	Not used		
C2	Capacitor, chip603	Not used		
C3	Capacitor, chip603	2,2 nF	21222	
C4	Capacitor, chip603	1 nF	21102	
C5	Capacitor, ctan_a	0,68 uF/16V	25611	
C6	Capacitor, chip603	10 nF	21103	
C7	Capacitor, ctan_a	6,8 uF/6V3	25616	
C8	Capacitor, chip603	220 nF	21224	
C9	Capacitor, chip603	15 pF	21150	
C10	Capacitor, chip603	33 pF	21330	
C11	Capacitor, chip603	47 nF	21473	
C12	Capacitor, chip603	10 nF	21103	
X1	Crystal	6 MHz	31193	

PARTLIST FOR ATIS option board TRX1001/TRX3001
 DRAWING NO. 0-9640-03-1

DATE 9-1-96
 UNIT NO. 5709

Component	Description	Value	Niros No.
T1	Transistor	BCW60D	40156
T2	Transistor	BCW61D	40157
D1	Diode	BAV99	45148
IC1	Integrated_circuit	TC4S66F	46250
IC2	Integrated_circuit	Not used	
IC3	Integrated_circuit	AE11A	46505
IC4	Integrated_circuit	74HC4053BT	46255
IC5	Integrated_circuit	93C06	46209
J4	Connector_12pol		83322
J5	Connector_12pol		83322
	Mylar Pc._board_no. 761-0	1 pcs 1 pcs	85311 95761

p. 2 of 2

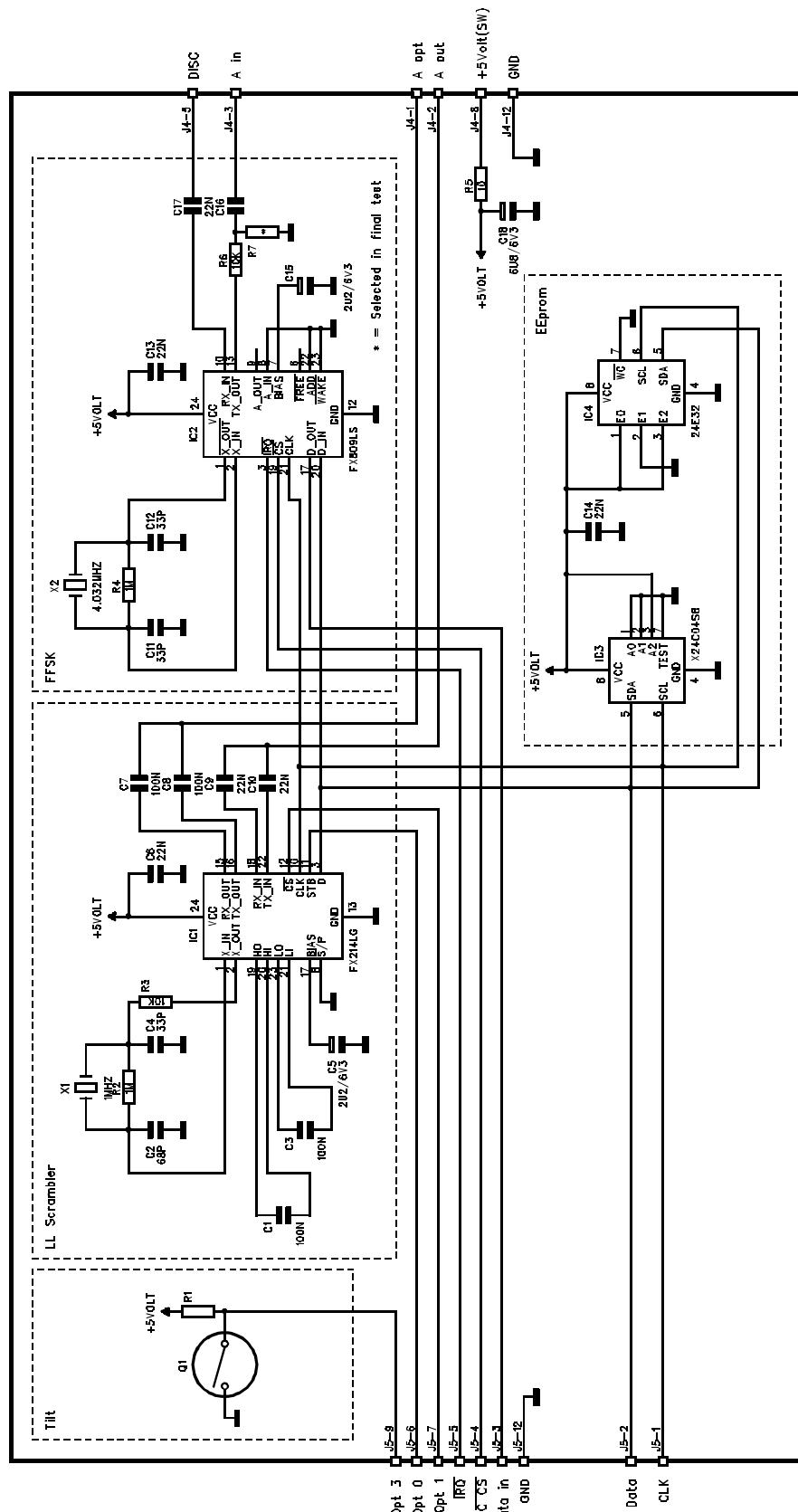
PC. Board No. 761-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	16-12-99	0	PA

12.2 LL Scrambler/FFSK/Tilt/EEprom TRX1001/TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	20-12-99	0	PA

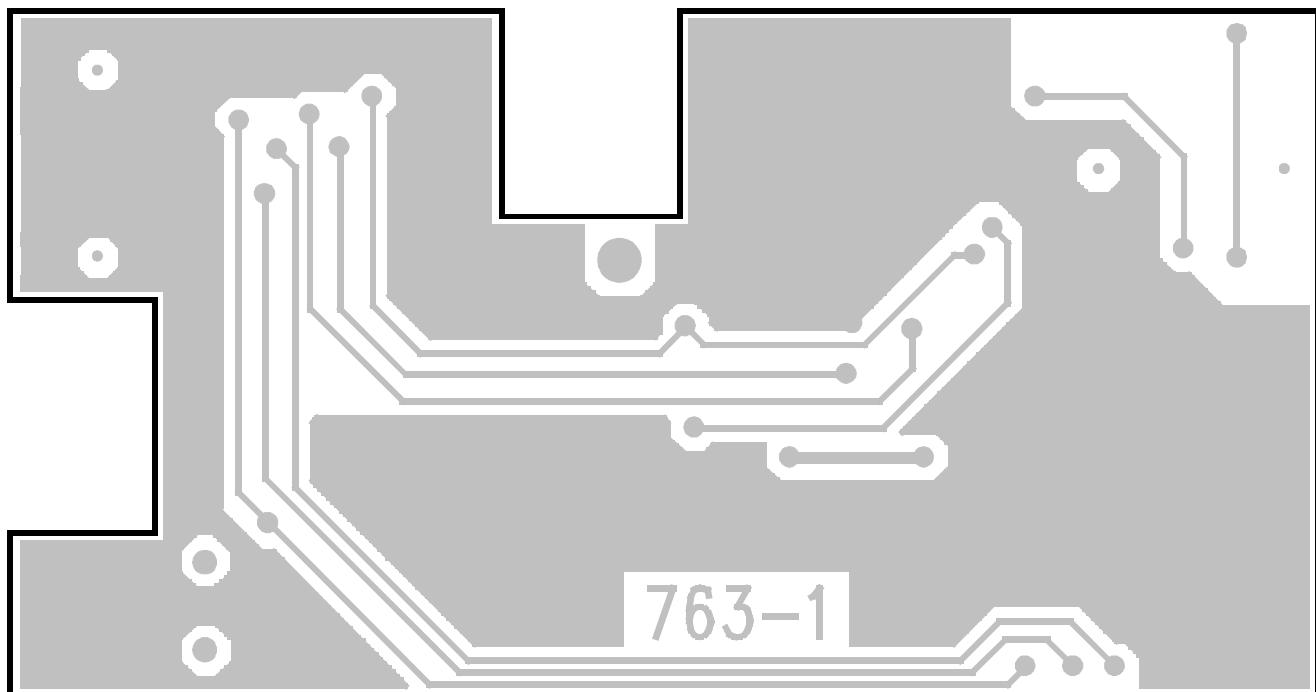
12.2.1 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE		LL Scrambler	UNIT ID: 5708
DATE: 12-1-96		SIGN: PA	0
DATE: 14-1-98		SIGN: PA	1
DATE:		SIGN:	
DRAWING NO: 0-9641-03-1		PCB NO: 763-1	
NIROS TELECOMMUNICATION A/S HØSEMARKEN 5, 3520 FARUM			
LL Scrambler / FFSK / Tilt / EEPROM option board TRX1001/TRX3001			

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	20-12-99	0	PA

12.2.2 Componentside

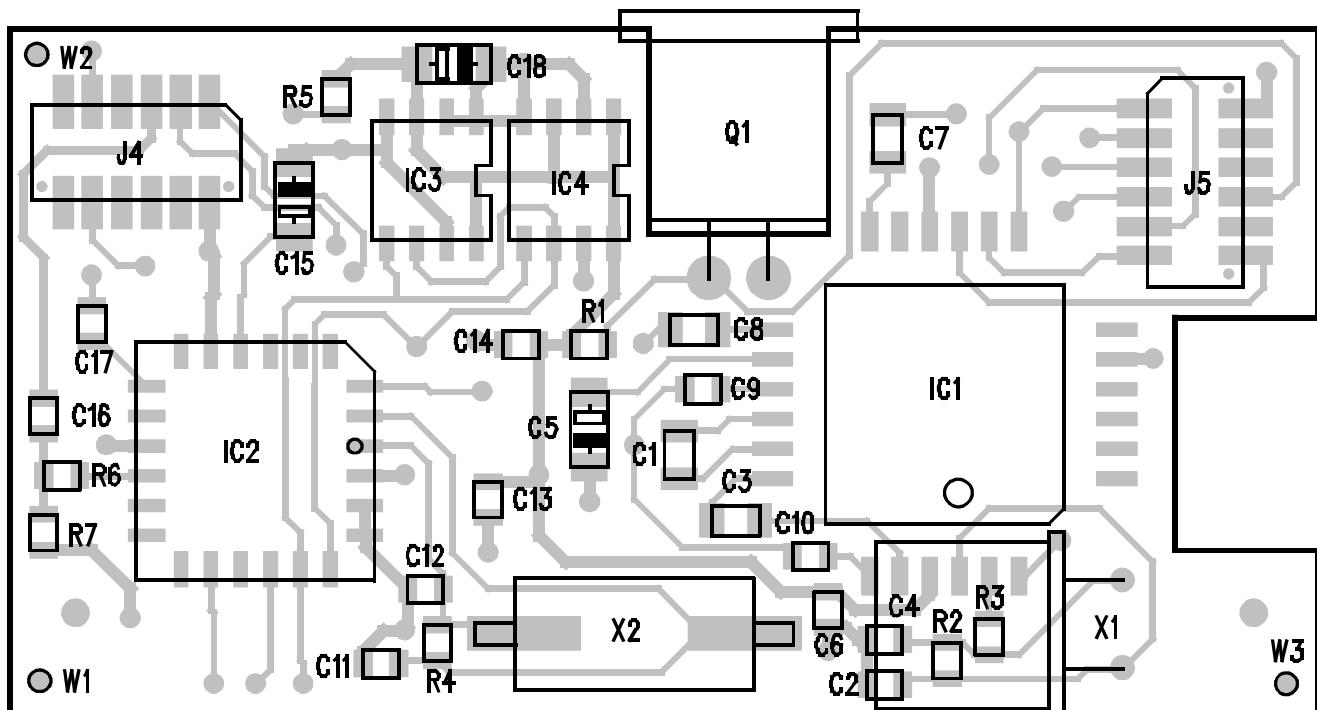


Componentside 763-1

SUBJECT TO CHANGE WITHOUT NOTICE		LL Scrambler UNIT NO: 5708 FFSK UNIT NO: 5707
DATE: 12-1-98	SIGN: PA	0
DATE: 14-1-98	SIGN: PA	1
DATE:	SIGN:	
DRAWING NO: 0-9841-05-1	PCB NO: 763-1	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	20-12-99	0	PA

12.2.3 Wiringside



Wiringside 763-1

SUBJECT TO CHANGE WITHOUT NOTICE			LL Scrambler UNIT NO: 5708	FFSK UNIT NO: 5707
DATE: 12-1-96	SIGN: PA	0	NIROS TELECOMMUNICATION A/S	
DATE: 14-1-98	SIGN: PA	1	HØRSEMAREN 5, 3520 FARUM	
DATE:	SIGN:			
DATE:	SIGN:		LL Scrambler / FFSK /	
DATE:	SIGN:		Tilt / EEPROM option board	
DATE:	SIGN:		TRX1001/TRX3001	
DRAWING NO: O-9841-04-1			PCB NO: 763-1	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	20-12-99	0	PA

12.2.4 Partlist

PARTLIST FOR LL Scrambler / FFSK option TRX1001 DRAWING NO. 0-9641-03-1				DATE 14-1-98 UNIT NO. 5708
Component	Description	Value	Niros No.	
	LL Scrambler option board FFSK option bard		5708 5707	
R1	Resistor,chip603		Not used	
R2	Resistor,chip603	LL	1 Mohm	14105
R3	Resistor,chip603	FF	Not used	
R3	Resistor,chip603	LL	10 Kohm	14103
R3	Resistor,chip603	FF	Not used	
R4	Resistor,chip603	LL	Not used	
R5	Resistor,chip603	FF	1 Mohm	14105
R6	Resistor,chip603	LL	10 Ohm	14100
R6	Resistor,chip603	FF	Not used	
R7	Resistor,chip603	LL	10 Kohm	14103
R7	Resistor,chip603	FF	Not used	
C1	Capacitor,chip805	LL	100 nF	20654
C2	Capacitor,chip805	FF	Not used	
C3	Capacitor,chip603	LL	68 pF	21680
C3	Capacitor,chip603	FF	Not used	
C4	Capacitor,chip805	LL	100 nF	20654
C4	Capacitor,chip805	FF	Not used	
C5	Capacitor,ctan_a	LL	2,2 uF/6V3	25602
C5	Capacitor,ctan_a	FF	Not used	
C6	Capacitor,chip603	LL	22 nF	21223
C6	Capacitor,chip603	FF	Not used	
C7	Capacitor,chip805	LL	33 pF	21330
C7	Capacitor,chip805	FF	Not used	
C8	Capacitor,chip805	LL	100 nF	20654
C8	Capacitor,chip805	FF	Not used	
C9	Capacitor,chip603	LL	22 nF	21223
C9	Capacitor,chip603	FF	Not used	
C10	Capacitor,chip603	LL	22 nF	21223
C11	Capacitor,chip603	FF	Not used	
C12	Capacitor,chip603	LL	Not used	
C12	Capacitor,chip603	FF	33 pF	21330
C12	Capacitor,chip603	LL	Not used	
C12	Capacitor,chip603	FF	33 pF	21330
C13	Capacitor,chip603	LL	Not used	
C13	Capacitor,chip603	FF	22 nF	21223
C14	Capacitor,chip603	LL	Not used	
C14	Capacitor,chip603	FF	Not used	
C15	Capacitor,ctan_a	LL	Not used	

p. 1 of 2

PC. Board No. 763-1

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	20-12-99	0	PA

PARTLIST FOR LL Scrambler / FFSK option TRX1001
 DRAWING NO. 0-9641-03-1

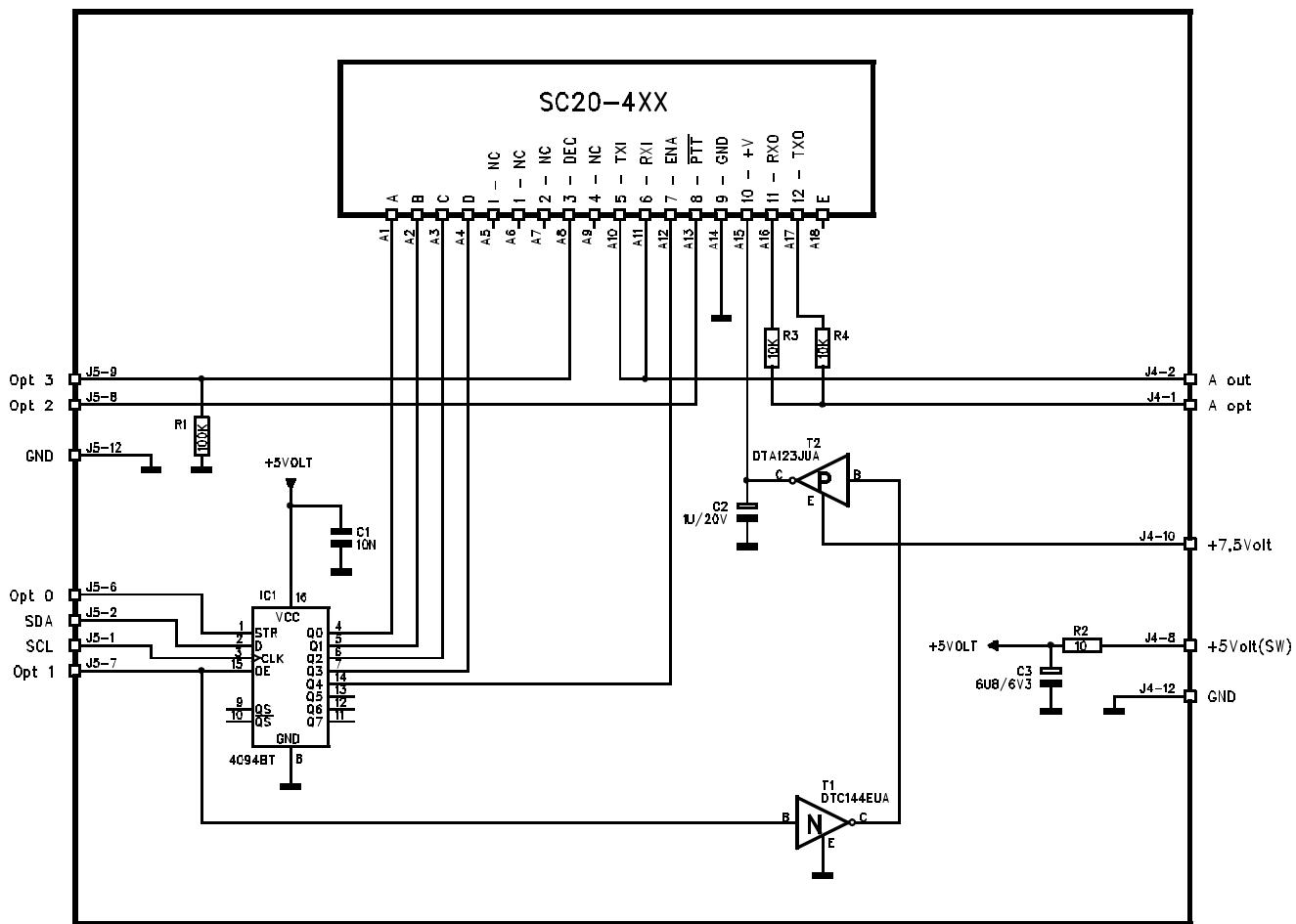
DATE 14-1-98
 UNIT NO. 5708

Component	Description		Value	Niros No.
C16	Capacitor,ctan_a	FF	2,2 uF/6V3	25602
	Capacitor,chip603			
C17	Capacitor,chip603	FF	220 nF	21224
	Capacitor,chip603	LL	Not used	
	Capacitor,chip603	FF	22 nF	21223
C18	Capacitor,ctan_a		6,8 uF/6V3	25616
X1	Crystal	LL	1 MHz	31194
	Crystal	FF	Not used	
X2	Crystal	LL	Not used	
	Crystal	FF	4.032 MHz	31201
IC1	Integrated_circuit	LL	FX214LG	46506
	Integrated_circuit	FF	Not used	
IC2	Integrated_circuit	LL	Not used	
	Integrated_circuit	FF	FX809LS	46524
IC3	Integrated_circuit	LL	Not used	
	Integrated_circuit	FF	Not used	
IC4	Integrated_circuit	LL	Not used	
	Integrated_circuit	FF	24E32	46518
J4	Connector_12pol			83322
J5	Connector_12pol			83322
Q1	Sensor		Not used	
	Mylar		1 pcs	85311
	Pc_board_no. 763-1		1 pcs	95763
	Pcb_spacer		2 pcs	98604

12.3 HL Scrambler TRX1001/TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	11-01-00	0	PA

12.3.1 Diagram

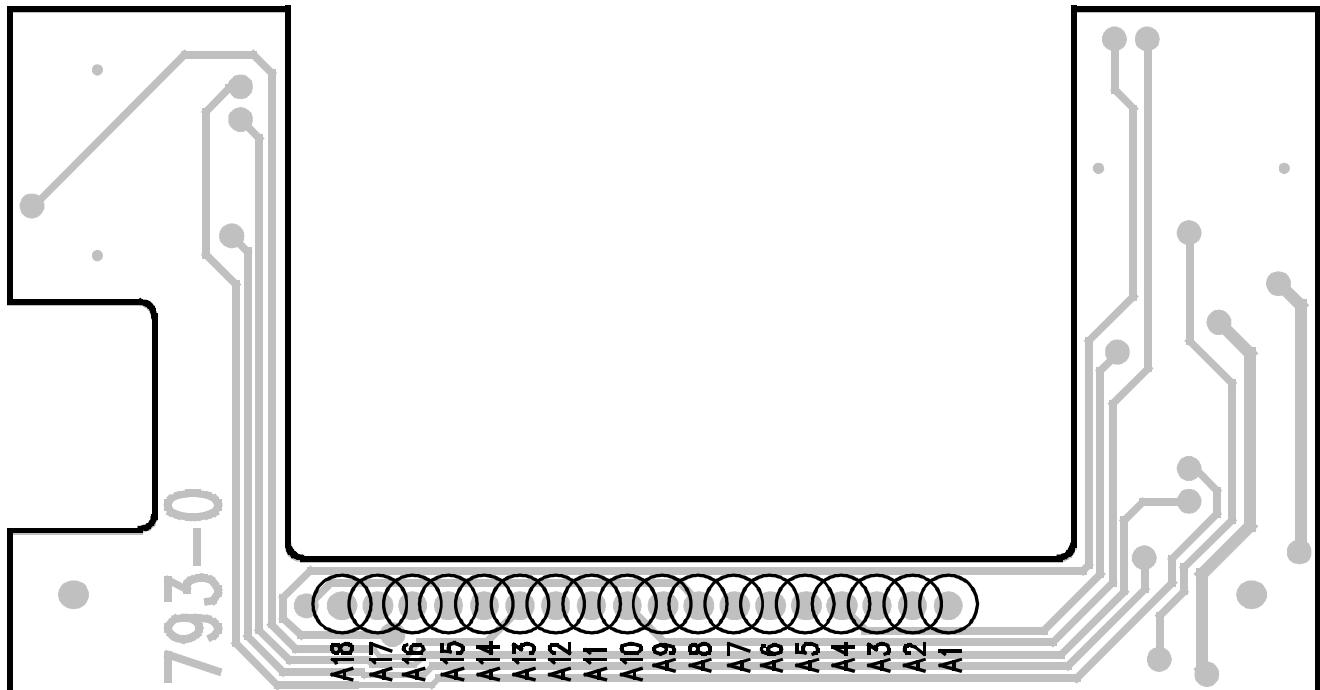


SUBJECT TO CHANGE WITHOUT NOTICE

SUBJECT TO CHANGE WITHOUT NOTICE		
DATE: 11-1-00	SIGN: PA	0
DATE:	SIGN:	
DRAWING NO: 0-9844-03-0	PCB NO: 793-0	UNIT NO: 5706
		NIROS TELECOMMUNICATION A/S HØIPSEMARKEN 5, 3520 FARUM
		HL Scrambler TRX1001/TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	11-01-00	0	PA

12.3.2 Componentside



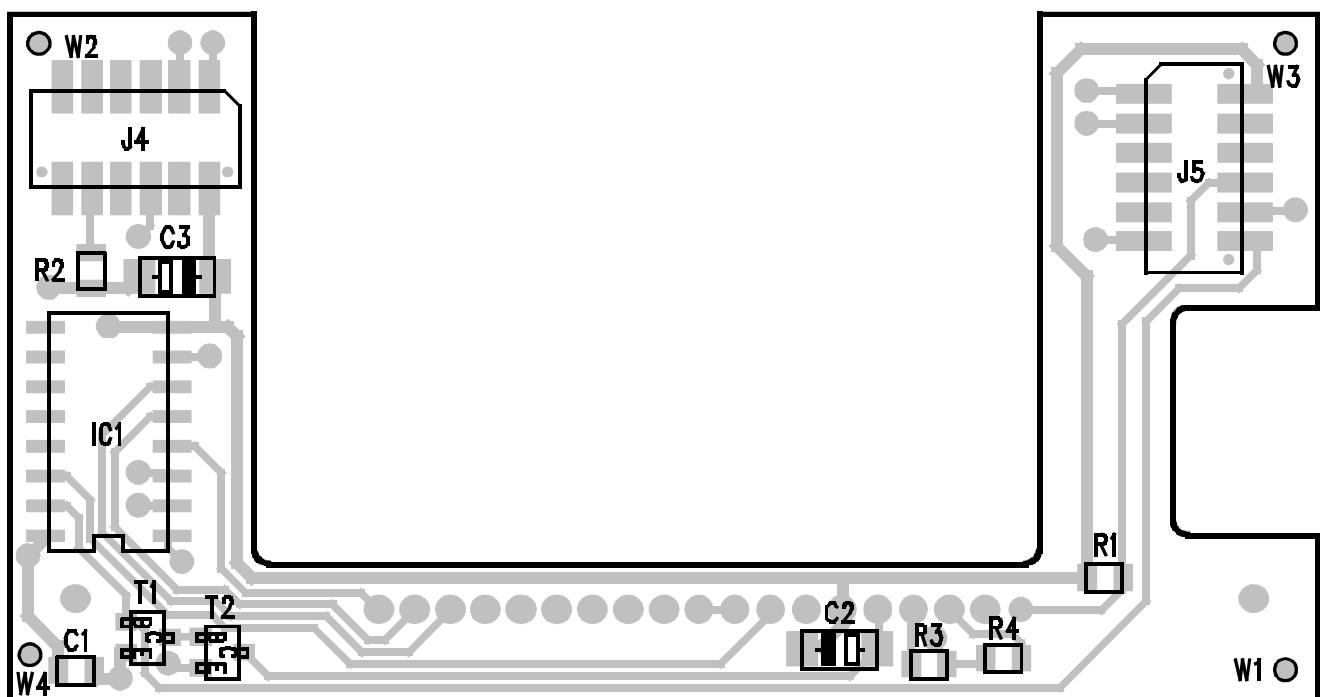
Componentside 793-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 11-1-00	SIGN: PA	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		HL Scrambler
DATE:	SIGN:		TRX1001/TRX3001
DATE:	SIGN:		
DRAWING NO: 0-9844-05-0			PCB NO: 793-0 UNIT NO: 5706

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	11-01-00	0	PA

12.3.3 Wiringside



Wiringside 793-0

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 11-1-00	SIGN: PA	O	NIROS TELECOMMUNICATION A/S HØRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		HL Scrambler
DATE:	SIGN:		TRX1001/TRX3001
DATE:	SIGN:		
DRAWING NO: 0-9844-04-0			PCB NO: 793-0 UNIT NO: 5706

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	11-01-00	0	PA

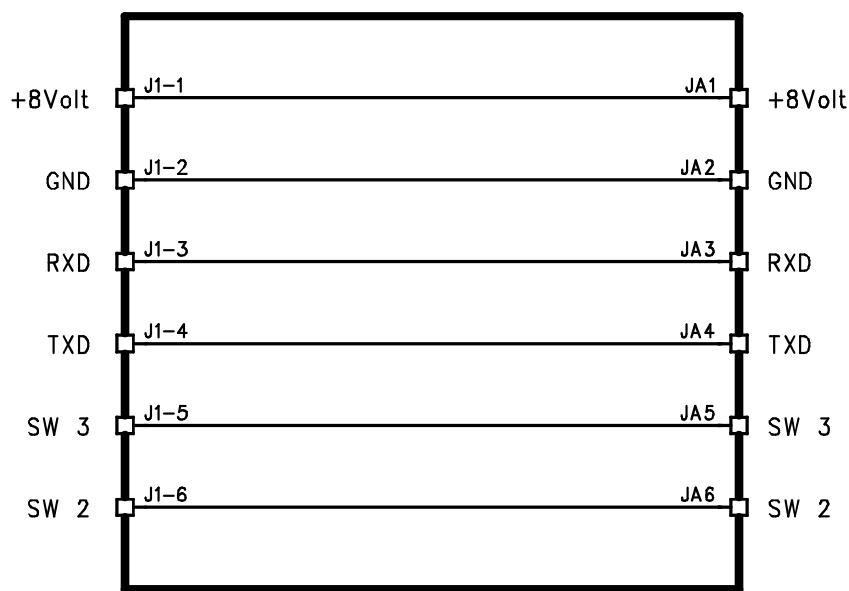
12.3.4 Partlist

PARTLIST FOR HL Scrambler TRX1001/TRX3001 DRAWING NO. 0-9644-03-0			DATE 11-1-00	UNIT NO. 5706
Component	Description	Value	Niros No.	
R1	Resistor, chip603	100 Kohm	14104	
R2	Resistor, chip603	10 Ohm	14100	
R3	Resistor, chip603	10 Kohm	14103	
R4	Resistor, chip603	10 Kohm	14103	
C1	Capacitor, chip603	10 nF	21103	
C2	Capacitor, ctan_a	1 uF/20V	25617	
C3	Capacitor, ctan_a	6,8 uF/6V3	25616	
T1	Transistor	DTC144EUA	40209	
T2	Transistor	DTA123JUA	40210	
IC1	Integrated_circuit	4094BT	46177	
J4	Connector_12pol		83322	
J5	Connector_12pol		83322	
	Modul SC20-4XX	1 pcs	46340	
	Mylar	1 pcs	85311	
	Pc._board_no. 793-0	1 pcs	95793	
	Pcb_spacer	2 pcs	98604	
p. 1 of 1		PC. Board No. 793-0		

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	11-01-00	0	PA

12.4 Rugg. Connection board TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-08-01	0	PA

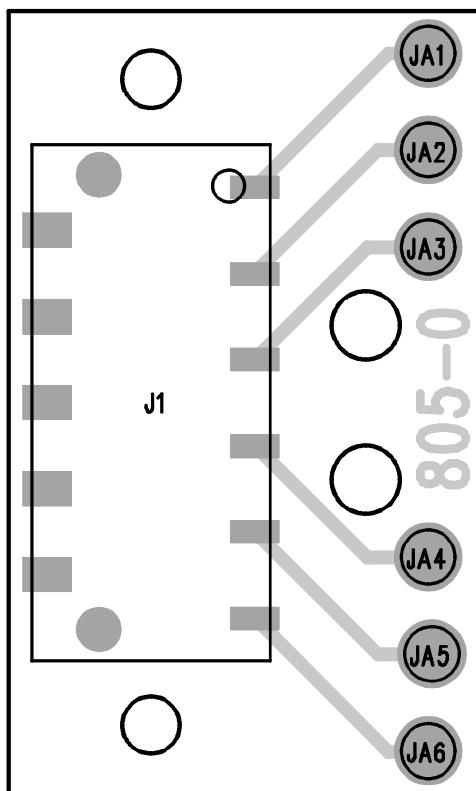
12.4.1 Diagram

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 13-8-01	Sign: HS	0	NIROS TELECOMMUNICATION A/S Hirsemarken 5, 3520 Forum	Rugg. Connection board TRX3001
Date:	Sign:		PC. Board No.: 805-0	Unit No.: 3071

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-08-01	0	PA

12.4.2 Componentside



Componentside 805-0

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 13-8-01	Sign: HS	0	NIROS TELECOMMUNICATION A/S Hirsemarken 5, 3520 Forum	Rugg. Connection board TRX3001
Date:	Sign:			
Drawing No.: 0-3012-05-0		PC. Board No.: 805-0		Unit No.: 3071

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-08-01	0	PA

12.4.3 Partlist

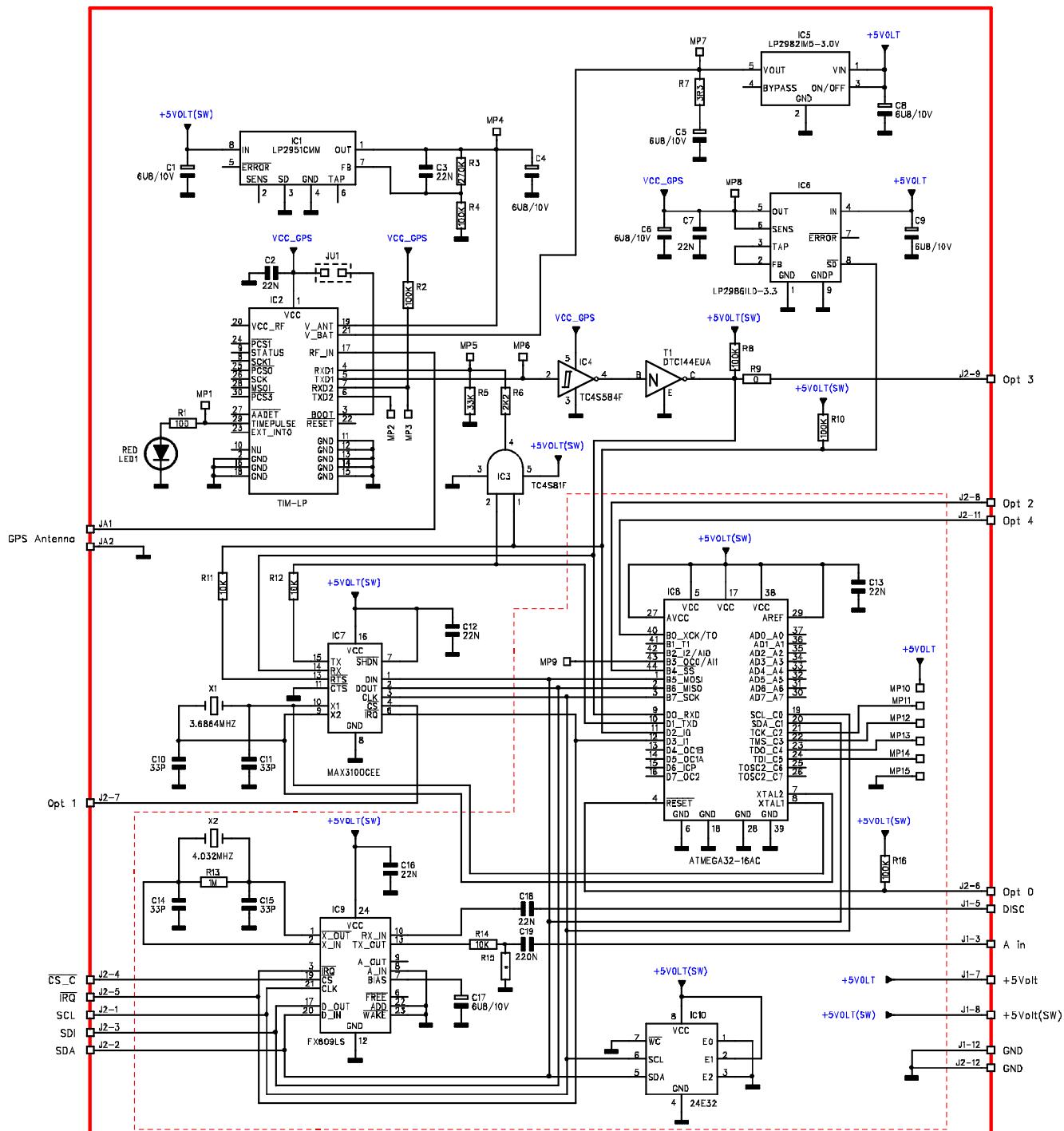
PARTLIST FOR Rugg. Connection board TRX3001 DRAWING NO. 0-3012-03-0			DATE 13-8-01 UNIT NO. 3071
Component	Description	Value	Niros No.
J1	Connector Pc. BOARD NO. 805-0	1 pcs	83371 95805
p. 1 of 1			PC. Board No. 805-0

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	13-08-01	0	PA

12.5 GPS unit for TRX3001

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	18-06-04	1	PA

12.5.1 Diagram



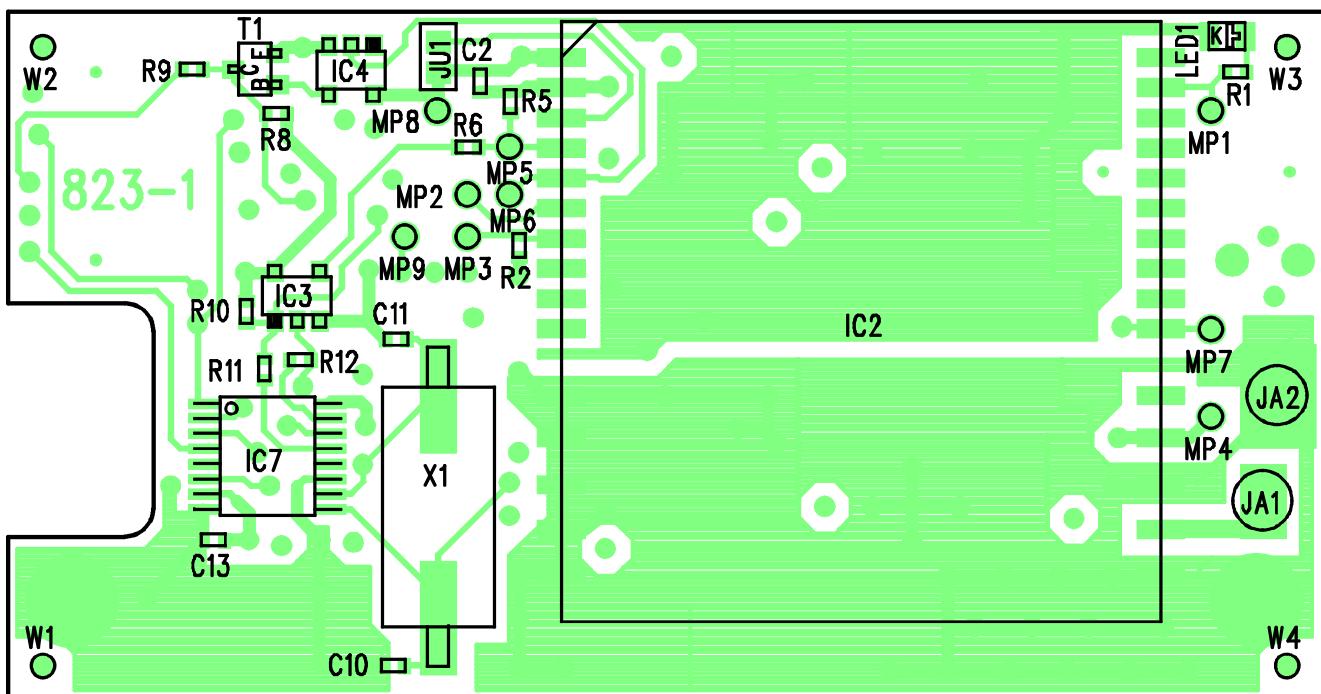
SUBJECT TO CHANGE WITHOUT NOTICE

GPS & FFSK Unit No.: 3272
GPS Unit No.: 3273

Date: 27-02-2004 Sign: PA	1	NIROS TELECOMMUNICATION A/S Hirsemarken 5, 3520 Forum	GPS & FFSK unit for TRX3001
Date: 18-06-2004 Sign: PA	2		
Drawing No.: 0-3013-03-2	PC. Board No.: 823-1		

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	18-06-04	1	PA

12.5.2 Componentside



Componentside 823-1

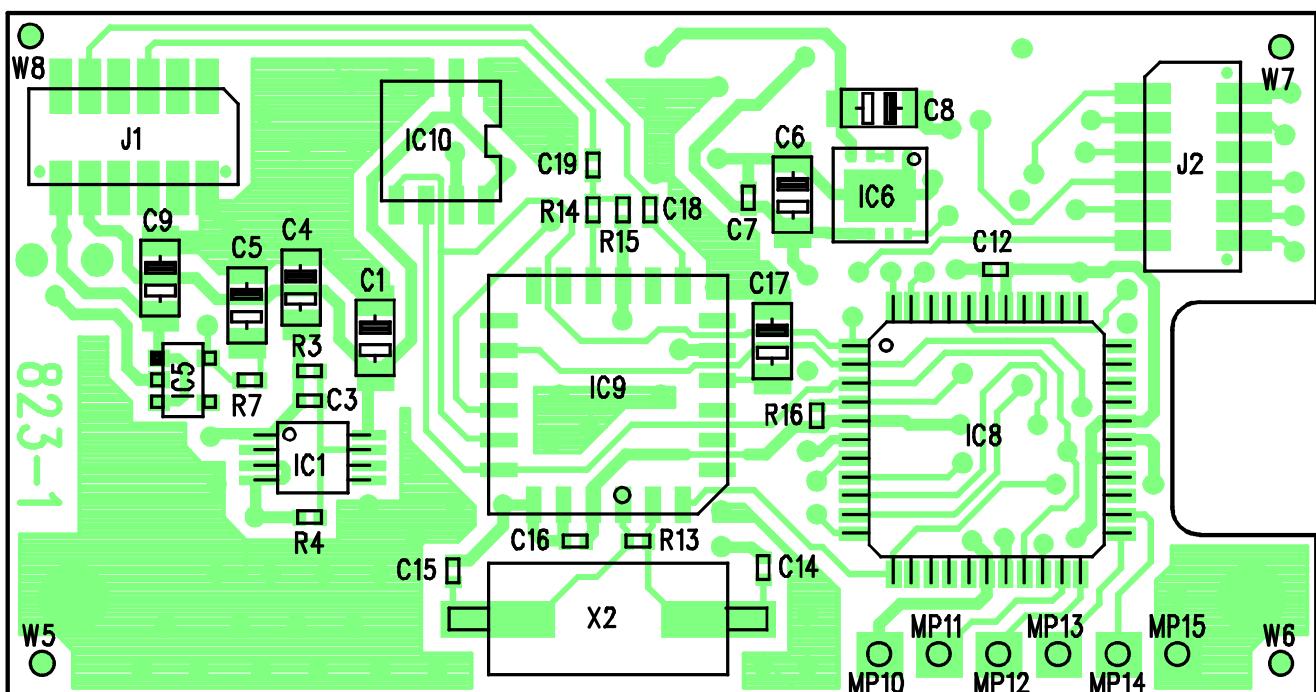
SUBJECT TO CHANGE WITHOUT NOTICE

GPS & FFSK Unit No.: 3272
GPS Unit No.: 3273

Date: 27-02-2004 Sign: PA	1	NIROS TELECOMMUNICATION A/S Hirsemarken 5, 3520 Forum	GPS & FFSK unit for TRX3001
Date: 18-06-2004 Sign: PA	2		
Drawing No.: 0-3013-05-2		PC. Board No.: 823-1	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	18-06-04	1	PA

12.5.3 Wiringside



Wiringside 823-1

SUBJECT TO CHANGE WITHOUT NOTICE

GPS & FFSK Unit No.: 3272
GPS Unit No.: 3273

Date: 27-02-2004 Sign: PA	1	NIROS TELECOMMUNICATION A/S Hirsemarken 5, 3520 Forum	GPS & FFSK unit for TRX3001
Date: 18-06-2004 Sign: PA	2		
Drawing No.: 0-3013-04-2		PC. Board No.: 823-1	

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	18-06-04	1	PA

12.5.4 Partlist

Partlist for GPS & FFSK unit TRX3001 Drawing No. 0-3013-03-2			Date 18-06-2004 Unit No. 3272
Component	Description	Value	Niros No.
	GPS & FFSK Unit GPS unit	ALL GPS	3272 3273
R1	Resistor,chip402	100 Ohm	111000
R2	Resistor,chip402	100 Kohm	111003
R3	Resistor,chip402	270 Kohm	112703
R4	Resistor,chip402	100 Kohm	111003
R5	Resistor,chip402	33 Kohm	113302
R6	Resistor,chip402	2,2 Kohm	112201
R7	Resistor,chip402	3,3 Ohm	113308
R8	Resistor,chip402	100 Kohm	111003
R9	Resistor,chip402	0 Ohm	110000
R10	Resistor,chip402	100 Kohm	111003
R11	Resistor,chip402	10 Kohm	111002
R12	Resistor,chip402	10 Kohm	111002
R13	Resistor,chip402	ALL 1 Mohm	111004
R14	Resistor,chip402	ALL GPS	Not used
	Resistor,chip402	10 Kohm	111002
	Resistor,chip402	Not used	
R15	Resistor,chip402	ALL Selected	
R16	Resistor,chip402	GPS	Not used
	Resistor,chip402	ALL 100 Kohm	111003
	Resistor,chip402	GPS	Not used
C1	Capacitor,ctan_a	6,8 uF/10V	25619
C2	Capacitor,chip402	22 nF	23223
C3	Capacitor,chip402	22 nF	23223
C4	Capacitor,ctan_a	6,8 uF/10V	25619
C5	Capacitor,ctan_a	6,8 uF/10V	25619
C6	Capacitor,ctan_a	6,8 uF/10V	25619
C7	Capacitor,chip402	22 nF	23223
C8	Capacitor,ctan_a	6,8 uF/10V	25619
C9	Capacitor,ctan_a	6,8 uF/10V	25619
C10	Capacitor,chip402	33 pF	23330
C11	Capacitor,chip402	33 pF	23330
C12	Capacitor,chip402	22 nF	23223
C13	Capacitor,chip402	ALL 22 nF	23223
C14	Capacitor,chip402	GPS Not used	
	Capacitor,chip402	ALL 33 pF	23330
	Capacitor,chip402	GPS Not used	
C15	Capacitor,chip402	33 pF	23330
C16	Capacitor,chip402	GPS Not used	23223
	Capacitor,chip402	ALL 22 nF	
	Capacitor,chip402	GPS Not used	
C17	Capacitor,ctan_a	6,8 uF/10V	25619

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PC. Board No. 823-1

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for Accessories	TN	14-12-04	TN	18-06-04	1	PA

Partlist for GPS & FFSK unit TRX3001 Drawing No. 0-3013-03-2				Date 18-06-2004 Unit No. 3272
Component	Description	Value	Niros No.	
C18	Capacitor,ctan a	GPS	Not used	
	Capacitor,chip402	ALL	22 nF	23223
C19	Capacitor,chip402	GPS	Not used	
	Capacitor,chip402	ALL	220 nF	23224
	Capacitor,chip402	GPS	Not used	
X1	Crystal		3.6864 MHz	31215
X2	Crystal	ALL	4.032 MHz	31201
	Crystal	GPS	Not used	
T1	Transistor		DTC144EUA	40209
LED1	Light_diode		RED	45192
IC1	Integrated_circuit		LP2951CMM	46599
IC2	Integrated_circuit		TIM-LP	46629
IC3	Integrated_circuit		TC4S81F	46532
IC4	Integrated_circuit		TC4S584F	46207
IC5	Integrated_circuit		LP2982IM5-3.0V	46579
IC6	Integrated_circuit		LP2986ILD-3.3	46617
IC7	Integrated_circuit		MAX3100CEE	46630
IC8	Integrated_circuit	ALL	ATMEGA32-16AC	46631
	Integrated_circuit	GPS	Not used	
IC9	Integrated_circuit	ALL	FX809LS	46524
	Integrated_circuit	GPS	Not used	
IC10	Integrated_circuit	ALL	24E32	46518
	Integrated_circuit	GPS	Not used	
J1	Connector_2x6pin-m			83322
J2	Connector_2x6pin-m			83322
	Sma_conn._with_cable		1 pcs	83456
	Washer CW1,6		2 pcs	92024
	Screw M1,6X4		2 pcs	92035
	Pc_board_no. 823-1		1 pcs	95823
	Pcb_spacer		2 pcs	98604
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