Manual for TRX1001

List of contents.

Revision log

Current revision

		Revision No.
	Revision log	12
Chapter 1	Technical specifications and introduction	0
Chapter 2	General user instructions	0
Chapter 3	Theory of hardware operation	0
Chapter 4	Basic software programming	0
Chapter 5	Maintenance/adjustment	0
Chapter 6	Mechanics	0
Chapter 7	Systemboard TRX1001	3
Chapter 8	Display unit TRX1001	1
Chapter 9	Keyboards TRX1001	0
Chapter 10	Flexboard TRX1001	0
Chapter 11	Radioboard TRX1001B	2
Chapter 12	Receiver TRX1001B	1
Chapter 13	VCO-board TRX1001B	1
Chapter 14	Radioboard TRX1001C	2
Chapter 15	Receiver TRX1001C	0
Chapter 16	VCO-Board TRX1001C	2
Chapter 17	Radioboard TRX1001D	3
Chapter 18	Receiver TRX1001D	0
Chapter 19	VCO-board TRX1001D	2
Chapter 20	PA-modul TRX1001D	0

Revision 1 **27-1-1999**
Chapter 16 is changes to revision 1. New PC. Board version. D1, D2 and D5 is changed.
Revision 2 **27-8-99**
Chapter 17 is changes to revision 1. New PC. Board version.
Chapter 7 is changes to revision 1. New PC. Board version.
Revision 3 **6-9-1999**
Chapter 13 is changes to revision 1. New PC. Board version. D1, D2 and D5 is changed.
Revision 4 **7-9-99**
Chapter 19 is changes to revision 1. New PC. Board version. D1, D2 and D5 is changed.
Revision 5 **5-10-1999**
Chapter 17 is changes to revision 2. New 25KHz W-Low version.
Chapter 19 is changes to revision 2. New 25KHz W-Low version.
Revision 6 **3-1-2000**
Chapter 8 is changes to revision 1. New PC. Board version.
Revision 7 **21-10-2002**
Chapter 11 is changes to revision 1. New PC. Board version.
Chapter 14 is changes to revision 1. New PC. Board version.
Revision 8 **18-11-2002**
Chapter 7 is changes to revision 2. New PC. Board version.
Revision 9 **31-08-2004**
Chapter 7 is changes to revision 3. Update of diagram.
Chapter 11 is changes to revision 2. Update of diagram.
Chapter 14 is changes to revision 2. Update of diagram.
Chapter 17 is changes to revision 3. Update of diagram.
Revision 10 **21-12-2004**
Chapter 12 is changes to revision 1. Update of diagram.
Revision 11 **22-06-2005**
New Chapter 20. PA-modul TRX1001D.
Revision 12 **22-12-2005**
Chapter 16 is changes to revision 2. New 12,5 KHz version.

1. Technical specifications and introduction

1.1 NIROS TRX1001 - Technical specifications

1.1.1 General

Frequency range:	68 - 88 MHz, 4 m. 146 - 174 MHz, 2 m. 403 - 470 MHz, 0,7 m.
Bandwith:	VHF 4m - 20 MHz. VHF 2m - 28 MHz. UHF 0,7m - 20 MHz. (Frequency for transmitter and receiver mutually independent).
Modulation:	FM/PM.
Power Source:	NiCd battery, 700 or 1000mAh.
Number of Channels:	100 simplex, semi-duplex, reverse frequency.
Channel Spacing:	12,5 / 20 / 25 KHz.
Channel Selection:	Via keyboard or switch on top.
Channel Selectivity:	Better then 70 dB.
Spurious and Harmonic:	Less then 0,25 microwatt.
RF Power output:	1 - 5 Watt Individual programmable per channel.
Receiver Sensitivity:	Better then -114 dBm (0,7m), -116 dBm (2m/4m), 0,45 microV ½ EMK 12dB SINAD. (Typically -117 dBm, 0,32 microV ½ EMK).
AF Power output:	0,6 Watt nominal. 0,4 Watt for external loudspeaker.
Tone System:	CCIR and ZVEI sequence tone with individual, group and general call - DTMF - CTCSS. Individual programmable per channel. Other tone systems as option.
Display:	LCD with backlight. 2 lines of 14 alphanumerical characters with programmable symbols and pre-programmed symbols showing chosen unction an bargraph.
Keyboard:	Foil keyboard with tactile keys and backlight. 10 numerical keys, 6 function keys and 4 function keys on top incl. Emergency key on top.
Weight:	455 g incl. 700 mAh battery.
Dimensions:	H: 157 mm. W: 67 mm. D: 32 mm.
Temperature Range:	-25 to +55 °C.
Housing Category:	Die-cast metal cabinet better then IP54 dust and spray waterproof.
CEPT:	Meets ETS 300 086.

1.2 NIROS TRX1001B 125 - Specifications

1.2.1 General

Type designation	TRX 1001B 125
Frequency band	68 - 88 MHz
Channel spacing	12,5 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 1000 mAh)	10,4 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,8 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-1,0 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.2.2 Transmitter

Type designation	TRX 1001B 125
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -60 dBc
Modulation	Phase modulation (PM), G3E
Max. freq. deviation	2,5 KHz
AF response	300 to 2500 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 1,5 Khz deviation
Hum and noise	Better than -40 dB

1.2.3 Receiver

Type designation	TRX 1001B 125
EMF sensitivity 20 dB SINAD (CEPT)	0,7 µVemf, typ. 0,6 µVemf (-116 dBm) (-118 dBm)
Adjacent channel rejection	Better than -60 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 2500 Hz, +1/ -3 dB, deemphasis 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and I-ETS 300 219.

1.3 NIROS TRX1001B 200 - Specifications

1.3.1 General

Type designation	TRX 1001B 200
Frequency band	68 - 88 MHz
Channel spacing	20 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 1000 mAh)	10,4 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,8 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-1,35 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications accordingto IEC 529
The serial number may be found on the rear side of the radio	

1.3.2 Transmitter

Type designation	TRX 1001B 200
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -70 dBc
Modulation	Phase modulation (PM), G3E
Max. freq. deviation	4,0 KHz
AF response	300 to 3000 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 2,4 Khz deviation
Hum and noise	Better than -40 dB

1.3.3 Receiver

Type designation	TRX 1001B 200
EMF sensitivity 20 dB SINAD (CEPT)	0,7 µVemf, typ. 0,6 µVemf (-116 dBm) (-118 dBm)
Adjacent channel rejection	Better than -70 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 3000 Hz, +1/ -3 dB, deemphasis 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and I-ETS 300 219.

1.4 NIROS TRX1001B - Specifications

1.4.1 General

Type designation	TRX 1001B
Frequency band	68 - 88 MHz
Channel spacing	25 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 1000 mAh)	10,4 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,8 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-1,35 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.4.2 Transmitter

Type designation	TRX 1001B
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -70 dBc
Modulation	Phase modulation (PM)
Max. freq. deviation	5,0 KHz
AF response	300 to 3000 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 3,0 Khz deviation
Hum and noise	Better than -40 dB

1.4.3 Receiver

Type designation	TRX 1001B
EMF sensitivity 20 dB SINAD (CEPT)	0,7 µVemf, 0,6 µVemf (-116 dBm) (-118 dBm)
Adjacent channel rejection	Better than -70 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 3000 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and I-ETS 300 219.

1.5 NIROS TRX1001C 125 - Specifications

1.5.1 General

Type designation	TRX 1001C 125
Frequency band	146 - 174 MHz
Channel spacing	12,5 KHz
Number of channels	100
RF bandwidth	28 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 800 mAh)	10,4 hours 5% TX (1 W), 5% RX (0,2 W), 90% STBY 6,1 hours 5% TX (5 W), 5% RX (0,2 W), 90% STBY
Frequency stability across voltage and temperature ranges	+/-1,5 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.5.2 Transmitter

Type designation	TRX 1001C 125
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -60 dBc
Modulation	Phase modulation (PM), G3E
Max. freq. deviation	2,5 KHz
AF response	300 to 2500 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 1,5 Khz deviation
Hum and noise	Better than -40 dB

1.5.3 Receiver

Type designation	TRX 1001C 125
EMF sensitivity 20 dB SINAD (CEPT)	0,7 µVemf, typ. 0,6 µVemf (-116 dBm) (-118 dBm)
Adjacent channel rejection	Better than -60 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -70 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 2500 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and ETS 300 219.

1.6 NIROS TRX1001C 200 - Specifications

1.6.1 General

Type designation	TRX 1001C 200
Frequency band	146 - 174 MHz
Channel spacing	20 KHz
Number of channels	100
RF bandwidth	28 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 800 mAh)	10,4 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,1 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-2,0 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.6.2 Transmitter

Type designation	TRX 1001C 200
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -70 dBc
Modulation	Phase modulation (PM), G3E
Max. freq. deviation	4,0 KHz
AF response	300 to 3000 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 2,4 Khz deviation
Hum and noise	Better than -40 dB

1.6.3 Receiver

Type designation	TRX 1001C 200
EMF sensitivity 20 dB SINAD (CEPT)	0,7 µVemf, 0,6 µVemf (- 116 dBm) (-118 dBm)
Adjacent channel rejection	Better than -70 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than - 65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 3000 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and ETS 300 219.

1.7 NIROS TRX1001C - Specifications

1.7.1 General

Type designation	TRX 1001C
Frequency band	146 - 174 MHz
Channel spacing	25 KHz
Number of channels	100
RF bandwidth	28 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 1000 mAh)	10,4 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,1 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-2,0 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP64 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.7.2 Transmitter

Type designation	TRX 1001C
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -70 dBc
Modulation	Phase modulation (PM)
Max. freq. deviation	5,0 KHz
AF response	300 to 3000 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 3,0 Khz deviation
Hum and noise	Better than -40 dB

1.7.3 Receiver

Type designation	TRX 1001C
EMF sensitivity 20 dB SINAD (CEPT)	0,7 µVemf, typ. 0,6 µVemf (-116 dBm) (-118 dBm)
Adjacent channel rejection	Better than -70 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 3000 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and I-ETS 300 219.

1.8 NIROS TRX1001DL 125 - Specifications

1.8.1 General

Type designation	TRX 1001DL 125
Frequency band	403 - 445 MHz
Channel spacing	12,5 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 1000 mAh)	10,1 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,5 hours (5% TX (5 W), 5% RX (0,5 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-1,5 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.8.2 Transmitter

Type designation	TRX 1001DL 125
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -60 dBc
Modulation	Phase modulation (PM)
Max. freq. deviation	2,5 KHz
AF response	300 to 2500 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 1,5 Khz deviation
Hum and noise	Better than -40 dB

1.8.3 Receiver

Type designation	TRX 1001DL 125
EMF sensitivity 20 dB SINAD (CEPT)	0,9 µVemf, typ. 0,7 µVemf (- 114 dBm) (-116 dBm)
Adjacent channel rejection	Better than -60 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 2500 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and I-ETS 300 219.

1.9 NIROS TRX1001DL 200 - Specifications

1.9.1 General

Type designation	TRX 1001DL 200
Frequency band	403 - 445 MHz
Channel spacing	20 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 800 mAh)	10,1 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,5 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-2,0 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.9.2 Transmitter

Type designation	TRX 1001DL 200
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -70 dBc
Modulation	Phase modulation (PM), G3E
Max. freq. deviation	4,0 KHz
AF response	300 to 3000 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 2,4 Khz deviation
Hum and noise	Better than -40 dB

1.9.3 Receiver

Type designation	TRX 1001DL 200
EMF sensitivity 20 dB SINAD (CEPT)	0,9 µVemf, 0,7 µVemf (-114 dBm) (-116 dBm)
Adjacent channel rejection	Better than -70 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 3000 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and ETS 300 219.

1.10 NIROS TRX1001DL - Specifications

1.10.1 General

Type designation	TRX 1001DL
Frequency band	403 - 445 MHz
Channel spacing	25 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 1000 mAh)	10,1 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,5 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-2,0 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.10.2 Transmitter

Type designation	TRX 1001DL
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -70 dBc
Modulation	Phase modulation (PM)
Max. freq. deviation	5,0 KHz
AF response	300 to 3000 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 3,0 Khz deviation
Hum and noise	Better than -40 dB

1.10.3 Receiver

Type designation	TRX 1001DL
EMF sensitivity 20 dB SINAD (CEPT)	0,9 µVemf, typ. 0,7 µVemf (-114 dBm) (-116 dBm)
Adjacent channel rejection	Better than -70 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 3000 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and I-ETS 300 219.

1.11 NIROS TRX1001DH 125 - Specifications

1.11.1 General

Type designation	TRX 1001DH 125
Frequency band	430 - 470 MHz
Channel spacing	12,5 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time ***(battery full charged, 1000 mAh)	10,1 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,5 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-1,5 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.11.2 Transmitter

Type designation	TRX 1001DH 125
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -60 dBc
Modulation	Phase modulation (PM)
Max. freq. deviation	2,5 KHz
AF response	300 to 2500 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 1,5 Khz deviation
Hum and noise	Better than -40 dB

1.11.3 Receiver

Type designation	TRX 1001DH 125
EMF sensitivity 20 dB SINAD (CEPT)	0,9 µVemf, typ. 0,7 µVemf (-114 dBm) (-116 dBm)
Adjacent channel rejection	Better than -60 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 2500 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and I-ETS 300 219.

1.12 NIROS TRX1001DH 200 - Specifications

1.12.1 General

Type designation	TRX 1001DH 200
Frequency band	430 - 470 MHz
Channel spacing	20 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 800 mAh)	10,1 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,5 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-2,0 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.12.2 Transmitter

Type designation	TRX 1001DH 200
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -70 dBc
Modulation	Phase modulation (PM), G3E
Max. freq. deviation	4,0 KHz
AF response	300 to 3000 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 2,4 Khz deviation
Hum and noise	Better than -40 dB

1.12.3 Receiver

Type designation	TRX 1001DH 200
EMF sensitivity 20 dB SINAD (CEPT)	0,9 µVemf, typ. 0,7 µVemf (-114 dBm) (-116 dBm)
Adjacent channel rejection	Better than -70 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 3000 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and ETS 300 219.

1.13 NIROS TRX1001DH - Specifications

1.13.1 General

Type designation	TRX 1001DH
Frequency band	430 - 470 MHz
Channel spacing	25 KHz
Number of channels	100
RF bandwidth	20 MHz
Mode of operation	Simplex or semiduplex
Antenna impedance	50 ohms
Power supply	NiCd battery, 7,2 V/ 1000 mAh
Ambient temperature	Operates from -25°C to +55°C
Dimensions	H: 157 mm, B: 67 mm, D: 32 mm
Weight with battery	455 g with 1000 mAh battery
Operating time (battery full charged, 1000 mAh)	10,1 hours (5% TX (1 W), 5% RX (0,2 W), 90% STBY) 6,5 hours (5% TX (5 W), 5% RX (0,2 W), 90% STBY)
Frequency stability across voltage and temperature ranges	+/-2,0 KHz

NOTE! All values are guaranteed specifications. Typical values are more favourable in most cases.

Environmental	Meets IP54 specifications according to IEC 529
The serial number may be found on the rear side of the radio	

1.13.2 Transmitter

Type designation	TRX 1001DH
RF output power	5 W, programmable between 1 and 5 W
Spurious and harmonic	Less than -36 dBm
Adjacent channel power	Less than -70 dBc
Modulation	Phase modulation (PM)
Max. freq. deviation	5,0 KHz
AF response	300 to 3000 Hz
AF distortion	Less than 7% at 1 KHz modulation freq. and 3,0 Khz deviation
Hum and noise	Better than -40 dB

1.13.3 Receiver

Type designation	TRX 1001DH
EMF sensitivity 20 dB SINAD (CEPT)	0,9 µVemf, typ. 0,7 µVemf (-114 dBm) (-116 dBm)
Adjacent channel rejection	Better than -70 dB
Spurious and image rejection	Better than -70 dB
Intermodulation rejection	Better than -65 dB
AF output power	0,6 W to built-in loudspeaker
AF distortion	Less than 10 % at 1000 Hz
AF response	300 - 3000 Hz, +1/ -3 dB, de-emphasise 750 µsec, 6 dB/ octave
Hum and noise	Better than -40 dB
Sound pressure	Minimum 86 dBA, 1 KHz at 50 cm distance

All measurements according to ETSI standards ETS 300 086 and I-ETS 300 219.

2. General user instructions

2.1 Handling instruction.

During radio use without external handmicrophone and/or autocassette the rubber plug NIROS no. 97898 have to be mounted in the connector well.

2.1.1 Connecting handmicrophone or autocassette to radio.

1. Remove the rubber plug.
2. Connect the assessory equipment to the external connector.

3. Theory of hardware operation

3.1 Technical description.

If two component values/test points are mentioned, the values/points marked () refer to 0.7 m version

3.1.1 PA Circuit

Diagram no. 0-9625-03, page 1 of 4, B (4 M),
diagram no. 0-9613-03, page 1 of 4, C (2 M) and
diagram no. 0-9600-03, page 1 of 4, D (0,7 M).

When transmitter starts, "PA enable" goes to "H" and switch to TX VCO via "TX mod". T104 (T105) starts current generators T103 and T105 (T104 and T106). T101 (T102) opens and operate stage T102 (T103) and hybride amplifier, IC102. IC102 amplifies the TX VCO signal from 1 mW to 5 W output power. Output power can be regulated into 32 steps between 1 W (30 dBm) and 5 W (37 dBm). Output power from hybride amplifier is adjusted by holding a constant DC current to last PA-transistor at pin 5, VS2 (pin 6, VS4). Current is measured with resistors, R103-R105 (R102-R104). At 5 W output power the resistor voltage is approx. 0,1 V. IC101 and T109 (T101) adjust voltage for driver, until last PA transistor pulls predetermined current given by "PA/SQ" level and P101 adjustment. Transmission power is coarse adjusted on P101. Fine adjustment of low/medium/high level is software controlled and performed via "PA/SQ" input. Switch, IC103 are closed in TX mode.
When user select lower output power voltage "PA/SQ level" is reduced. This results in reduction of voltage across R101. IC101A and T109 (T101) reduces current for PA transistor and output power reduces to low or medium output power depending on users' requirements.

0,7 m version is provided with protection ciruit reducing transmission power from 5W to 2W at long transmission time at high room temperature.

3.1.2 Antenna switching, 2m and 4m

D103, D104 and T106 switch antenna between receiver input and transmitter output. When "PA enable" is "H" receiver output is isolated from transmitter output by D104.
When "PA Int." is "H" output power is conducted to "Int. antenna" via D103 and D106. Signal is filtered by a 5th order elliptical LP-filter consisting of L105 and L109. When "PA Ext." is "H" output power is conducted through D103 and D105 to the external antenna terminal in the external plug. Signal is filtered by a 5th order elliptical LP filter consisting of L105 and L107.

3.1.3 Antenna switching, 0,7 m

By transmission input of receiver is isolated from output of transmitter with a l/4 vave circuit consisting of L107 and C128. Input of l/4 vave circuit is high impedance in transmission position, as D102 and D103 short circuit output.
When "Int/Ext" is "L" is "Int. antenna" selected. The signal is filtered in a 9. order LP-filter containing L108, L109, L112 and L113.
When "Int/Ext" is "H", "Ext. antenna" is selected and T107 closes. D106 opens and l/4 vave circuit L112 and C141 isolates "Int. antenna" from transmission output. D105 conducts and the output signal is supplied to "Ext. antenna" via 7th order LP filter consisting of L108, L109 and L111.

3.1.4 IF unit

Diagram no. 0-9625-03, page 2 of 4, B (4 M),
Diagram no. 0-9613-03, page 2 of 4, C (2 M) and
diagram no. 0-9600-03, page 2 and 4, D (0,7 M).

The output signal from the RF-stage, pin AA3 is mixed down to 45 MHz in a single balanced diode mixer, D201 (D202). 1. LO signal is approx. +2 dBm. A diode mixer gives high intermodulation attenuation.
1. LO frequency is 45 MHz higher than receiver frequency in 4 M and 2 M versions and 45 MHz below in 0,7 m versions. LP filter consisting of L202, C203 and C207 prevents 1. LO signal in reaching 1st IF stage. Input sensitivity for the IF amplifier is typically -115 dBm at 12 dB SINAD, 3 kHz deviation and

1000 Hz tone. T202 amplifies IF-signal and match output of mixer to a 4th pole X-tal filter. T203 has high input impedance and low capasitive load of the filter. The emitter follower, T204 has low output impedance and supply the IF-circuit, IC201 with signal.
The IF IC contains mixer, limiter amplifier stages, RSSI, demodulator, AF filter amplifier and AF amplifier. The IF IC mixer mixes the 45 MHz signal down to 450 KHz using a 2. LO signal at 44,55 MHz from the reference oscillator. IC201 amplifies and limits the 450 KHz signal. A 450 KHz ceramic filter, F203 filters the signal.
R218, R219, C218, C219, C220 and C221 perform a 6 KHz HP-filter which gives signal to T205 which rectifies the noise signal. The voltage at TP205 (TP203) depends of the noise level. The rectified signal is compared with a signal from the software controlled D/A converter. The computer receives the result and corrects the D/A converter to adjust the squelch level and hysteresis.

Example.

1. The radio is in standby mode with the squelch closed without signal.
   The voltage is for example 1 V in TP208 (TP204).
2. When the radio receives a signal. The voltage at TP205 (TP203) falls below 1 V.
3. The comparator, IC202B switches the voltage to the master computer.
4. The master computer adjusts the D/A converter to for example 0,8 V to give
   hysteresis.
5. The master computer opens the loudspeaker.

The logaritmic output from the RSSI circuit is used in some systems to measure the signal level from different transmitters such as the radio can select the transmitter which gives the best signal/ noise level.

3.1.5 Synthesizer

Diagram no. 0-9625-03, page 3 of 4, B (4 M),
diagram no. 0-9613-03, page 3 of 4, C (2 M) and
diagram no. 0-9600-03, page 3 of 4, D (0,7 M).

The output signal from the VCO at pin AB2 is lead to the buffer stages, T302 and T301. T302 makes impedance match and isolates VCO and the syntheziser circuits from each other.
IC301 divide the VCO frequency with 64/65 controlled from the dual modulus syntheziser IC, IC302. The syntheziser IC is programmed seriel through "SDA" and "SCL" from the master computer such as the wanted frequencies can be generated. The phase detector output, IC302, pin 12 is connected to a loop filter around IC305A with two time constants. IC303 and IC304 are closed in TX mode and open in RX mode. The output from IC305A goes to a 8 KHz LP-filter, L303. The reference frequency is 12,5 KHz for 12,5 KHz and 25 KHz channel separation and 10 KHz for 20 KHz channel separation. The output voltage is supplied to the VCO DC input to keep the loop in locked position. The "LOCK" output is "H", when the syntheziser is in locked mode controlled by IC302, T303 and T304.
B- (4 M) and C-version (2 M) have a output named "VCO DC" for tuning of the RF stage.
The reference oscillator operates at 14,85 MHz. The reference frequency can be adjusted at trimcapasitor, C330. The oscillator in D-versions (0,7 M) is linearized with capacitors with a high temperature coefficient (N750). D-versions (0,7 M) are supplied with a temperature compensation circuit (TCVXO) containing IC306 and the NTC resistors, R342 and R348. B- and C-version are prepared for a extension with temperature compensation circuit. The circuit goes in function when the temperature is under -10°C and higher than +45°C. When the temperature falls the resistance of R342 increases. The amplification increases in IC306A. The voltage at IC306, pin 7 falls to reduce for increased amplification in IC306A. The voltage is 0 V at IC306, pin 7 at approx. -10°C and the voltage can not be reduced futher. The voltage at IC306A, pin 1 begins to increase. It results that the capasitance in the varactor diode, D301 decreases and the frequency of the reference oscillator increases. Without compensation the frequency will be decreased. When the temperature increases the resistance of R348 is decreased. It results that the voltage at IC306, pin 5 and TP305 (TP307) decrease. The capacitance of the varactor diode, D301 increases and the frequency of the reference oscillator decreases. Without compensation the frequency will increase. The temperature coefficient
of the reference oscillator from -25°C to +60°C is shown in the table next page.

Band	B (4 M)	C (2 M)	D (0,7 M)
ppm	< +/-8,5	< +/-8,5	< +/-4,2

3.1.6 Power supply

**Diagram no. 0-9625-03, page 4 of 4, B (4 M),
diagram no. 0-9613-03, page 4 of 4, C (2 M) and
diagram no. 0-9600-03, page 4 of 4, D (0,7 M).**

The power supply supplies the radio circuits with +4,3 V, +5,5 V and 15 V (10,5 V).
The power supply switches ON/OFF via "R power" pin J1-10 from the master computer. "H" results that the radio is switched on. T401 (T404) and IC305B opens and the oscillator containing IC401, starts to multiply the voltage by tree (two) for voltage supply to IC305. The oscillator oscillates on appprox. 7 kHz. T404 (T403) regulates the output voltage to the correct value. The output voltage is stabilized by a 1,25 V reference diode, D402 (D403). The ripple attenuation is better than 60 dB which is important for a high VCO spectral purity. When J1-10 goes to 0 V, T402 (T401) closes IC305 down and +5,5 V supply goes to 0 V. IC404 is a 1 K CMOS EEPROM which is used to store calibration data referring to control of transmitter power levels, modulation level, squelch level and squelch hysteresis. The store function is controlled seriel from the master computer. The outputs from the EEPROM makes a 5 bit D/A converter via a R2R network. It gives 32 steps and an output for controlling the transmitter.

3.1.7 Receiver, B-version (4 M)

Diagram no. 0-9623-03, B (4 M).

The receiver input signal passes through L1, L2, T1, L3 and L4. The input- and output circuits are capasitively coubled. It gives a steep RF filter forflank and max. attenuation of 45 MHz signals. The filter has a tune bandwith of 20 MHz. The varactor diodes, D1, D2, D3 and D4 tune the filter with a tune voltage from the syntheziser circuit between 1,75 and 12 V. Typically the image rejection is 88 dB and the amplification 10 dB.

3.1.8 Receiver, C-version (2 M)

The receiver input signal passes through L1, L2, T1, L3 and L5. The input filter, L1 and L2 is inductive coupled. In that way a steep upwards filterflank can be reached. It gives optimal image rejection. The output filter, L3 and L5 is capasitive coupled. In that way critical coupling is reached all over the band. The filter has a tune bandwith of 28 MHz. It is tuned by the varactor diodes, D1, D2, D3, D4 and D5 with a tune voltage from the syntheziser circuit between 1,75 and 12 V. Typically the image rejection is 88 dB and the amplification 9 dB.

3.1.9 Receiver, D-version (0,7 M)

Diagram no. 0-9602-03, D-version (0,7 M).

The receiver input signal goes through L1, T1, L2 and L3. Helix coils are used to optain max. image signal rejection on UHF frequencies. Typically the image rejection is 88 dB. The bandwith given by the helixcoils is 20 MHz. Typically the amplification is 8 dB.

3.1.10 VCO

**Diagram no. 0-9626-03, B (4 M),
diagram no. 0-9616-03, C (2 M) and
diagram no. 0-9603-03, D (0,7 M).**

The VCO contains a separate TX and RX oscillator, T1 and T4 and buffers, T2 and T3. The buffer stages amplify the VCO signal and attenuate noise and ripple in the supply voltage to the oscillator stages. The oscillator amplitude is regulated by the diodes, D3 and D4 (ALC). The diodes rectify the gate voltage. It gives a negative gate source voltage, VGS. If the rectified voltage falls the negative VGS decrease. The amplification and the output signal increase and the signal level are regulated. The tune range is adjusted at L1 and L4. See table below.

Frequency range	Bandwith	Tune voltage
68 - 88 MHz	20 MHz	1,75 - 12 V +/-0,5 V
146 - 174 MHz	28 MHz	1,75 - 12 V +/-0,5 V
403 - 445 MHz	20 MHz	min. 1,7 - max. 8,6 V
430 - 470 MHz	20 MHz	min. 1,7 - max. 8,6 V

TX mode is selected by supplying approx. 2,2 V to pin J2 together with the modulation signal. The master computer adjusts the TX VCO modulation level as a function of the frequency. In this way the modulation level is the same for all channels.

3.1.11 Programming with user program

NIROS TRX 1001 is programmed via a CH100 charger supplied with PC interface. Dismount the rubber plug from the external connector of the radio. The external connector from the charger shall be mounted in the radio.
Switch on the radio and the programming is carried out from the PC.
Data are transfered seriel via "S in inv.", J3-2 and "S out inv.", J3-6. 12,5 V programming voltage is supplied via J3-5. T101, T102, T103 and T104 give programming pulses to FLASH EEPROM, IC102. Data are transmitted via a 256K RAM circuit, IC101. More information about PC programming are in chapter 4.

3.1.12 Computer circuit

Diagram no. 0-9601-03, page 1 of 4.

The computer system contains a 8 bit slave computer PIC16C57 and a 16 bit master computer H8/532. Both types are one time programmable (OTP).
When the radio is switched off keyboards, PTT switch and tone switches will be watched by the slave computer. The slave computer is always in function except when the battery is emty or removed. The "OFF" clock frequency is approx. 10 KHz and typically the current comsumption in "OFF" mode is 30 mA mean value. If the ON/OFF switch is touched the slave computer shifts to a higher clock frequency controlled of T105. It will switch on the master computer and the 5 V power supply containing T106.
The master computer contains a boot program and it runs the userprogram from a 8 X 128 K FLASH EEPROM, IC102. The user program determines the radiofunction and transmit- and receiver frequencies. The master computer contains 8 pieces of A/D converters. In TRX 1001 the A/D converters are used for measuring for instance battery voltage, RSSI and eksternal control.
Calibration data referring to the functions of the systemboard are stored in a 8 X 128 bit EEPROM, IC107.

3.1.13 External control

"E alarm", J3-3 in the external connektor is used as a alarm output with connected vechicle adaptor, CH105. The output is "H" in alarm mode. The output is used to control a horn relay circuit in the autocassette. More about the vechicle adaptor in chapter 23.
The output is also used to set up the radio to the users requirements about internal/external antenna, microphone, loudspeaker and so on.
The master computer makes one measurement per second. A 8 msec. pulse are transmitted to J3-3 via 47 Kohm. 47 Kohm and a unknown resistor into the external equipment make a voltage divider. The master computer makes an A/D conversion of the input voltage from the unknown resistor. The digital value from the A/D conversion is compared. The master computer adjust the settings of internal/eksternal microfone, loudspeaker, antenna after the measured and converted data. In the table beneath are shown 11 set ups.

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

Explanation to abbreviations:

R	=	Resistor code.
R VAL.	=	Resistor value in ohms.
E.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 microfone
Int.	=	Internal.
Ext.	=	External.
SW.	=	Software.

3.1.14 AF-output amplifier

Diagram no. 0-9601-03, page 3 of 4.

The discriminator signal from the radioboard is supplied to the systemboard via connector, J6-7. The AF signal is processed in the AF processor FX806, IC303. The signal passes a selectable -6 dB/octave deemphasis circuit. The deemphasis circuit is used in PM mode, but not in FM mode. The signal is bandlimited in a 300 Hz HP- and a 3 KHz LP-filter. The signal passes through some amplifier stages. The level of the AF output from the audioprocessor is controlled seriel from the master computer. The output level can be regulated 48 dB.
The AF output amplifier is selected and switched on via the port circuit, IC305 controlled from the master computer. The output amplifier, IC301 supplies the internal 25 ohms loudspeaker with max. 0,6 W via a balanced output. The output amplifier, IC302 supplies an eksternal loudspeaker with max. 0,4 W via a unbalanced output. The eksternal loudspeaker impedance must be at least 8 ohms. A 100 mF/10 V capasitor is needed in the leads to the eksternal loudspeaker.

3.1.15 Modulation amplifier

Diagram no. 0-9601-03, page 3 of 4.

An internal electret capacitor microphone or an eksternal microphone via the eksternal connector delivers an AF signal to modulate the transmitter. A supplied 5 mVrms AF signal gives standard deviation.

Standard modulation.

Channel separation	Deviation	Mod. frequency
12,5 kHz	1,5 KHz	1 KHz
20 KHz	2,4 KHz	1 KHz
25 KHz	3,0 KHz	1 KHz

The microphone signal is supplied to the microphone amplifiers , T305 for internal microphone via J2-1 and T306 for external microphone via J3-5 in the external connector. The microphone signal is processed in the audioprocessor FX806, IC303 where the signal is processed in a VOGAD circuit. The circuit is a voltage controlled amplifier which has the job to reduce the amplification when the microphone receives some strong speaking signals. In this way a better sound quality is reached. Frequencies over 3 KHz is removed in a HP-filter.
The microphone sensivity is controlled by the master computer in a following adjustable amplifier stage. The signal passes a selectable +6 dB/octave preemphasis circuit and a HP-filter and a frequency deviation limiter. The preemphasis circuit is only used to PM, but not to FM. If the user use the tonesystem facility the transmit tonesignal is supplied to the input of the frequency deviation limiter.
The TX VCO has highest modulation sensitivity in the high end of the frequency range. The master computer controls the output amplifier in the audio processor such as the amplification is maximum at lowest VCO frequency and smallest at highest VCO frequency. If CTCSS subtone is used. The subtone is supplied to the input of the output amplifier. The frequency deviation is the same over all the frequency range within +/-0,2 KHz. Data to control the output amplifier is stored in a EEPROM, IC404 at the radioboard.

3.1.16 Tonesystem

Diagram no. 0-9601-03, page 2 of 4.

A 4 MHz oscillator, IC204 gives clock signal to the tonesystem. A 3,5 KHz clock oscillator is used when the power consumption shall be reduced. The analog switch, IC203 select the used clocksignal.
Subtones (CTCSS) are processed in tone IC FX805, IC201 which is in function both during transmission and receiving. During transmission the master computer transmits seriel data to the circuit concerning which tone to be send. During receiving the IC makes measurements at the discriminator signal each 122,64 msec. If the incomming signal has constant frequency the IC approves and measures the tonefrequency. If the frequency is OK the master computer receives data about the incomming frequency. The IC contains also some filters to separation of the subtones (65-250 Hz) from the speaking range (300-3000 Hz).
ZVEI, CCIR etc. tones are processed by the tone IC type FX803, IC202. During transmission the master computer transmits seriel data concerning which tones to be sent and the duration of the tones. The IC functions also as a tonegenerator. During receiving the IC makes measurements each 8,3 msek. The IC approves the tone and measures the tone frequency if the receiving frequency is constant. The tone IC informs the master computer via "IRQ inv." and sends data seriel via "Data" to opdate the master computer. The master computer compares the received tone data with data from the user program. Tonesystem data as tonesystem, tone lengths and tone numbers are placed in the user program for instance CCIR 27910, tonelength 100 msec.
The user program control the radio behavior at received correct tonecode for instance via sound information in the loudspeaker or symbols in the display.
The IC, IC202 gives also sound information to the loudspeaker during operating the keyboards.

3.1.17 Interface

Diagram no. 0-9601-03, page 4 of 4.

The master computer controls a seriel/parallel port, IC401. The port controls following functions:
1. Display light and keyboard light via "D light", J1-3 and "K light", J2-9.
2. Red "TX" LED is lit during transmitting via "TX led", J2-16.
3. Green "CALL" LED is lit, when a correct tone call is received via "Call led", J2-15.
4. External connected equipment can be powered via the "E PWR" terminal, J3-9 in the external connector. The output voltage depends on the battery Voltage. It is between 6,5 to 7,5 V.

Max. external current consumption is 200 mA.

5. External alarm, "E alarm", J3-3. The terminal goes "H", when an alarm call is received. The terminal is also used to measure at connected equipment. The master computer setup the radio to the users requirements about internal/external antenna, microphone, loudspeaker etc. which depends on the measuring result.
6. The radioboard is switched ON/OFF by the master computer via "R Power", J6-10. The A/D converter battery voltage input is coupled to the battery via T411.

3.1.18 Operation facilites

Diagram no. 0-9601-03, page 4 of 4.

Left side switches:

SW401,	PTT switch,	"ROW 2".
SW402,	tone switch no. 1,	"ROW 1".
SW403,	tone switch no. 2,	"ROW 0".

Diagram no. 0-9607-03.

SW1,	On/off switch,	"KB R3",	J1-1.
SW2,	Alarm switch,	"KB R2",	J1-2.
SW3,	Option 1 switch,	"KB R1",	J1-3.
SW4,	Option 2 switch,	"KB R0",	J1-4.

The top is supplied with a rotary encoder switch which among other things can be used to channel change and volume control.

Diagram no. 0-9605-03.

Front keyboard:
SW1-SW16.
4 pieces row connections, "KB R0-R3", J1-7 to J1-10 and 4 pieces column connections, "KB C0-C3", J1-1 to J1-4 connects the keyboard to the slave computer.

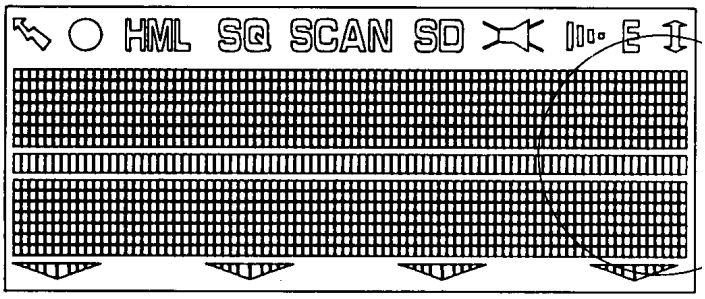
3.1.19 Connectors

J1, 9 poles:	Display unit connection.
J2, 20 poles:	Operating facilites connection via flexboard such as switches, rotary encoder switch, light indicating, keyboards, loudspeaker and microphone.
J3, 10 poles:	External connector to connection of programming equipment and external equipment as handmicrophone or vechicle adaptor.
J4, 12 poles:	Optionboard connector for supplementary equipment for instance scrambling equipment.
J5, 12 poles:	Do.
J6, 12 poles:	Radioboard connections.

3.1.20 Display unit

Diagram no. 0-9604-03.

Display data are transmitted seriel from the master computer to the display drivers IC2 and IC3. The display drivers receives a 300 KHz clock signal from IC1.
The display consists of 15 rows, 84 columns and a number of symbols. The driver multiplexes the display 1:16 such as one row in a time is on. The columns are supplied with one of the 5 voltage levels between approx. 0 V and 5 V. It depends of the wanted display pattern. The voltage levels are generated by T1 and the resistor network in T1 emitter. The circuit is temperature compensated to keep a good contrast at the display in all the temperature range.



TRX 1001 display.

4. Basic software programming

5. Maintenance/adjustment

NOTE!

THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED PERSONNEL ONLY. TO AVOID DETERIORATION OF VITAL SPECIFICATIONS E.G. SPURIOUS RADIATION BEYOND ETSI SPECIFICATIONS, DO NOT PERFORM ANY SERVICING ON THE RADIO CIRCUITS UNLESS YOU ARE QUALIFIED TO DO SO.

5.1 Introduction

This section of the manual contains maintenance and adjustment information for the **NIROS TRX 1001** transceiver.

NOTE!

A visual inspection should always precede alignment or repair. Always switch off power or remove battery pack before disassembly or replacement of parts.

5.2 Mechanical inspection and repair

The mechanical parts can be damaged, if the user drop the radio at a hard surface. Following parts have to be checked:

5.2.1 Battery

600 mA, black,	NIROS NO. 5672.
1000 mA, black,	NIROS NO. 5670.
Round plastic piece, black,	NIROS NO. 97906.

The holders, which connect the battery to the radio cabinet. The gold plated screws in the top of the battery have to be free of corrosion. Remove the round plastic piece at the battery top with a scewdriver. Check the fuse link. It have to connect the two tinned areas if not replace with a new one.

5.2.2 Volume/channel control

Rotary button,	NIROS NO. 97862.
Rotary encoder switch,	NIROS NO. 81186.
Nut for switch	NIROS NO. 97756.
O-ring, 3X1,5 for switch,	NIROS NO. 85235.

The volume/ channel control can be destroyed, if the radiotop hits a hard surface. The shaft can loose the connection with the switch. It is nescessary with access to the innerside of the radio to change the switch. See chapter 6. Use some LOCKTITE 220 (RED) at the switch thread to lock the nut..

5.2.3 Front and top keyboard.

Front keyboard, black,	NIROS NO. 98005.
Top keyboard no. 1, black,	NIROS NO. 98007.
Top keyboard no. 2, black,	NIROS NO. 98006.

The keyboards are designed for long life. It is seldom nescessary to change them. Use optical control. The surface foils can be removed, if only the surface is damaged. Ask the factory for a new surface foil for front and top keyboards.

5.2.4 Side keys

PTT key, NIROS NO. 97854.

Tone key no. 1, with one point,	NIROS NO. 97855.
Tone key no. 2, with two points,	NIROS NO. 97856.
Key pour,	NIROS NO. 97905.

Optical control.
Three rubber key pours are placed between the side keys and the switches at the PCB board. Access to the innerside is nescessary to change the keys and the key pours. See chapter 6.

5.2.5 Antenna connector

TNC antenna connector,	NIROS NO. 83321.
O-ring, 10 X 1 mm,	NIROS NO. 85174.
Nut for antenna connector,	NIROS NO. 97526.

Optical control.
It is nescessary with access to the innerside of the radio to change the connector. See chapter 6. Use some LOCKTITE 270 (BLUE) at the antenna connector thread to lock the nut.

5.2.6 Display

Display window, with NIROS print,	NIROS NO. 98051.
Display window, with ERICSSON print,	NIROS NO. 98050.
LCD display,	NIROS NO. 46326.

Optical control. The display window can be smashed or scratched. The LCD display have to be controlled for cracks.

5.2.7 Flexboard

Flexboard,	NIROS NO. 95708.

See chapter 6 for access to the flexboard inside the radio housing. Check the flexboard for broken connections. If any repair or soldering are to take place on the flexboard use extreme care not to impair PCB. Max. soldering temperature is 270°C. Check the flexboard tail, where it is connected to the radio module. Pull up brown lock on plug to flexboard 1,5 mm, and remove flexboard tail. Mount the flexboard into the connector again. Push down the brown locks.
It is important, that the flexboard tail is pushed to the bottom of te systemboard connector, J2.

5.3 Battery check

1. **Zero voltage at radio terminals:**
   Check fuse.
2. **Low voltage:**
   Apply charge.
3. **Normal voltage (6 - 8V):**
   If normal voltage is present after resting the battery for 24 hours it may be assumed to be OK.
4. **Low capacity:**
   Voltage is quickly reduced due to self discharge.
   Discard battery.
5. **Low capacity:**
   No self discharge but greatly reduced service time. Apply two or three charge/ discharge cycles and test capacity. **It is only allowed to discharge the battery to 6,0 V.** NIROS can deliver a CH100 charger supplied with a discharge section.
   No increase! Battery life exhausted. Replace with a new one. NIROS have new batteries in stock for immidiate delivery.

5.4 Battery handling

NiCd rechargeable batteries are very reliable in operation and take a large number of discharge cycles, provided they receive proper care.
The trouble with NiCd cells is that it is impossible to get a positive indication of the state of charge. At the end of the charging period the voltage does not rise suddenly as is the case with other types of batteries.
The discharge characteristic is very flat after a short initial period. When the battery is fully discharged the voltage falls abruptly.
The NiCd battery should preferably be discharged in service and then fully charged, which is of course not always possible. NiCd cells suffer from a memory effect, which reduces capacity of the cells if full capacity is never used or if the battery is left in a charger, even at trickle charge, for many weeks without being used.
Full capacity is normally restored after a few deep discharges and full recharges. So in order to judge the capabilities of a certain battery, capacity should be measured after at least 2 to 3 full cycles of discharge and charge.
Consult accessory chapter for information on NIROS battery chargers.

5.5 Service equipment

The following service equipment is recommended for alignment and troubleshooting the NIROS TRX 1001 tranceiver.

1.	Hexagon ball driver, 2 mm,	NIROS NO. 84013.
2.	Battery adaptor, type	NIROS NO. 5903.
3.	Test box, type TP 1091,	NIROS NO. 5900.
4.	DC power supply,	7,2 V/ 3 A.
5.	DC mA meter,	FLUKE 8000A or equivalent.
6.	DC voltmeter,	-
7.	RF dummy load,	5 W, 50 ohms, Bird model 80M or eq.
8.	RF power meter,	Bird, model 43 or eq.
9.	Modulation meter,	Farnell, model 257 or eq.
10.	Distortion meter,	Radiometer, model BKF 6 or eq.
11.	AF voltmeter,	FLUKE 8000A or eq.
12.	Oscilloscope,	HAMEG, HM 204-2 or eq.
13.	AF oscillator,	Heathkit, model IG 18 or eq.
14.	Signal generator,	Hewlett Packard 8657A or eq.
15.	Frequency counter,	CFC 80 - A or eq.
16.	Power divider,	Mini Circuits, model ZFSC2-2 or eq.
17.	RF coupler,	Marconi Instruments 54452-011E or eq.
18.	Diode probe,	FLUKE, model 82 RF or eq.
19.	Antenna adaptor,	NIROS NO. 5904.
20.	Extension cable, radio- to systemboard,	NIROS NO. 5901.
21.	Test leads, coaxial cable, connector TNC male.	

Alternatively a radio communication analyzer can be used for instance Schlumberger **Stabilock type 4032** or equivalent. It can replace many single instruments. Ultimo 1994 NIROS can deliver a testjig and software for automatic testing of the radio.

5.6 Radio adjust

TRX 1001 is a radio with few manual adjustments. Most adjustments are controlled by the master computer inside the radio. Most adjustments can be made from the top- and front keyboard. The display is used as a monitor. A selection of menus lead the user through the adjustment procedure. See details later in this chapter. **Take care of ESD to circuit boards!**

It is nescessary with access to the radio circuits to following manual adjustments:

1. Coarse adjustment of TX output power (R101).
2. Adjustment of IF coil, L201 to best sensitivity.
3. Adjustment of discriminator coil to lowest distortion and max. AF signal output.
4. Adjustment of reference oscillator (C330).

Access to circuits are gained by removing the radio module from the diecast housing. See chapter 6 of this manual, **DISASSEMBLY OF TRX 1001**. Access to radio circuits are gained by removing the curved metal screen box lid reverse to display side.

5.7 Transmitter power amplifier

Diagram no. 0-9625-03, page 1 of 4, B (4 M),
diagram no. 0-9613-03, page 1 of 4, C (2 M) or
diagram no. 0-9600-03, page 1 of 4, D (0,7 M).

1. Adjust "PA/SQ" level to step 31 (hex 1E) (see chapter 5.15).
2. Select "H" output power (see chapter 5.15).
3. Battery voltage shall be 7,2 V.
4. Adjust P101 until transmitter output power is 5 W. "H" output.

5.8 MF-unit

Diagram no. 0-9625-03, page 2 of 4, B (4 M),
diagram no. 0-9613-03, page 2 of 4, C (2 M) or
diagram no. 0-9600-03, page 2 of 4, D (0,7 M).

1. Connect -50 dBm RF input signal to antenna connector from signal generator. Standard modulation. Be sure that RF frequency and radio frequency are exactly right.

Channel separation	Deviation	Tone
12,5 KHz	1,5 KHz	1 KHz
20 KHz	2,4 KHz	1 KHz
25 KHz	3,0 KHz	1 KHz

2. Check the mixer diode, D201 (D202). Measure the DC voltage at pin no. 1 and 3 of TR201. These voltages are equal to the DC voltage at pin 2 if the diode is OK.
3. Measure the 44,55 MHz RF level at IC201, pin 1 with a diode probe. The level shall be approx. 300 mV.
4. Adjust detector coil, L204 to max. AF signal and min. distortion.
5. Adjust L201 to min. distortion.
6. Repeat point 4. and 5.
7. Check the 12 dB SINAD RF sensitivity.
   Sensitivity: TRX 1001B, typ. -118 dBm, min. -116 dBm.
   TRX 1001C, typ. -118 dBm, min. -116 dBm.
   TRX 1001D, typ. -116 dBm, min. -114 dBm.

5.9 Reference and 2. local oscillator

Diagram no. 0-9625-03, page 3 of 4, B (4 M),
diagram no. 0-9613-03, page 3 of 4, C (2 M) or
diagram no. 0-9600-03, page 3 of 4, D (0,7 M).

1. Measure the 44,55 MHz RF level at IC201, pin 1 with a diode probe. The level shall be approx. 300 mV.
2. Check TX frequency at approximately 20°C.

Version	**Frequency error**
B	+/- 200 Hz

C	+/- 200 Hz
D	+/- 400 Hz

3. Capacitors with N750 temperature coefficient are used for some capacitors in D radio version. Change only to exact the same type during service.

D-versions:

No. code	Value	TC (ppm)	NIROS NO.
C323	150 pF	N750	20819
C324	150 pF	N750	20819
C328	18 pF	N750	20815
C329	6,8 pF	N750	20814
C331	8,2 pF x)	N750	20807
C332	47 pF	N750	20816
Others	X	NP0	XXXXX

x) Selected in final test.

5.10 Loop filter

1. Some of the capacitors in the loop filter and power supply is special low noise versions to avoid microfoni in the radio. Change only to exact te same version during service.

B- and C-versions:

No. Code	Value	Type	NIROS NO.
C335	22 nF	low noise	20804
C336	1,5 nF	low noise	20802
C337	47 nF	low noise	20805
C338	47 nF	low noise	20805
C339	4,7 nF	low noise	20803
C342	47 nF	low noise	20805
C404	22 nF	low noise	20804
C405	22 nF	low noise	20804

D-versions:

No. Code	Value	Type	NIROS NO.
C336	22 nF	low noise	20804
C337	1,5 nF	low noise	20802
C338	47 nF	low noise	20805
C339	47 nF	low noise	20805

C340	4,7 nF	low noise	20803
C342	47 nF	low noise	20805
C344	1,5 nF	low noise	20802
C404	22 nF	low noise	20804
C405	22 nF	low noise	20804

5.11 Receiver

The receiver unit is factory adjusted. Do not adjust the receiver unit, because it needs special equipment.

The **B-version (4 M)** covers 68 - 88 MHz. **Unit no. 5623**.
The **C-version (2 M)** covers 146 - 174 MHz. **Unit no. 5622**.
The **D-versions (0,7 M)** covers a 20 MHz segment in the range from 403 - 470 MHz.
DL-version, unit no. 5620. DH-version, **Unit no. 5621**.

If the unit is defect or needs adjustment to another frequency segment contact factory.

5.12 VCO

B-version,	**25 KHz (4 M):**	**Unit no.**	**5643.**
C-version,	**25 KHz (2 M):**	**- -**	**5642.**
DL-version,	**25 KHz (0,7 M):**	**- -**	**5640.**
DH-version,	**25 KHz (-):**	**- -**	**5641.**

5.12.1 VCO check in transmitter mode

1. Measure DC voltage on "TX MOD", J1-6 , 2,3 V +/-0,3 V.
2. Check RF input to PA hybrid module at 50 ohms level (0 dBm +3 dB/-1 dB).
3. Measure the tune voltage at the lead of L303.
   B- and C-versions: 1,75 V - 11,75 V +/-0,75 V at band edges.
   D-versions: Min. 1,7 V - max. 8,6 V at band edges.

5.12.2 VCO check in receiver mode

1. Measure DC voltage on "TX MOD", J1-6 (approx. 0 V).
2. Put RF diode probe on "north east" terminal of transformer, TR201. Measure the RF level app. 250 mV +/-50 mV (2 dBm).
3. Measure the tune voltage at the lead of L303.
   B- and C-versions: 1,75 V - 12,0 +/-0,5 V at band edges.
   D-versions: Min. 1,7 V - max. 8,6 V at band edges.

If the VCO is defect NIROS recommend to order a new one. Specify unit no., frequency segment and channel separation. The VCO needs special tools for disassembly and assembly and contains special capacitors to avoid microfoni.

5.12.3 VCO adjustment

1. The tune range can be moved by adjusting L1 (TX) and L5 (RX). Normally it is only nescessary to adjust the coil to move the frequency range. In a DL-version VCO it may be nescessary to change some capacitors inside the VCO housing especially if the frequency range is changed more than 10 MHz. The brass core must not be adjusted above VCO top surface or more than approx. 2 turns below coil form top.

If a VCO can not be adjusted at the coils. Order a new VCO from NIROS.

5.13 Display

B-version (4 M):	**Unit no.**	**5712,**
the unit have a metal screen at the back.		
C-version (2 M):	**Unit no.**	**5710.**
D-version (0,7 M):	**- -**	**5710.**

NIROS recommends to avoid disassembling the display unit. Please send the display modul to NIROS, if the display is crashed. Do not store the display unit in a dusty area.

5.14 Adjustment

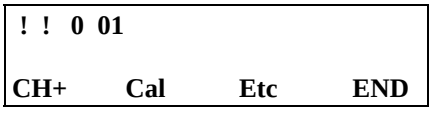
Most of the adjustments are done via menus in the display and the keyboards. Access to the radio circuits are only nescessary for the few adjustments mentioned in chapter 5-7.
The page in the maintenance section of the actual adjustment instruction is found in the table of contents beneath in this chapter.

5.15 Access to service function

In this chapter we make access to the service function and select the service frequencies.

1. Switch off the radio.
2. Push "RED" switch and "ON/OFF" switch down at the same time in approx. 3 sec. Release first "ON/OFF" switch. The display shows.

3. The 1. line depends of software version installed in the radio. Push "10011704" and "ENTER".



4. This display picture is reached.

5.16 Test frequency selection

Selection of test frequencies are descripted in this chapter. It is recommended to use the testfrequencies for the adjustments.

```
! !  0 01

CH+      Cal      Etc      END
```

1. The menu is reached by following chapter 5-15 point 1.-4. Select "Etc".

```
! !  0 01

Val      Chg               Ret
```

2. To select channelgroup select "Chg".

```
CH GROUP              0

X        Std               Ret
```

3. To select test frequency group select channelgroup "X".

```
! !  A 01

CH+      Cal      Etc      END
```

4. It gives access to the low/medium/high channel which is used for adjustment of the radio at the factory.

5.16.1 B-version (4 M)

CH. NO.	TX frequency	RX frequency
01	68 MHz	68 MHz
02	78 MHz	78 MHz
03	88 MHz	88 MHz

5.16.2 C-version (2 M)

CH. NO.	TX frequency	RX frequency
01	146 MHz	146 MHz
02	160 MHz	160 MHz
03	174 MHz	174 MHz

5.16.3 D-versions (0,7 M)

Testfrequencies depend of frequency range. The radio is made to a 20 MHz segment in 0,7 meter range, for instance.

CH. NO.	TX frequency	RX frequency
01	420 MHz	420 MHz
02	430 MHz	430 MHz
03	440 MHz	440 MHz

The transmitter frequencies can be measured by a counter.

5.17 User frequency selection

Selection of user frequencies are descriped in this chapter.

1. The menu is reached by following chapter 5-15 point 1.-4. Select "Etc".

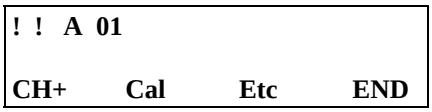
2. To select channelgroup select "Chg".

3. To select user frequency group select channelgroup "Std".

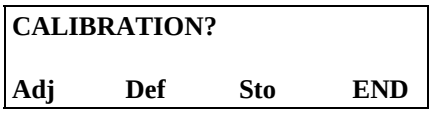
4. It gives access to the programmed user frequencies.

5.18 Adjusting TX modulation

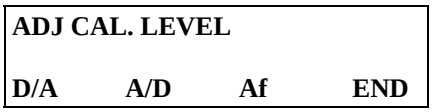
Standard and max. frequency deviation is adjusted in this chapter.



1. The menu is reached by following chapter 5-15 and 5-16. Select "Cal".



2. Select "Adj".



3. Select "Af".

4. Select "Tx".

P/F	Lim	Pk	Nxt

5. Select modulation type. Push "P/F".

TX MODULATION			
PM	FM		Ret

6. Select between phase- and frequency modulation. Lost users use phase modulation. Select "PM".

SET TX CONTROL			
P/F	Lim	Pk	Nxt

7. Set the peakdetektor i the VOGAD circuit. Select "Pk".

TX PEAK DET.			
On	Off		Ret

8. Switch the peakdetektor off. Select "Off".

SET TX CONTROL			
P/F	Lim	Pk	Nxt

9. "Nxt".

Af-Tx LEVEL			
Inp	Pro	Mod	Ret

10. Adjust the modulation level. Select "Mod".

MOD LEVEL 1/2		
1	2	Ret

11. Select "1" for adjusting max. deviation.

LEVEL/OFFS			
Lev	Off	Ch	Ret

12. Base VCO adjustment have to be made on low channel. Select "Ch".

TEST CH	01		
Ch+	Ch-	Mod	Ret

13. Select channel 1 with "Ch+" or "Ch-" and select "Mod".

SET BASE OFFS.		
Yes	No	Ret

14. Select "Yes" to make base offset of the VCO.

TEST CH	01

Ch+	**Ch-**	**Mod**	**Ret**

15. Select "Ret".

LEVEL/OFFS			**01**
Lev	**Off**	**Ch**	**Ret**

16. Select "Lev". Add 1 KHz signal with 50 mV amplitude to external microphone connector.

Af-Tx M1Lev			**XX**
+	**-**		**Ret**

17. The transmitter transmits. Measure the frequency deviation and adjust on "+" and "-" until the deviation is max. 5 KHz (25 KHz channelseparation). XX indicates a calibration value between 00 and 1F. Select "Ret".

LEVEL/OFFS			**01**
Lev	**Off**	**Ch**	**Ret**

18. Base VCO adjustment have to be made on the high channel. Select "Ch".

TEST CH			**03**
Ch+	**Ch-**	**Mod**	**Ret**

19. Select channel 03 with "Ch+" and "Ch-" and select "Ret".

LEVEL/OFFS			**03**
Lev	**Off**	**Ch**	**Ret**

20. Add 1 KHz signal with 50 mV amplitude to external microphone connector. Select "Off" for adjusting TX modulation offset.

Af-Tx Offs			**XX**
+	**-**		**Ret**

21. Adjust to max. 5 KHz deviation by selecting "+" and "-" for 25 KHz channel separation. XX is a calibration value between 00 and 7F. It is nescessary to adjust a few step forward and back because of trunking. Select "Ret".

LEVEL/OFFS			**03**
Lev	**Off**	**Ch**	**Ret**

22. Select "Ch".

TEST CH			**01**
Ch+	**Ch-**	**Mod**	**Ret**

23. Select channel 01 with "Ch+" and "Ch-". Select "Ret".

LEVEL/OFFS			**01**

Lev	Off	Ch	Ret

24. Select "Ret".

MOD LEVEL 1/2			
1	2		Ret

25. Select "Ret".

Af-Tx LEVEL			
Inp	Pro	Mod	Ret

26. Select "Ret".

SET Af LEVEL			
Rx	Tx	Ton	Ret

27. Select "Tx".

SET TX CONTROL			
P/K	Lim	Pk	Nxt

28. Switch the peakdetector in the audioprocessor on. Select "Pk".

TX PEAK DET.		
On	Off	Ret

29. Select "On".

SET TX CONTROL			
P/F	Lim	Pk	Nxt

30. Select "Nxt".

Af-Tx LEVEL			
Inp	Pro	Mod	Ret

31. Add 1 KHz signal with 5 mV amplitude to external microphone connector. Select "Inp".

Af-Tx Iplev			X
+	-	Set	Ret

32. Adjust on "+" and "-" until the deviation is 3 KHz +/-0,1 KHz for 25 KHz channel separation. X is a number between 0 and F. Increase inputsignal to 50 mV. Check that max. deviation is approx. 4 KHz for 25 KHz channel separation. Select "Set".

SET Tx Iplev			
Int	Ext	I+E	Ret

33. Select "I+E". Whitch stores the same settings for internal and external microphone.

Af-Tx Iplev			X
+	-	Set	Ret

34. Select "Ret". X is a number between 0 and F.

Af-Tx LEVEL			
Inp	Pro	Mod	Ret

35. Select "Ret".

SET Af LEVEL			
Rx	Tx	Ton	Ret

36. Select "Ret".

ADJ CAL. LEVEL			
D/A	A/D	Af	END

37. Select "END".

CALIBRATION ?			
Adj	Def	Sto	END

38. Store TX audio frequency calibration data. Select "Sto".

STORE DATA ?		
Yes	No	Ret

39. If calibration data are OK. Select "Yes".

CALIBRATION ?			
Adj	Def	Sto	END

40. To finish adjustment select chapter 5-25. If you want to make an other adjustment select point 2 in a chapter between 5-18 and 5-24 inclusive. See page number in chapter 5-14 "Adjustment" page 9.

5.19 Adjusting TX tone modulation

Frequency deviation of tonemodulation is adjusted in this chapter.

! ! A 01			
CH+	Cal	Etc	END

1. The menu is reached by following chapter 5-15 and 5-16. Select "Cal".

CALIBRATION ?			
Adj	Def	Sto	END

2. Select "Adj".

ADJ CAL. LEVEL			
D/A	A/D	Af	END

3. Select "Af".

SET Af LEVEL			
Rx	Tx	Ton	Ret

4. Adjust the tonemodulation deviation. Select "Ton".

TONE MODULA.			
FM	PM	Ctc	Nxt

5. Select "PM" for a radio with PM modulation.

Test tone			
500	1K	2K	Ret

6. Select "1K" for 1000 Hz test tone.

Af-Ton Plev			X
+	-		Ret

7. The radio begins to transmit. Adjust "+" and "-" to 1,7 KHz deviation for 25 KHz channel separation. X is a number between 0 and F. Select "Ret".

Test tone			
500	1K	2K	Ret

8. Select "2K" for 2000 Hz test tone.

Af-Ton Plev			X
+	-		Ret

9. The radio begins to transmit. Check the deviation. It shall be approx. 2,5 KHz for 25 KHz channel separation. Select "Ret".

Test tone			
500	1K	2K	Ret

10. Select "Ret".

SET Af LEVEL			
Rx	Tx	Ton	Ret

11. The CTCSS tone deviation shall be adjusted. Select "Ton".

TONE MODULA.

FM	PM	Ctc	Nxt

12. Select "Ctc".

Test tone			
75	150	250	Ret

13. Use 150 Hz test tone. Select "150".

Af-Ctcss Lev			X
+	-		Ret

14. The transmitter transmits. Adjust deviation to 600 Hz +/-100 Hz on "+" and "-" for 25 KHz channelseparation and 300 Hz +/- for 12,5 KHz channelseparation. X is a number between 0 and 7. Select "Ret".

TONE MODULA.			
FM	PM	Ctc	Nxt

15. Select "Ctc".

Test tone			
75	150	250	Ret

16. Use 250 Hz control tone to check the deviation. Select "250". The deviation shall be between 500 and 1000 Hz for 25 kHz channelseparation.

Af-Ctcss Lev			X
+	-		Ret

17. Select "Ret".

TONE MODULA.			
FM	PM	Ctc	Nxt

18. Select "Nxt".

Test tone			
500	1K	2K	Ret

19. Select "Ret".

SET Af LEVEL			
Rx	Tx	Ton	Ret

20. Select "Ret".

ADJ CAL. LEVEL

D/A	A/D	Af	END

21. Select "END".

CALIBRATION ?			
Adj	Def	Sto	END

22. To store TX tone calibration data. Select "Sto".

STORE DATA ?			
Yes	No		Ret

23. If tone calibration data are OK. Select "Yes".

CALIBRATION ?			
Adj	Def	Sto	END

24. To finish adjustment select chapter 5-25. If you want to make an other adjustment select point 2 in a chapter between 5-18 and 5-24 inclusive. See page number in chapter 5-14 "Adjustment" page 9.

5.20 Adjusting RF output power level

In this chapter is explaned how to adjust the power amplifier in low-, mediumand high power mode. To make an exact ajustment it is important to use short wires between the 7,2 V power supply and the radio. Measure the voltage at the battery adaptor terminals and adjust the power supply.

! ! A 01			
CH+	Cal	Etc	END

1. The menu is reached by following chapter 5-15 and 5-16. We need to use the calibration function "Cal". Select "Cal".

CALIBRATION ?			
Adj	Def	Sto	END

2. Select the adjustfunction "Adj".

ADJ CAL. LEVEL			
D/A	A/D	Af	END

3. Adjust the D/A converter which supplies the power amplifier control circuit with a control voltage which control the RF output power. Select "D/A".

D/A LEVEL CAL.		
Sq	Pa	Ret

4. Select "Pa" for adjusting RF power amplifier.

PA LEVEL			1F
+	-	Set	Ret

5. Push "PTT" and adjust output power to 5 W on "+" and "-". Measure the supply voltage on the battery adaptor. It shall be 7,2 V. Select "Set".

SET H/M/L ?			
H	**M**	**L**	**Ret**

6. Select "H" to select high output power level.

PA LEVEL			**16**
+	**-**	**Set**	**Ret**

7. Push "PTT" switch and adjust output power to 2,5 W on "+" and "-". Select "Set".

SET H/M/L ?			
H	**M**	**L**	**Ret**

8. Select "M" to set the medium output power level.

PA LEVEL			**07**
+	**-**	**Set**	**Ret**

9. Push "PTT" switch and adjust output power to 1 W on "+" and "-". Select "Set".

SET H/M/L ?			
H	**M**	**L**	**Ret**

10. Select "L" to set the low output power level.

PA LEVEL			**07**
+	**-**	**Set**	**Ret**

11. Select "Ret".

D/A LEVEL CAL.		
Sq	**Pa**	**Ret**

12. Select "Ret".

ADJ CAL. LEVEL			
D/A	**A/D**	**Af**	**END**

13. Select "END".

CALIBRATION ?			
Adj	**Def**	**Sto**	**END**

14. Store calibration data for TX power amplifier. Select "Sto".

STORE DATA ?

Yes	**No**	**Ret**

15. If calibration data are OK. Select "Yes".

CALIBRATION ?			
Adj	**Def**	**Sto**	**END**

16. To finish adjustment select chapter 5-25. If you want to make an other adjustment select point 2 in a chapter between 5-18 and 5-24 inclusive. See page number in chapter 5-14 "Adjustment" page 9.

5.21 Adjusting RX audio frequency

In this chapter is explaned how to adjust the audio processor to get the right audio frequency level to the internal and the external audio frequency outputs.

! ! A 01			
CH+	**Cal**	**Etc**	**END**

1. The menu is reached by following chapter 5.15 and 5.16. We need to use the calibration function "Cal". Select "Cal".

CALIBRATION ?			
Adj	**Def**	**Sto**	**END**

2. Select the adjustfunction "Adj".

ADJ CAL. LEVEL			
D/A	**A/D**	**Af**	**END**

3. We want to adjust audio frequency circuit. Select "Af".

SET Af LEVEL			
Rx	**Tx**	**Ton**	**Ret**

4. To adjust RX audio frequency circuit select "Rx" and turn volume control to max. audio volume out. Connect testjig to external connector to measure RX audio frequency output.
Connect antenna input to a signalgenerator.

Vin	=	-50 dBm,
f	=	1000 Hz and
frequency deviation	=	1,6 KHz for 25 KHz channel separation.

SET RX CONTROL		
P/F	**Lim**	**Nxt**

5. Modulation mode shall be selected. Select "P/F".

RX MODULATIO		
FM	**PM**	**Ret**

6. Select between "FM" and "PM". Most radiosystems use PM. Select "PM".

SET RX CONTROL		
P/F	Lim	Nxt

7. Select "Lim".

RX LIMITER		
On	Off	Ret

8. To switch off the limiter select "Off".

SET RX CONTROL		
P/F	Lim	Nxt

9. Select "Nxt".

Af-Rx LEVEL		
Inp	Pro	Ret

10. To adjust input circuit select "Inp".

Af-Rx IpLev			7
+	-	Set	Ret

11. Adjust on "+" and "-" until output level is 1,9 Vrms with max. 10% distortion. Select "Set".

SET Rx IpLev			
Int	Ext	I+E	Ret

12. Select "I+E" whitch stores the setting for internal and external loudspeaker.

Af-Rx IpLev			7
+	-	Set	Ret

13. Select "Ret".

Af-Rx LEVEL		
Tnp	Pro	Ret

14. Select "Ret".

SET Af LEVEL			
Rx	Tx	Ton	Ret

15. Select "Ret".

ADJ CAL. LEVEL

D/A	A/D	Af	END

16. Select "END".

CALIBRATION ?			
Adj	Def	Sto	END

17. To store RX AF calibration data select "Sto".

STORE DATA ?		
Yes	No	Ret

18. If tone calibration data are OK. Select "Yes".

CALIBRATION ?			
Adj	Def	Sto	END

19. To finish adjustment select chapter 5-25. If you want to make an other adjustment select point 2 in a chapter between 5-18 and 5-24 inclusive. See page number in chapter 5-14 "Adjustment" page 9.

5.22 Adjusting squelch level and hysteresis

In this chapter is explaned how to adjust the squelch level and hysteresis.

! ! A 01			
CH+	Cal	Etc	END

1. The menu is reached by following chapter 5-15 and 5-16. We need to use the calibration function "Cal". Select "Cal".

CALIBRATION ?			
Adj	Def	Sto	END

2. Select the adjustfunction "Adj".

ADJ CAL. LEVEL			
D/A	A/D	Af	END

3. The master computer controls the squelch circuit via the D/A converter. Select "D/A".

D/A LEVEL CAL.		
Sq	Pa	Ret

4. To adjust the squelch select "Sq".

SQUELCH SET		
Lev	Hys	Ret

5. To adjust the squelch level select "Lev".

SQ LEVEL		**12**
+	**-**	**Ret**

6. Adjust the RF level to 3 dB below the 12 dB SINAD sensivity level of the receiver. Typically it is -121 Bm for B- and C-versions and -119 dBm for D-versions.
   Adjust "+" until the display shows 1F. The loudspeaker opens. Adjust "-" until the loudspeaker closes. Select "Ret".

SQUELCH SET		
Lev	**Hys**	**Ret**

7. Increase the RF level 1,5 dB. To adjust squelch hysteresis select "Hys".

SQ HYST		**2**
+	**-**	**Ret**

8. Adjust "+" and "-" until the squelch closes the loudspeaker at 3 dB below 12 dB SINAD level and opens the loudspeaker between -1 dB and -2 dB below 12 dB SINAD level. Select "Ret".

SQUELCH SET		
Lev	**Hys**	**Ret**

9. Check the squelch level adjustment. It can be nescessary to adjust squelch level and hysteresis one more time. After check select "Ret".

D/A LEVEL CAL.		
Sq	**Pa**	**Ret**

10. Select "Ret".

ADJ CAL. LEVEL			
D/A	**A/D**	**Af**	**END**

11. Select "END".

CALIBRATION ?			
Adj	**Def**	**Sto**	**END**

12. To store squelch level and hysteresis calibration data select "Sto".

STORE DATA ?		
Yes	**No**	**Ret**

13. If squelch calibration data are OK. Select "Yes".

CALIBRATION ?			
Adj	**Def**	**Sto**	**END**

14. To finish adjustment select chapter 5-25. If you want to make an other adjustment select point 2 in a chapter between 5-18 and 5-24 inclusive. See page number in chapter 5-14 "Adjustment" page 9.

5.23 Adjusting low battery and transmitter blocking level

In this chapter is explaned how to adjust the low battery and transmitter blocking function.

! ! A 01			
CH+	**Cal**	**Etc**	**END**

1. The menu is reached by following chapter 5-15 and 5-16. We need to use the calibration function "Cal". Select "Cal".

CALIBRATION ?			
Adj	**Def**	**Sto**	**END**

2. Select the adjustfunction "Adj".

ADJ CAL. LEVEL			
D/A	**A/D**	**Af**	**END**

3. The master computer controls the low battery circuit via the A/D converter. Select "A/D".

SET A/D LEVEL			
Bat			**Ret**

4. To adjust low battery function select "Bat".

XX	**XX Batt**	**C5**	
Low	**TxB**		**Ret**

5. Adjust external power supply to 6,8 V and select "Low" to store low battery voltage value.

XX	**XX Batt**	**B9**	
Low	**TxB**		**Ret**

6. 1. Connect voltmeter to terminals of battery adaptor to measure supply voltage.
   2. Select high transmitting power, "H", with keyboard switch #2. Adjust power supply voltage to min. 7,2 V.
   3. Push "PTT" and adjust power supply to 6,0 V at battery adaptor.
   4. Select "TxB" to store TX blocking voltage.

XX	**XX Batt**	**A5**	
Low	**TxB**		**Ret**

7. 1. Adjust the power supply to 7,5 V.
   2. Decrease the power supply voltage slowly.
   3. At **6,8 V** the display shall write **Change batt** or **"skift batteri"** (DK).
   4. Press PTT switch. At approx. **6,0 V** the display writes **Battery emty** or **"batteri tom"** (DK).
   5. Check that the radio switches off the transmitter.
   6. Select "Ret".

SET A/D LEVEL			
Bat			Ret

8. Select "Ret".

ADJ CAL. LEVEL			
D/A	A/D	Af	END

9. Select "END".

CALIBRATION ?			
Adj	Def	Sto	END

10. To store "low batt" and "TX block" calibration data select "Sto".

STORE DATA ?			
Yes	No		Ret

11. If "low batt" and "TX block" calibration data are OK. Select "Yes".

CALIBRATION ?			
Adj	Def	Sto	END

12. To finish adjustment select chapter 5-25. If you want to make an other adjustment select point 2 in a chapter between 5-18 and 5-24 inclusive. See page number in chapter 5-14 "Adjustment" page 9.

5.24 Fundamental adjustment

Normally the function in this chapter is not used. It is a kind of distress function if anything under adjustments go wrong.

The function is used to set the adjustings in the radio in such a way so the circuits allow signal to pass through the transmitter and receiver circuits in the radio.

It is nescessary to make all adjustments after use of this function.

! ! A 01			
CH+	Cal	Etc	END

1. The menu is reached by following chapter 5-15 and 5-16. We need to use the calibration function "Cal". Select "Cal".

CALIBRATION ?			
Adj	Def	Sto	END

2. Select the default function "Def".

SET DEFAULT ?			
YES		?	Ret

3. Select "YES" and "Ret".

CALIBRATION ?			
Adj	**Def**	**Sto**	**END**

4. To make adjustments select "Adj".

ADJ CAL. LEVEL			
D/A	**A/D**	**Af**	**END**

5. **How to make adjustment?** Please see in chapter 5-14 "Adjustment" at page 9 in the maintenance section of TRX 1001 manual.

5.25 Finishing adjustment

In this chapter is descriped how to go from adjustment mode to user mode.

CALIBRATION ?			
Adj	**Def**	**Sto**	**END**

1. Select "END".

! ! A 01			
CH+	**Cal**	**Etc**	**END**

2. Select "END".

EXIT SERVICE ?			
Yes	**No**		**Ret**

3. Select "Yes".

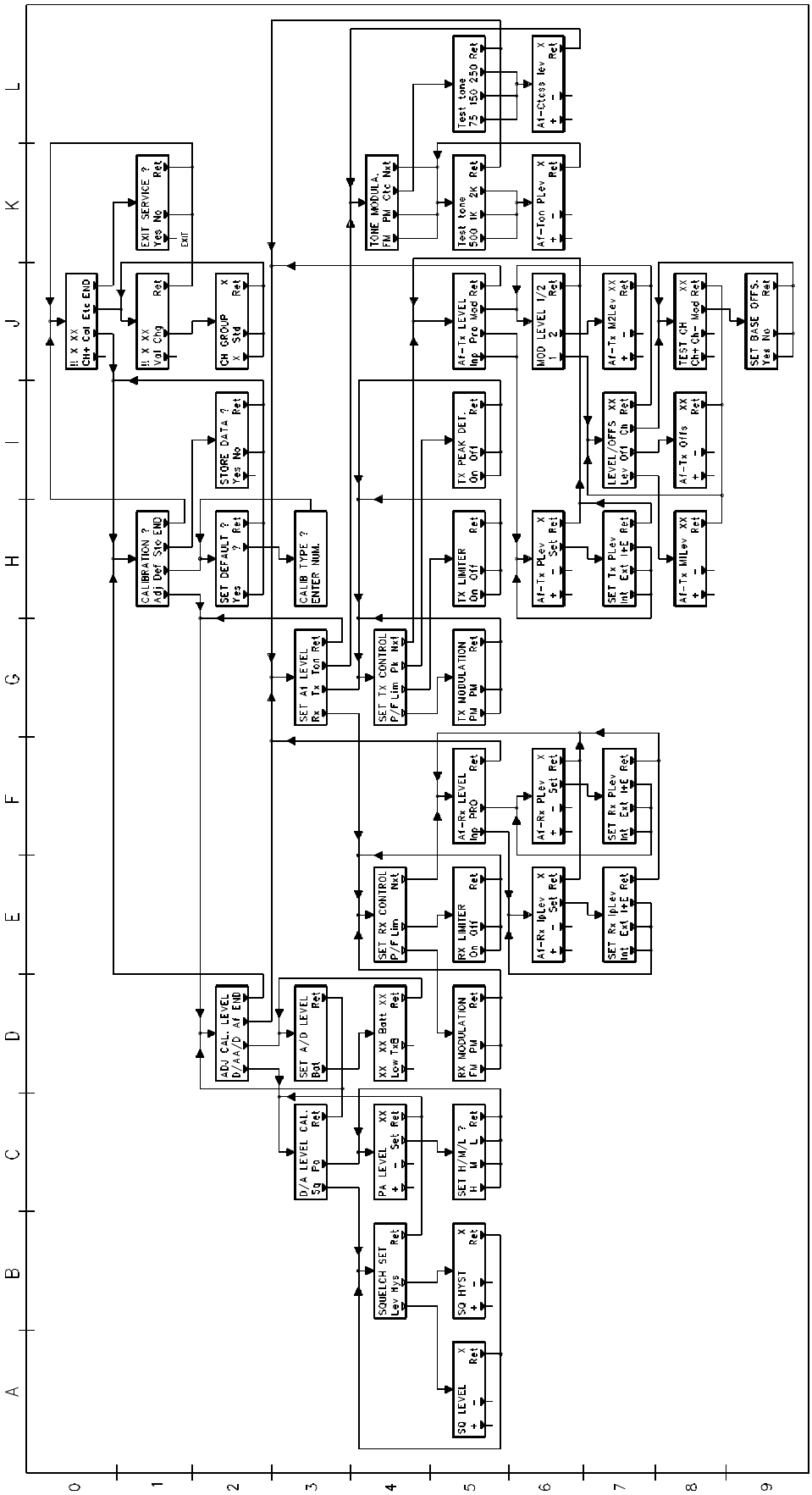
INIT SETUP ?			
Yes	**No**		**Ret**

4. Select "Yes".

01			**00**
CH	**SQ**	**H/L**	**XX**

5. We have the user display showing. Line no. 2 can have different symbols.
Now the NIROS TRX 1001 radio is ready for use.

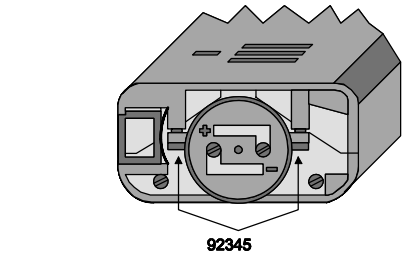
5.26 Adjustment flow chart



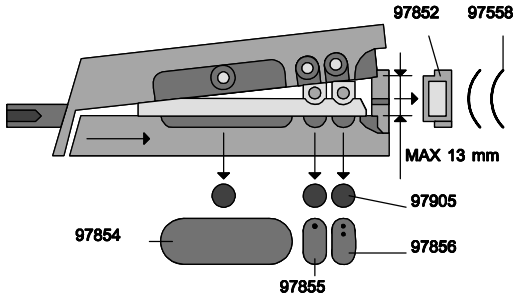
File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for TRX1001	TN	22-12-05	TN	13-06-98	0	PA

6. Mechanics

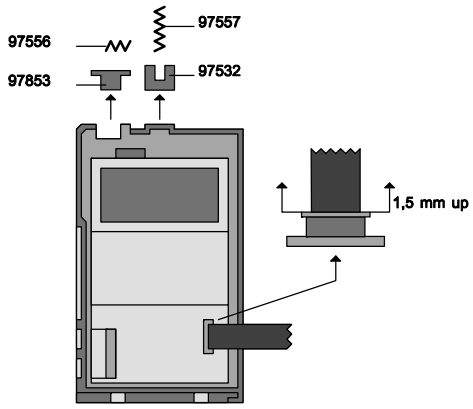
6.1 Disassembly of TRX1001



REMOVE
Use a hexagon ball driver 2 mm.

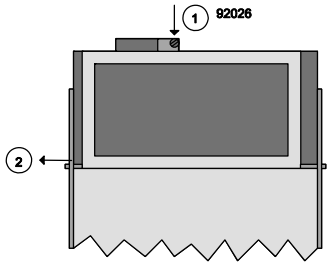


Open carefully to a maximum of 13 mm.
Then remove 3 keypads, 3 rubber pads, 1 battery lock and 2 springs.
Slide the lower part to the right and open carefully not to damage the Flexboard.



Remove 2 springs and 2 lock pawls at the top.
Pull up brown lock on plug to Flexboard 1,5 mm, and remove Flexboard.

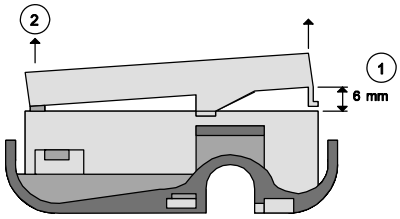
REMOVE



PULL GENTLY

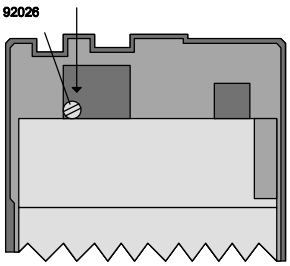
Remove screw #1 then pull gently the side wall of the metal screen box to release the Display.

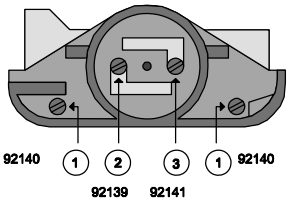
PULL **PULL**



Pull up the Display at #1 then at #2.

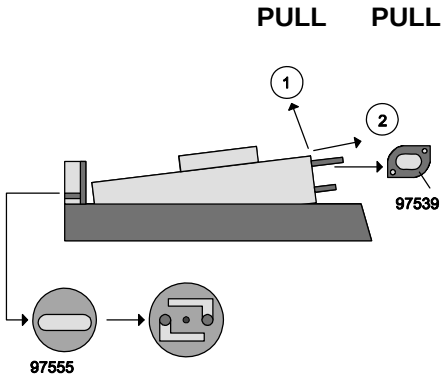
REMOVE





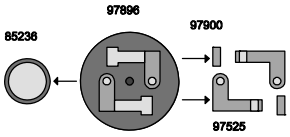
REMOVE

Please observe #1 screws are made of stainless steel and shall be separate from #2 and #3 screws. #2 are shorter then #3.

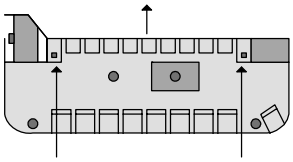


Remove battery connector and gasket at microphone plug.
Pull up metal screen box at microphone plug then slide metal screen box to the right to disassemble the mechanics.

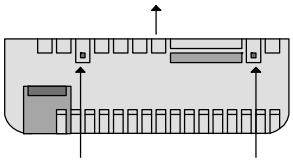
6.1.1 Battery connector disassembly.



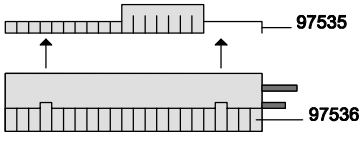
6.1.2 Disassembly of metal screen box



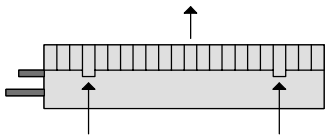
Pull out lock arms gently and lift up metal screen box lid.



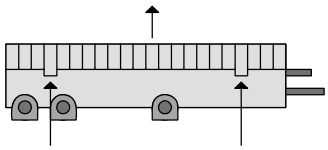
Pull out lock arms gently and lift up metal screen box lid.



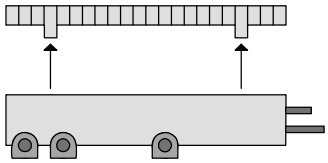
Remove metal screen box lid.



Pull out lock arms gently and lift up metal screen box lid.

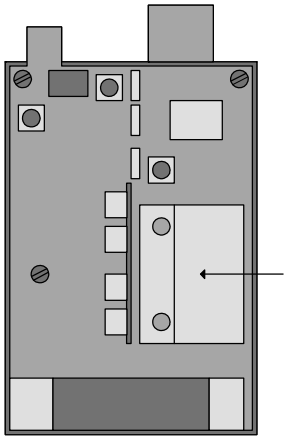


Pull out lock arms gently and lift up metal screen box lid.

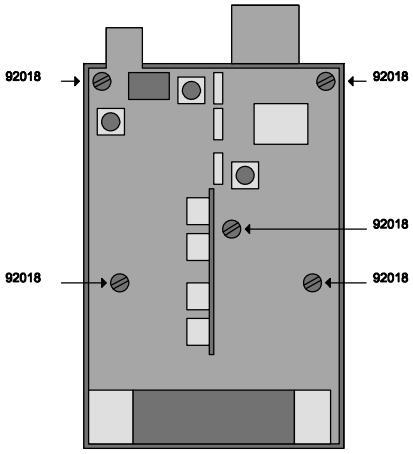


Remove metal screen box lid.

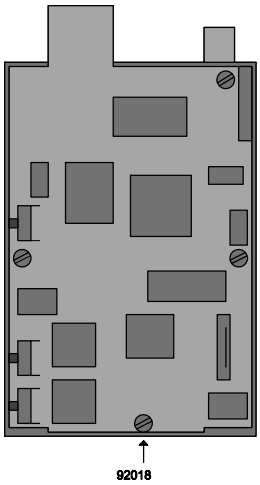
6.1.3 Disassembly of Radioboard.



Pull **VCO** up gently.

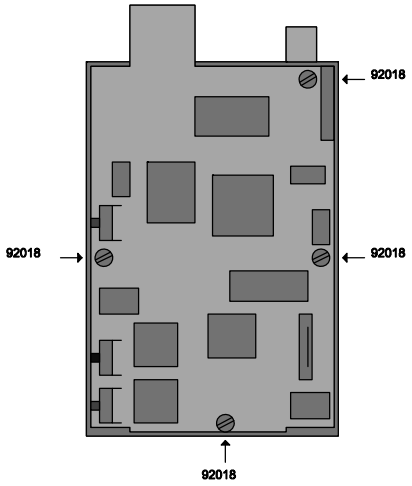


Remove 5 screws from Radioboard.



Remove 1 screw from Systemboard.

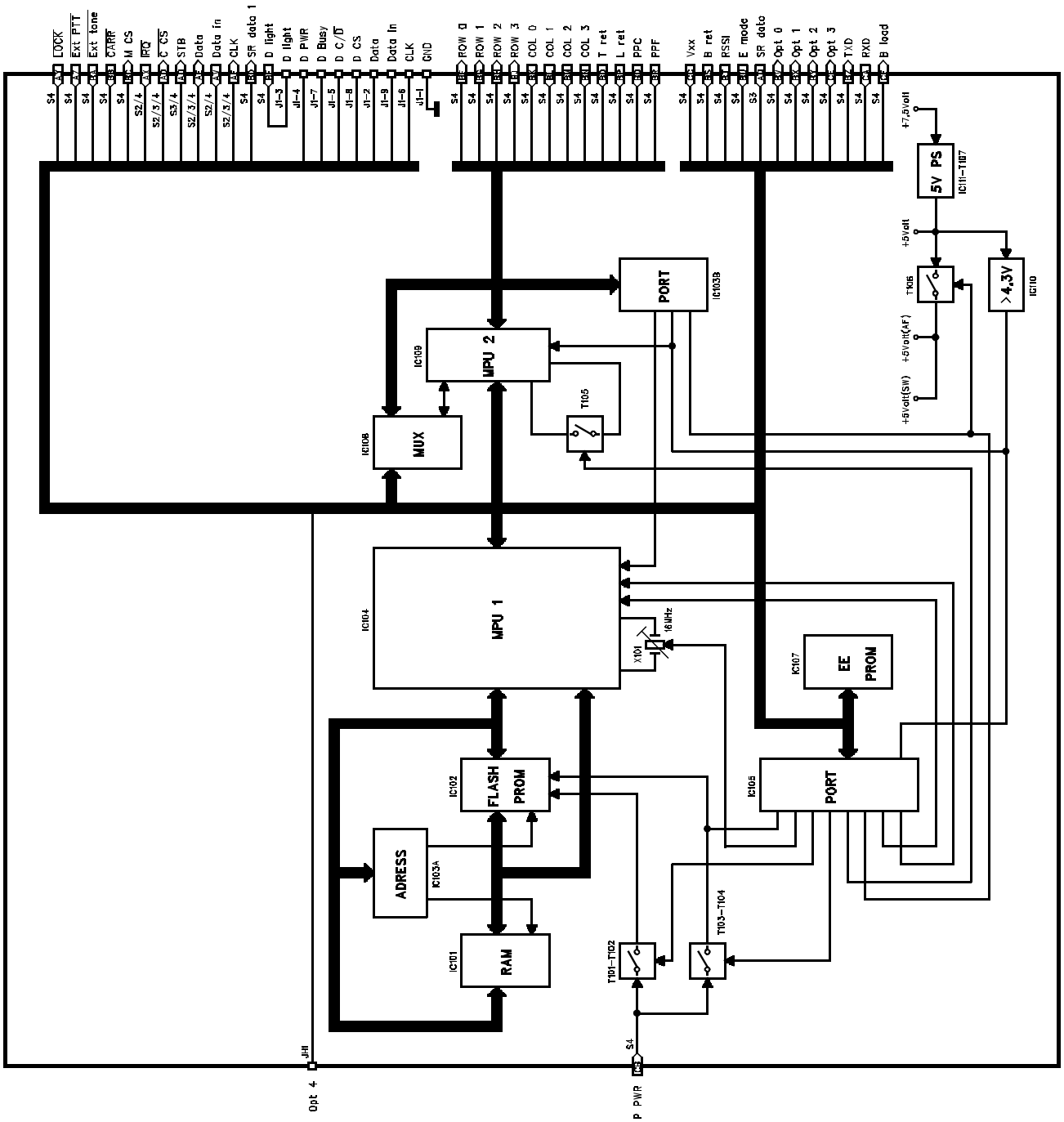
6.1.4 Disassembly of Systemboard.



Remove 4 screws.

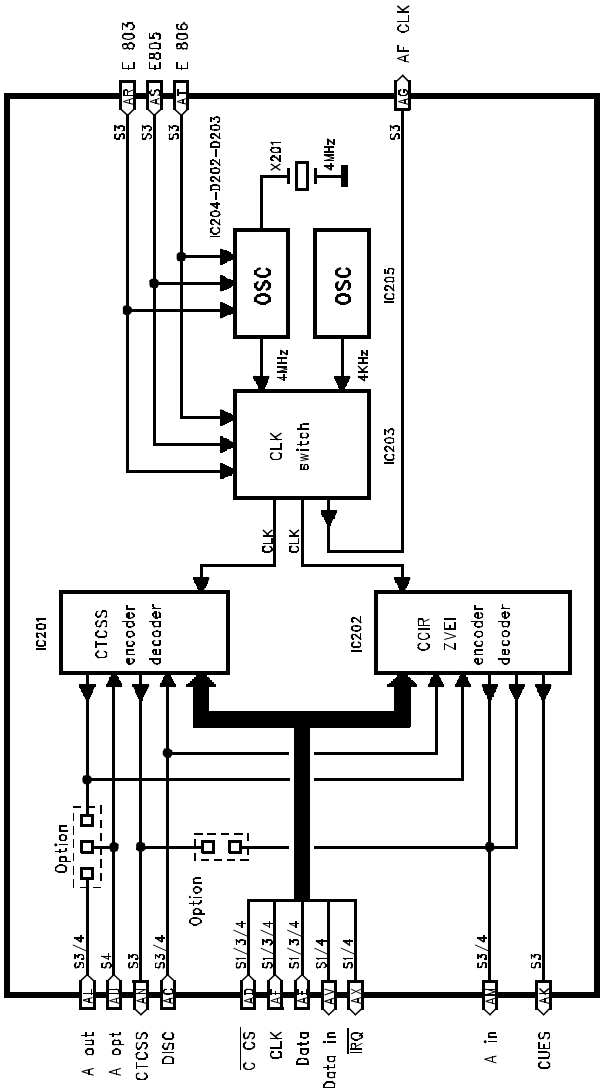
7. Systemboard TRX1001

7.1 Blockdiagram



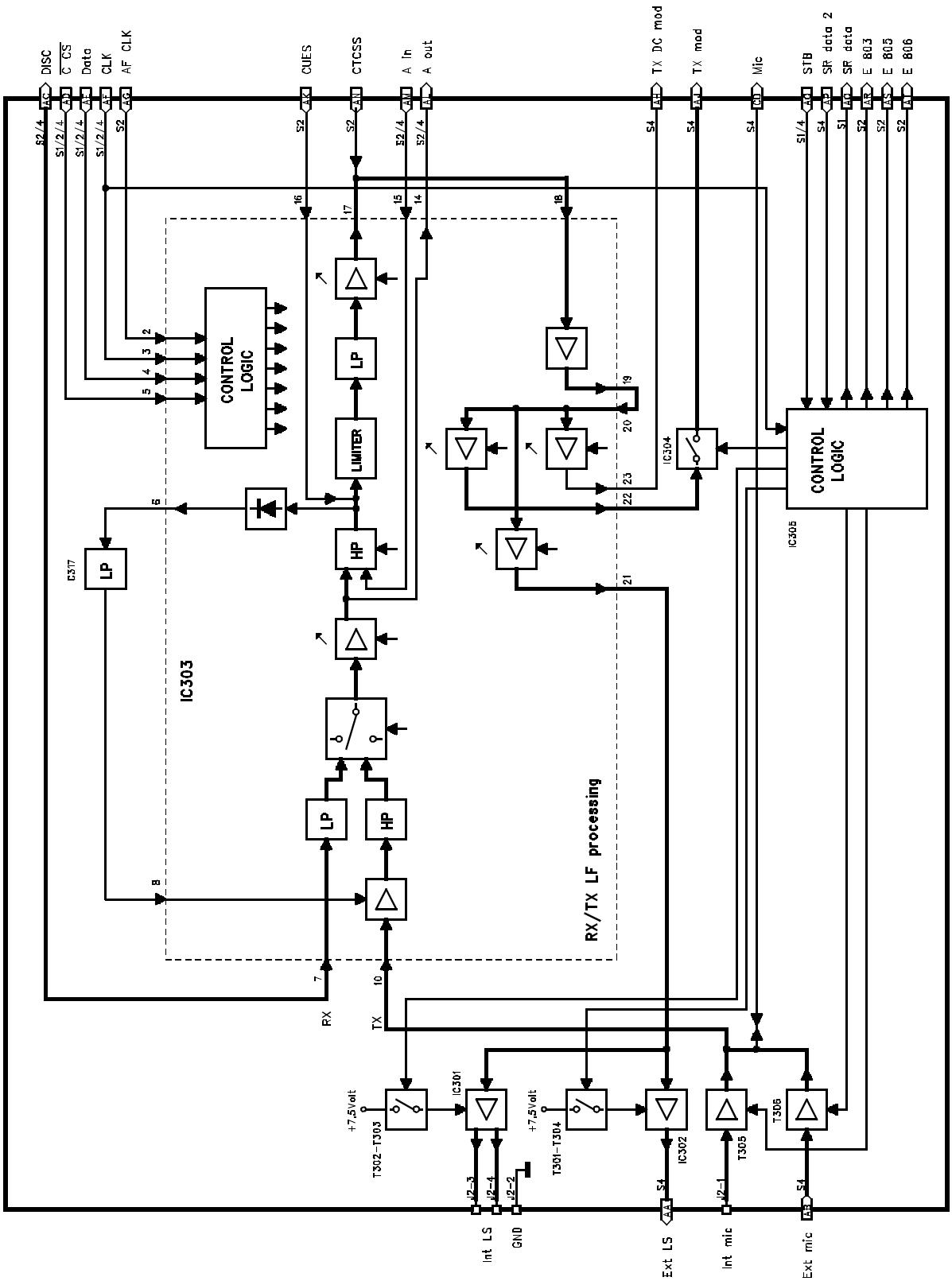
SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 19-9-94	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		Block diagram Systemboard TRX1001 MPU
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: D-9621-03-0 p 1 of 4			PCB NO: 701-X UNIT NO: 5700



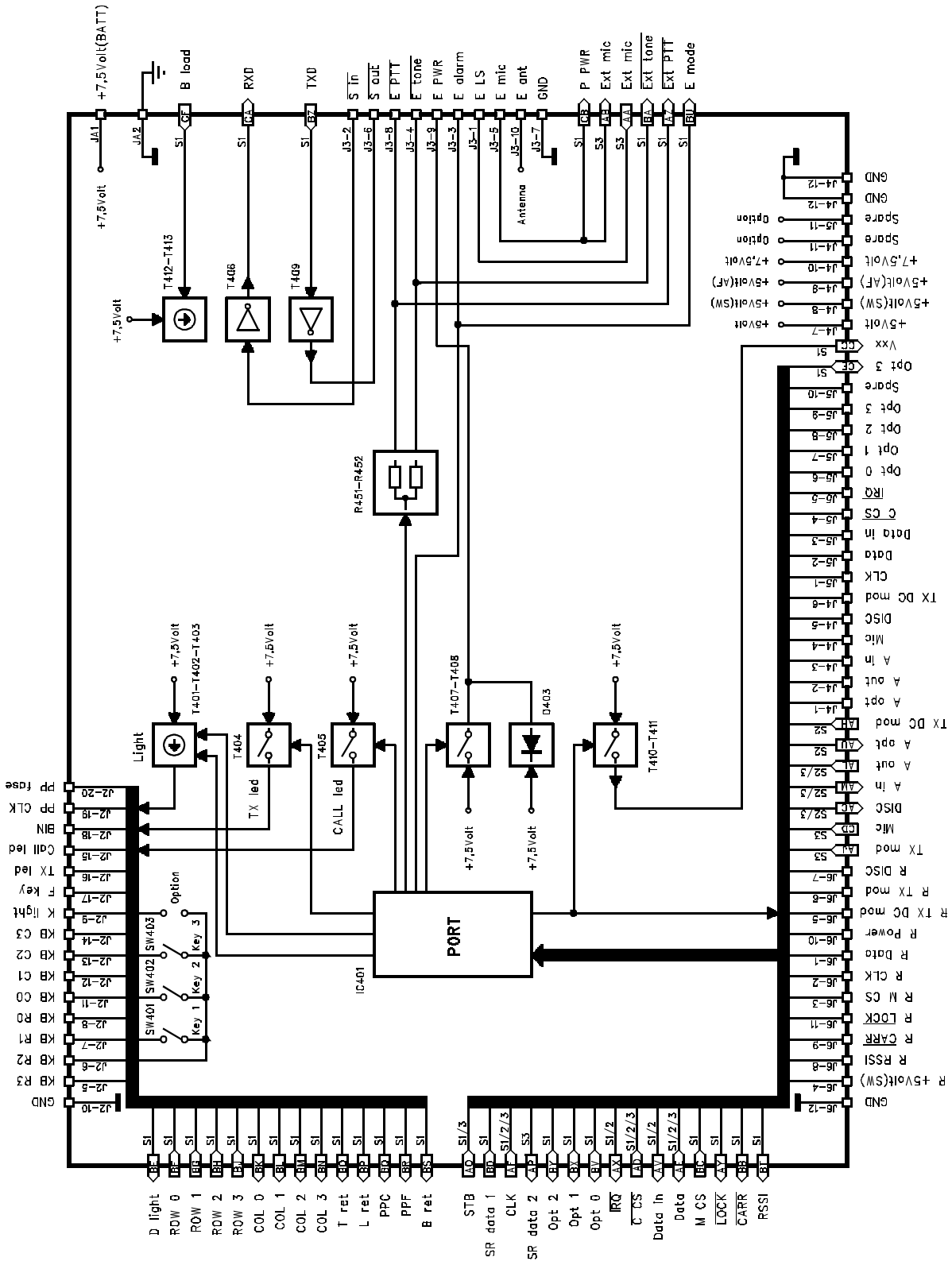
SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 19-9-94	SIGN: PH	D	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		Block diagram Systemboard TRX1001 Tone Decoder/encoder
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: 0-9821-03-0 p 2 of 4			PCB NO: 701-X UNIT NO: 5700



SUBJECT TO CHANGE WITHOUT NOTICE

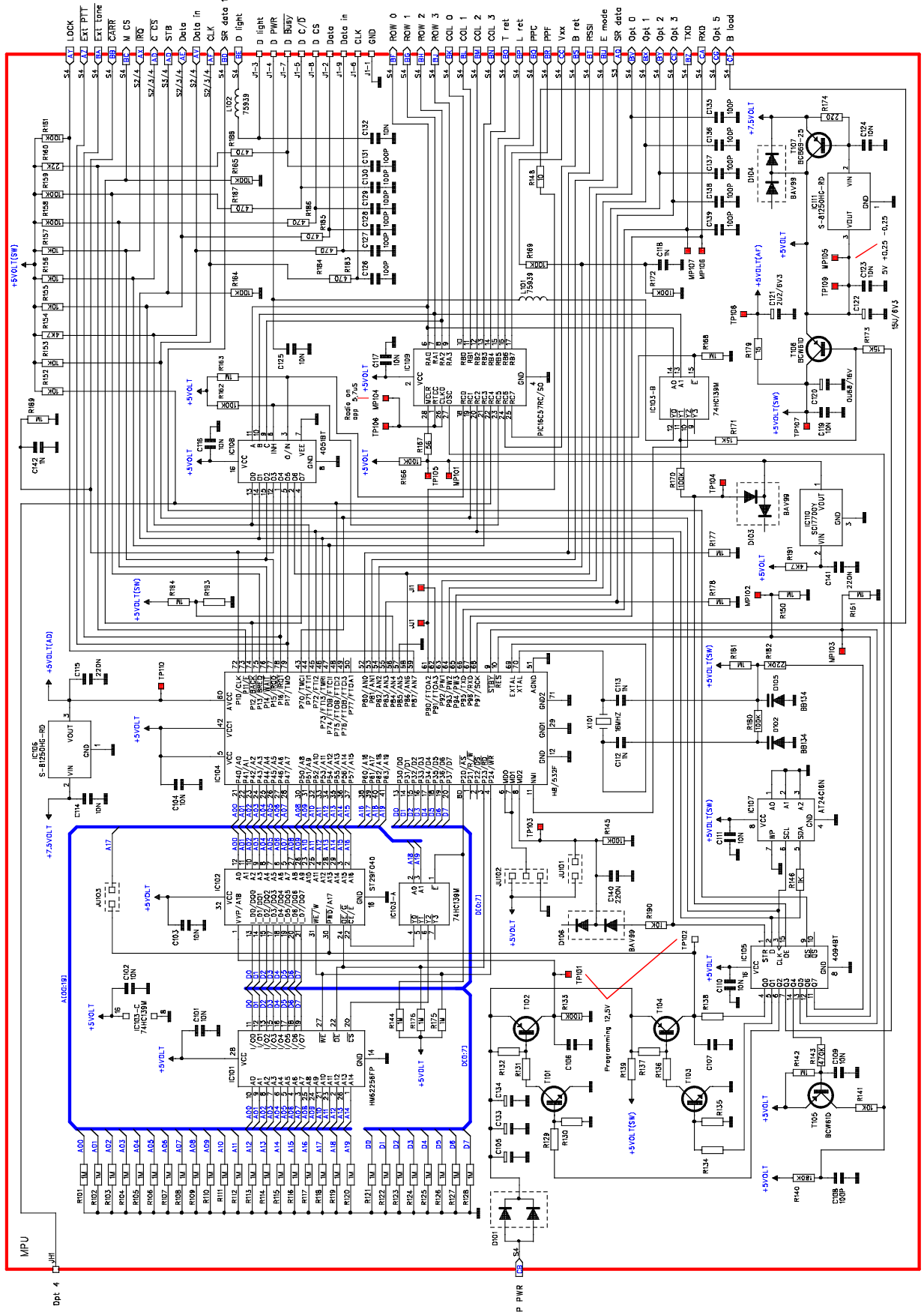
DATE: 19-9-94	SIGN: PH	D	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		Block diagram Systemboard TRX1001 Main AF
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: D-9621-03-0 p 3 of 4			PCB NO: 701-X UNIT NO: 5700



SUBJECT TO CHANGE WITHOUT NOTICE

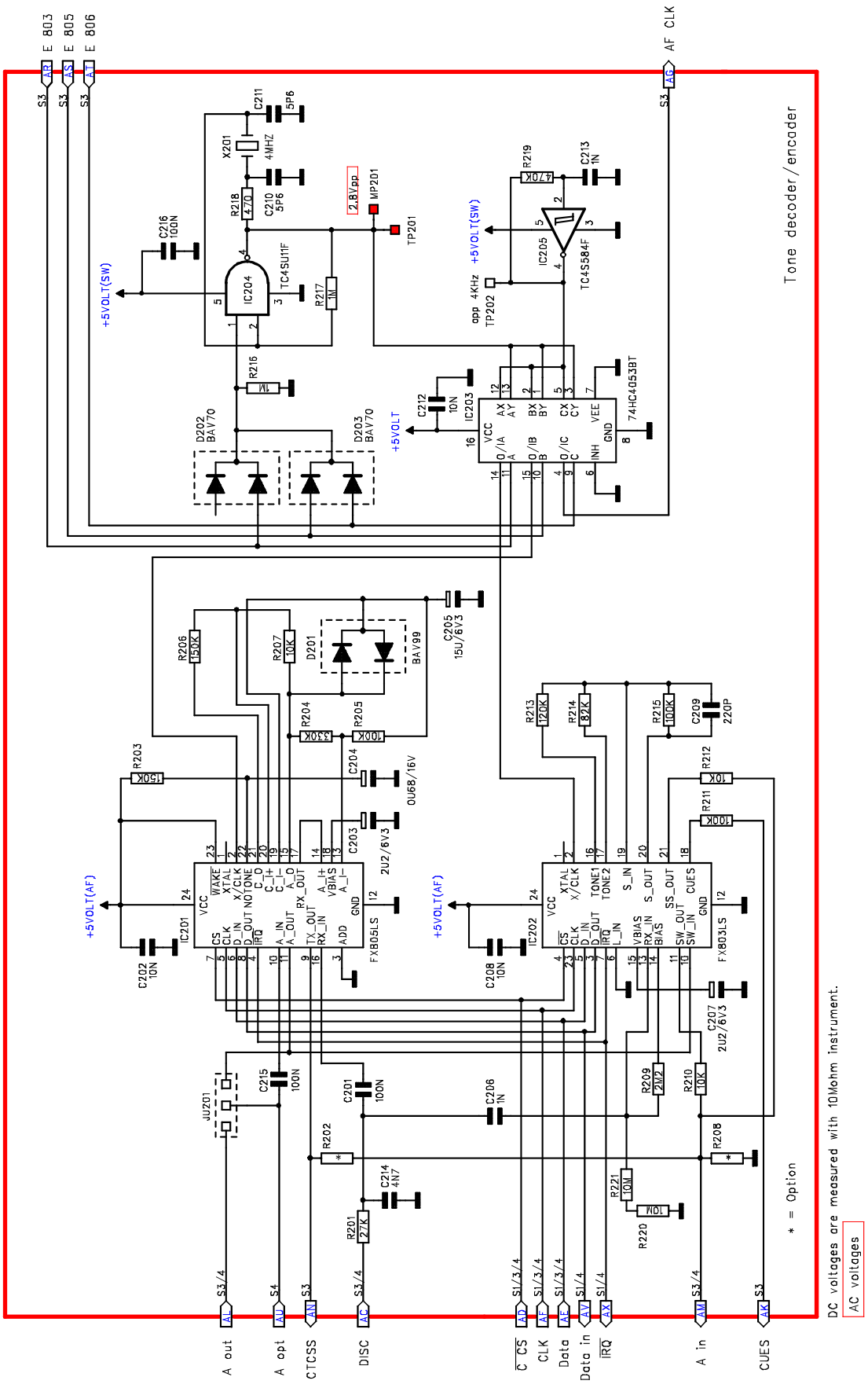
DATE: 19-9-94	SIGN: PH	D	NIROS TELECOMMUNICATION A/S HRSEMARKEN 5, 3520 FARUM
DATE:	SIGN:		
DATE:	SIGN:		Block diagram Systemboard TRX1001 Interface
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: D-9621-03-D p 4 of 4			PCB NO: 701-X UNIT NO: 5700

7.2 Diagram

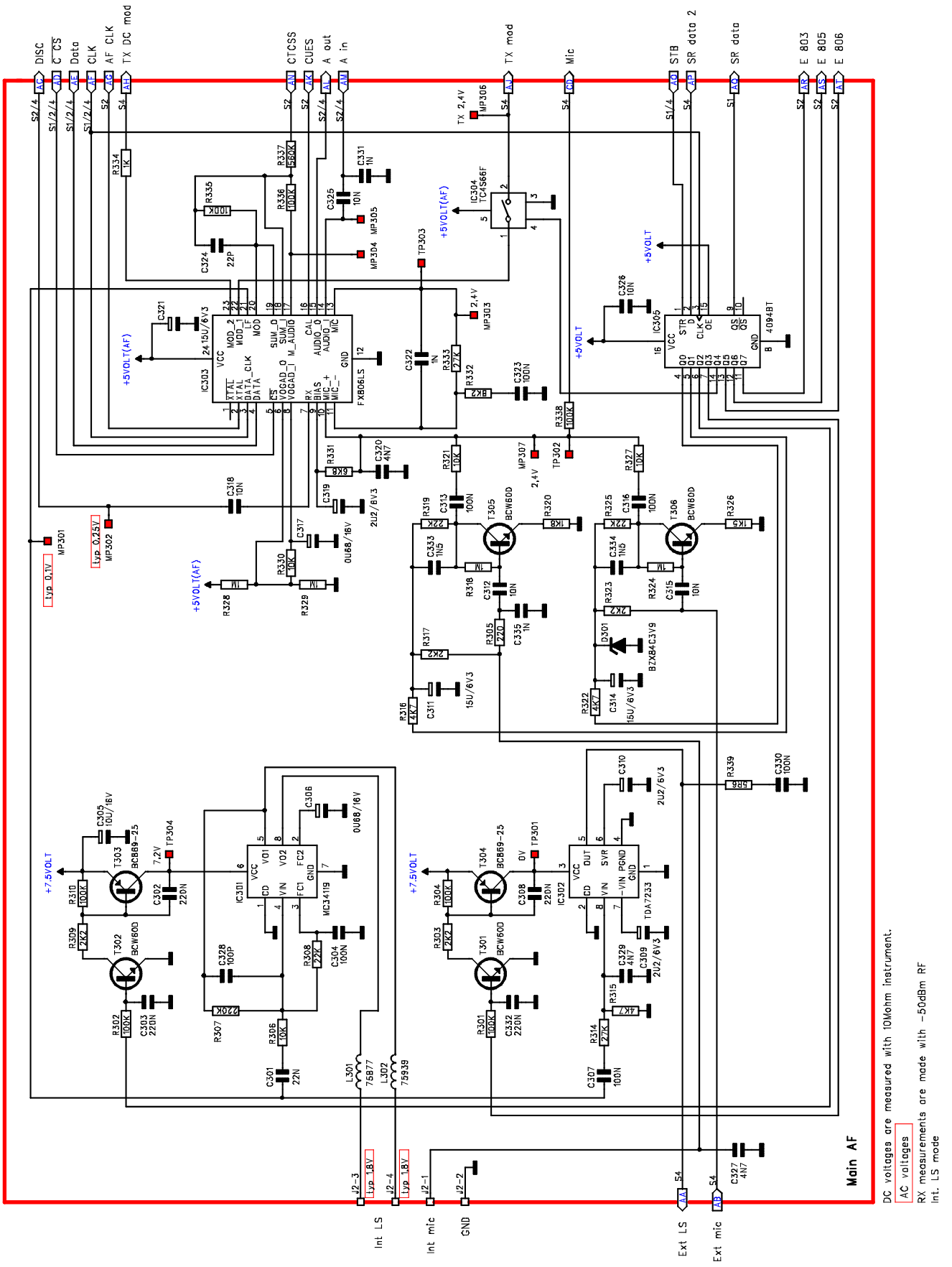


SUBJECT TO CHANGE WITHOUT NOTICE

Date: 18-11-2002 Sign: PA	8	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Systemboard TRX1001
Date: 01-08-2004 Sign: PA	9		
Drawing No.: 0-9601-03-9 p 1 of 4		PC. Board No.: 701-8	Unit No.: 5700

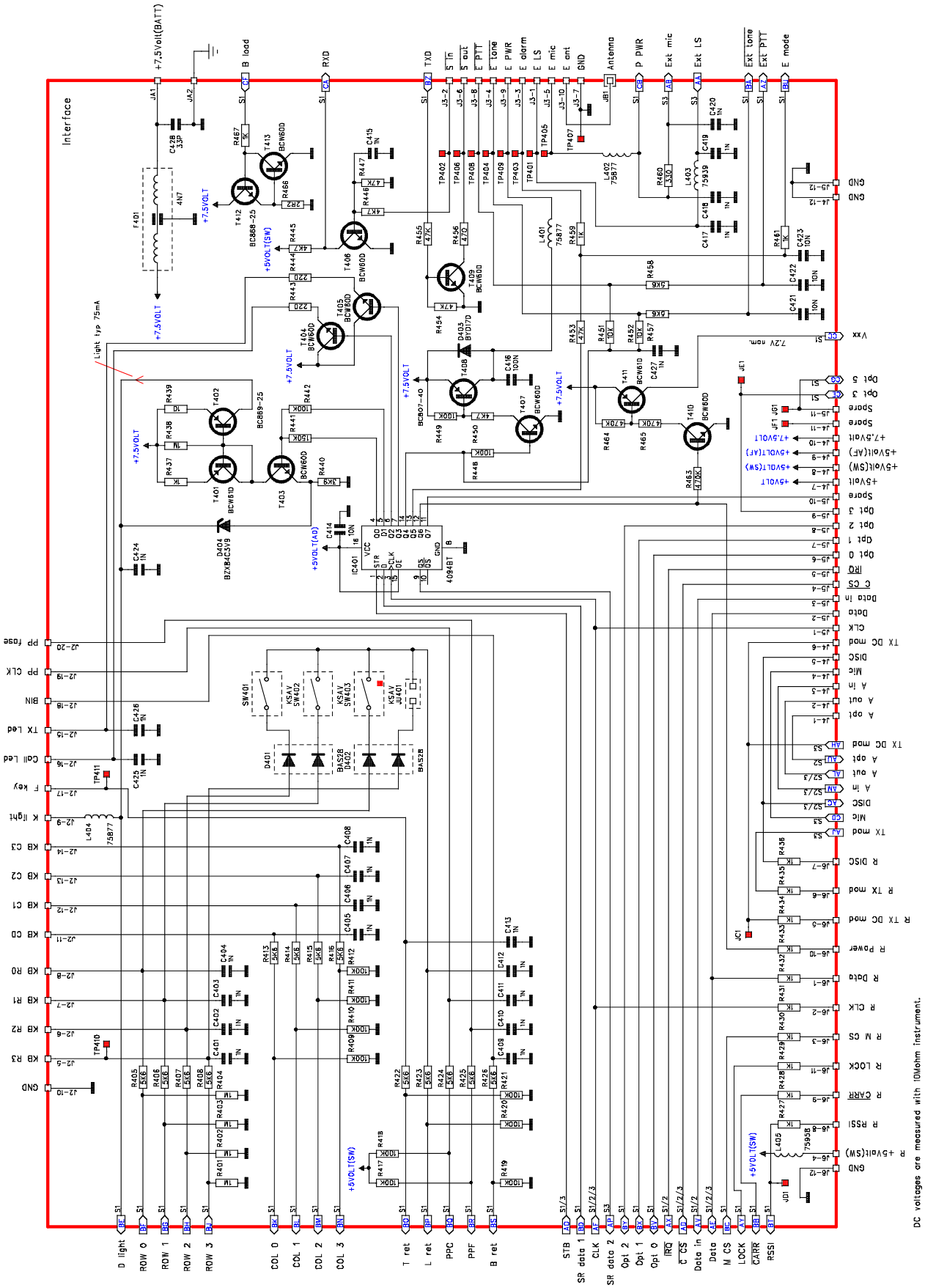


Date: 18-11-2002 Sign: PA	8	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum		Systemboard TRX1001	
Date: 01-08-2004 Sign: PA	9				
Drawing No.: 0-9601-03-9 p 2 of 4		PC. Board No.: 701-8		Unit No.: 5700	



SUBJECT TO CHANGE WITHOUT NOTICE

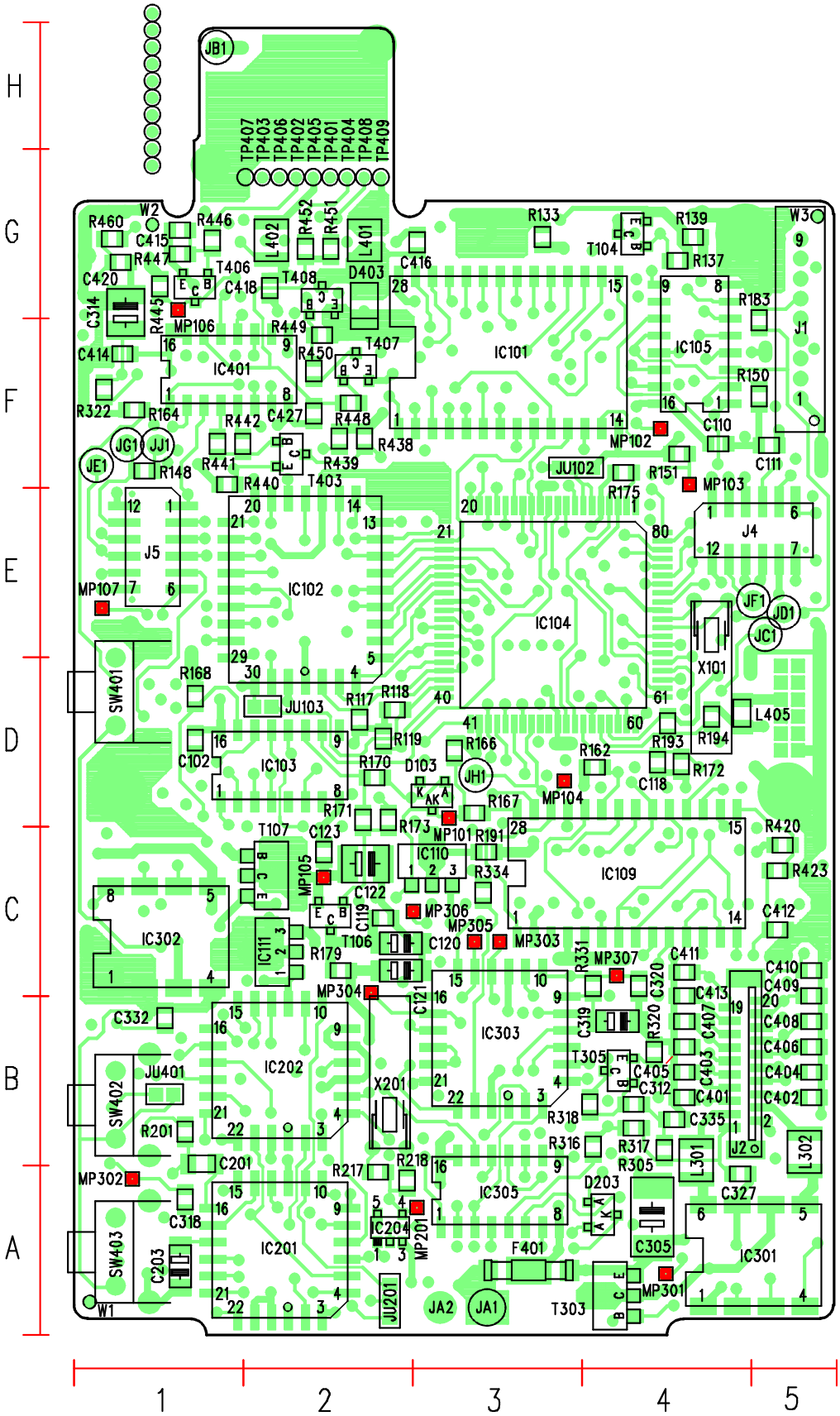
Date: 18-11-2002 Sign: PA	8	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Systemboard TRX1001
Date: 01-08-2004 Sign: PA	9		
Drawing No.: 0-9601-03-9 p 3 of 4		PC. Board No.: 701-8	Unit No.: 5700



SUBJECT TO CHANGE WITHOUT NOTICE

Date: 18-11-2002 Sign: PA	8	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Systemboard TRX1001
Date: 01-08-2004 Sign: PA	9		
Drawing No.: 0-9601-03-9 p 4 of 4		PC. Board No.: 701-8	Unit No.: 5700

7.3 Componentside

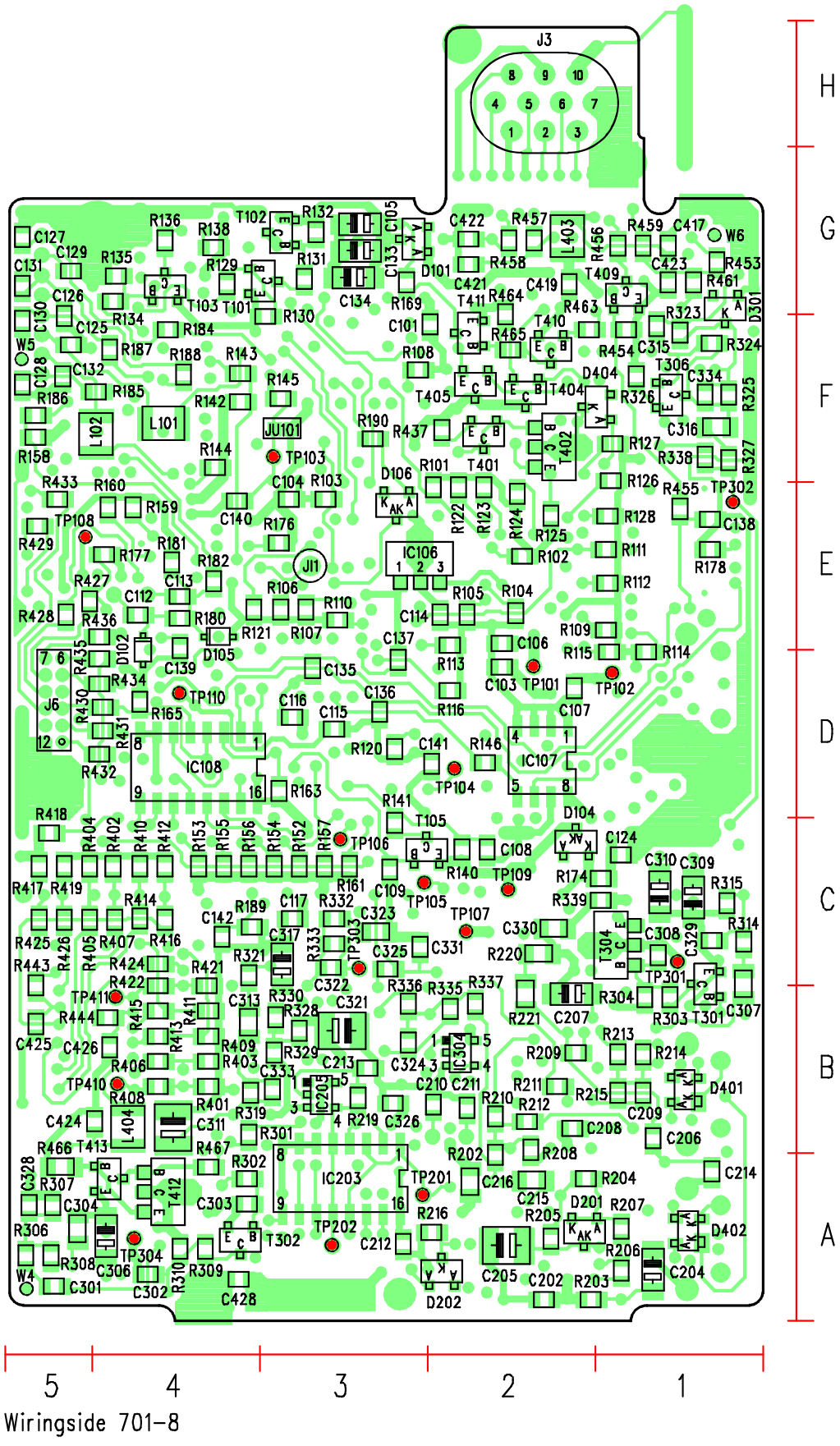


Componentside 701-8

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 18-11-2002 Sign: PA	8	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Systemboard TRX1001
Date: 01-08-2004 Sign: PA	9		
Drawing No.: 0-9601-05-9		PC. Board No.: 701-8	Unit No.: 5700

7.4 Wiringside



Wiringside 701-8

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 18-11-2002 Sign: PA	8	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Systemboard TRX1001
Date: 01-08-2004 Sign: PA	9		
Drawing No.: 0-9601-04-9		PC. Board No.: 701-8	Unit No.: 5700

7.5 Fieldlist

Name Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Type	Side	Cord	Component	Type	Side	Cord
R101	SMT	BOTTOM	E2	R156	SMT	BOTTOM	C4
R102	SMT	BOTTOM	E2	R157	SMT	BOTTOM	C3
R103	SMT	BOTTOM	E3	R158	SMT	BOTTOM	F5
R104	SMT	BOTTOM	E2	R159	SMT	BOTTOM	E4
R105	SMT	BOTTOM	E2	R160	SMT	BOTTOM	E4
R106	SMT	BOTTOM	E3	R161	SMT	BOTTOM	C3
R107	SMT	BOTTOM	E3	R162	SMT	TOP	D4
R108	SMT	BOTTOM	F3	R163	SMT	BOTTOM	D3
R109	SMT	BOTTOM	E1	R164	SMT	TOP	F1
R110	SMT	BOTTOM	E3	R165	SMT	BOTTOM	D4
R111	SMT	BOTTOM	E1	R166	SMT	TOP	D3
R112	SMT	BOTTOM	E1	R167	SMT	TOP	D3
R113	SMT	BOTTOM	E2	R168	SMT	TOP	D1
R114	SMT	BOTTOM	D1	R169	SMT	BOTTOM	G3
R115	SMT	BOTTOM	D1	R170	SMT	TOP	D2
R116	SMT	BOTTOM	D2	R171	SMT	TOP	D2
R117	SMT	TOP	D2	R172	SMT	TOP	D4
R118	SMT	TOP	D2	R173	SMT	TOP	D2
R119	SMT	TOP	D2	R174	SMT	BOTTOM	C1
R120	SMT	BOTTOM	D3	R175	SMT	TOP	F4
R121	SMT	BOTTOM	E4	R176	SMT	BOTTOM	E3
R122	SMT	BOTTOM	E2	R177	SMT	BOTTOM	E4
R123	SMT	BOTTOM	E2	R178	SMT	BOTTOM	E1
R124	SMT	BOTTOM	E2	R179	SMT	TOP	C2
R125	SMT	BOTTOM	E2	R180	SMT	BOTTOM	E4
R126	SMT	BOTTOM	F1	R181	SMT	BOTTOM	E4
R127	SMT	BOTTOM	F1	R182	SMT	BOTTOM	E4
R128	SMT	BOTTOM	E1	R183	SMT	TOP	F5
R129	SMT	BOTTOM	G4	R184	SMT	BOTTOM	F4
R130	SMT	BOTTOM	F3	R185	SMT	BOTTOM	F4
R131	SMT	BOTTOM	G3	R186	SMT	BOTTOM	F5
R132	SMT	BOTTOM	G3	R187	SMT	BOTTOM	F4
R133	SMT	TOP	G3	R188	SMT	BOTTOM	F4
R134	SMT	BOTTOM	G4	R189	SMT	BOTTOM	C4
R135	SMT	BOTTOM	G4	R190	SMT	BOTTOM	F3
R136	SMT	BOTTOM	G4	R191	SMT	TOP	C3
R137	SMT	TOP	G4	R193	SMT	TOP	D4
R138	SMT	BOTTOM	G4	R194	SMT	TOP	D4
R139	SMT	TOP	G4	R201	SMT	TOP	B1
R140	SMT	BOTTOM	C2	R202	SMT	BOTTOM	A2
R141	SMT	BOTTOM	C3	R203	SMT	BOTTOM	A2
R142	SMT	BOTTOM	F4	R204	SMT	BOTTOM	A2
R143	SMT	BOTTOM	F4	R205	SMT	BOTTOM	A2
R144	SMT	BOTTOM	F4	R206	SMT	BOTTOM	A1
R145	SMT	BOTTOM	F3	R207	SMT	BOTTOM	A1
R146	SMT	BOTTOM	D2	R208	SMT	BOTTOM	B2
R148	SMT	TOP	F1	R209	SMT	BOTTOM	B2
R150	SMT	TOP	F5	R210	SMT	BOTTOM	B2
R151	SMT	TOP	F4	R211	SMT	BOTTOM	B2
R152	SMT	BOTTOM	C3	R212	SMT	BOTTOM	B2
R153	SMT	BOTTOM	C4	R213	SMT	BOTTOM	B1
R154	SMT	BOTTOM	C3	R214	SMT	BOTTOM	B1
R155	SMT	BOTTOM	C4	R215	SMT	BOTTOM	B1

p. 1 of 5 PC. Board No. 701-8

Name Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Type	Side	Cord	Component	Type	Side	Cord
R216	SMT	BOTTOM	A2	R412	SMT	BOTTOM	C4
R217	SMT	TOP	A2	R413	SMT	BOTTOM	B4
R218	SMT	TOP	A2	R414	SMT	BOTTOM	C4
R219	SMT	BOTTOM	B3	R415	SMT	BOTTOM	B4
R220	SMT	BOTTOM	C2	R416	SMT	BOTTOM	C4
R221	SMT	BOTTOM	B2	R417	SMT	BOTTOM	C5
R301	SMT	BOTTOM	B4	R418	SMT	BOTTOM	C5
R302	SMT	BOTTOM	A4	R419	SMT	BOTTOM	C5
R303	SMT	BOTTOM	B1	R420	SMT	TOP	C5
R304	SMT	BOTTOM	B1	R421	SMT	BOTTOM	C4
R305	SMT	TOP	B4	R422	SMT	BOTTOM	C4
R306	SMT	BOTTOM	A5	R423	SMT	TOP	C5
R307	SMT	BOTTOM	A5	R424	SMT	BOTTOM	C4
R308	SMT	BOTTOM	A5	R425	SMT	BOTTOM	C5
R309	SMT	BOTTOM	A4	R426	SMT	BOTTOM	C5
R310	SMT	BOTTOM	A4	R427	SMT	BOTTOM	E5
R314	SMT	BOTTOM	C1	R428	SMT	BOTTOM	E5
R315	SMT	BOTTOM	C1	R429	SMT	BOTTOM	E5
R316	SMT	TOP	B4	R430	SMT	BOTTOM	D4
R317	SMT	TOP	B4	R431	SMT	BOTTOM	D4
R318	SMT	TOP	B4	R432	SMT	BOTTOM	D4
R319	SMT	BOTTOM	B4	R433	SMT	BOTTOM	E5
R320	SMT	TOP	B4	R434	SMT	BOTTOM	D4
R321	SMT	BOTTOM	C4	R435	SMT	BOTTOM	D4
R322	SMT	TOP	F1	R436	SMT	BOTTOM	E4
R323	SMT	BOTTOM	F1	R437	SMT	BOTTOM	F2
R324	SMT	BOTTOM	F1	R438	SMT	TOP	F2
R325	SMT	BOTTOM	F1	R439	SMT	TOP	F2
R326	SMT	BOTTOM	F1	R440	SMT	TOP	F1
R327	SMT	BOTTOM	F1	R441	SMT	TOP	F1
R328	SMT	BOTTOM	B3	R442	SMT	TOP	F1
R329	SMT	BOTTOM	B3	R443	SMT	BOTTOM	C5
R330	SMT	BOTTOM	B3	R444	SMT	BOTTOM	B4
R331	SMT	TOP	C4	R445	SMT	TOP	G1
R332	SMT	BOTTOM	C3	R446	SMT	TOP	G1
R333	SMT	BOTTOM	C3	R447	SMT	TOP	G1
R334	SMT	TOP	C3	R448	SMT	TOP	F2
R335	SMT	BOTTOM	B2	R449	SMT	TOP	F2
R336	SMT	BOTTOM	B3	R450	SMT	TOP	F2
R337	SMT	BOTTOM	B2	R451	SMT	TOP	G2
R338	SMT	BOTTOM	F1	R452	SMT	TOP	G2
R339	SMT	BOTTOM	C1	R453	SMT	BOTTOM	G1
R401	SMT	BOTTOM	B4	R454	SMT	BOTTOM	F1
R402	SMT	BOTTOM	C4	R455	SMT	BOTTOM	E1
R403	SMT	BOTTOM	B4	R456	SMT	BOTTOM	G1
R404	SMT	BOTTOM	C5	R457	SMT	BOTTOM	G2
R405	SMT	BOTTOM	C5	R458	SMT	BOTTOM	G2
R406	SMT	BOTTOM	B4	R459	SMT	BOTTOM	G1
R407	SMT	BOTTOM	C4	R460	SMT	TOP	G1
R408	SMT	BOTTOM	B4	R461	SMT	BOTTOM	G1
R409	SMT	BOTTOM	B4	R463	SMT	BOTTOM	F2
R410	SMT	BOTTOM	C4	R464	SMT	BOTTOM	G2
R411	SMT	BOTTOM	B4	R465	SMT	BOTTOM	F2

p. 2 of 5 PC. Board No. 701-8

Name Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Type	Side	Cord	Component	Type	Side	Cord
R466	SMT	BOTTOM	A5	C210	SMT	BOTTOM	B2
R467	SMT	BOTTOM	A4	C211	SMT	BOTTOM	B2
C101	SMT	BOTTOM	F2	C212	SMT	BOTTOM	A3
C102	SMT	TOP	D1	C213	SMT	BOTTOM	B3
C103	SMT	BOTTOM	D2	C214	SMT	BOTTOM	A1
C104	SMT	BOTTOM	E3	C215	SMT	BOTTOM	A2
C105	SMT	BOTTOM	G3	C216	SMT	BOTTOM	A2
C106	SMT	BOTTOM	E2	C301	SMT	BOTTOM	A5
C107	SMT	BOTTOM	D2	C302	SMT	BOTTOM	A4
C108	SMT	BOTTOM	C2	C303	SMT	BOTTOM	A4
C109	SMT	BOTTOM	C3	C304	SMT	BOTTOM	A5
C110	SMT	TOP	F4	C305	SMT	TOP	A4
C111	SMT	TOP	F5	C306	SMT	BOTTOM	A4
C112	SMT	BOTTOM	E4	C307	SMT	BOTTOM	C1
C113	SMT	BOTTOM	E4	C308	SMT	BOTTOM	C1
C114	SMT	BOTTOM	E2	C309	SMT	BOTTOM	C1
C115	SMT	BOTTOM	D3	C310	SMT	BOTTOM	C1
C116	SMT	BOTTOM	D3	C311	SMT	BOTTOM	B4
C117	SMT	BOTTOM	C3	C312	SMT	TOP	B4
C118	SMT	TOP	D4	C313	SMT	BOTTOM	B4
C119	SMT	TOP	C2	C314	SMT	TOP	G1
C120	SMT	TOP	C2	C315	SMT	BOTTOM	F1
C121	SMT	TOP	C2	C316	SMT	BOTTOM	F1
C122	SMT	TOP	C2	C317	SMT	BOTTOM	C3
C123	SMT	TOP	C2	C318	SMT	TOP	A1
C124	SMT	BOTTOM	C1	C319	SMT	TOP	B4
C125	SMT	BOTTOM	F5	C320	SMT	TOP	C4
C126	SMT	BOTTOM	F5	C321	SMT	BOTTOM	B3
C127	SMT	BOTTOM	G5	C322	SMT	BOTTOM	C3
C128	SMT	BOTTOM	F5	C323	SMT	BOTTOM	C3
C129	SMT	BOTTOM	G5	C324	SMT	BOTTOM	B3
C130	SMT	BOTTOM	F5	C325	SMT	BOTTOM	C3
C131	SMT	BOTTOM	G5	C326	SMT	BOTTOM	B3
C132	SMT	BOTTOM	F5	C327	SMT	TOP	A4
C133	SMT	BOTTOM	G3	C328	SMT	BOTTOM	A5
C134	SMT	BOTTOM	G3	C329	SMT	BOTTOM	C1
C135	SMT	BOTTOM	D3	C330	SMT	BOTTOM	C2
C136	SMT	BOTTOM	D3	C331	SMT	BOTTOM	C3
C137	SMT	BOTTOM	D3	C332	SMT	TOP	B1
C138	SMT	BOTTOM	E1	C333	SMT	BOTTOM	B3
C139	SMT	BOTTOM	E4	C334	SMT	BOTTOM	F1
C140	SMT	BOTTOM	E4	C335	SMT	TOP	B4
C141	SMT	BOTTOM	D2	C401	SMT	TOP	B4
C142	SMT	BOTTOM	C4	C402	SMT	TOP	B5
C201	SMT	TOP	B1	C403	SMT	TOP	B4
C202	SMT	BOTTOM	A2	C404	SMT	TOP	B5
C203	SMT	TOP	A1	C405	SMT	TOP	B4
C204	SMT	BOTTOM	A1	C406	SMT	TOP	B5
C205	SMT	BOTTOM	A2	C407	SMT	TOP	B4
C206	SMT	BOTTOM	B1	C408	SMT	TOP	B5
C207	SMT	BOTTOM	B2	C409	SMT	TOP	C5
C208	SMT	BOTTOM	B2	C410	SMT	TOP	C5
C209	SMT	BOTTOM	B1	C411	SMT	TOP	C4

p. 3 of 5 PC. Board No. 701-8

Name Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Type	Side	Cord	Component	Type	Side	Cord
C412	SMT	TOP	C5	D202	SMT	BOTTOM	A2
C413	SMT	TOP	C4	D203	SMT	TOP	A4
C414	SMT	TOP	F1	D301	SMT	BOTTOM	G1
C415	SMT	TOP	G1	D401	SMT	BOTTOM	B1
C416	SMT	TOP	G3	D402	SMT	BOTTOM	A1
C417	SMT	BOTTOM	G1	D403	SMT	TOP	G2
C418	SMT	TOP	G2	D404	SMT	BOTTOM	F1
C419	SMT	BOTTOM	G2	IC101	SMT	TOP	F3
C420	SMT	TOP	G1	IC102	SMT	TOP	E2
C421	SMT	BOTTOM	G2	IC103	SMT	TOP	D2
C422	SMT	BOTTOM	G2	IC104	SMT	TOP	E3
C423	SMT	BOTTOM	G1	IC105	SMT	TOP	F4
C424	SMT	BOTTOM	B4	IC106	SMT	BOTTOM	E3
C425	SMT	BOTTOM	B5	IC107	SMT	BOTTOM	D2
C426	SMT	BOTTOM	B4	IC108	SMT	BOTTOM	D4
C427	SMT	TOP	F2	IC109	SMT	TOP	C4
C428	SMT	BOTTOM	A4	IC110	SMT	TOP	C3
F401	SMT	TOP	A3	IC111	SMT	TOP	C2
X101	LEAD	TOP	E4	IC201	SMT	TOP	A2
X201	LEAD	TOP	B2	IC202	SMT	TOP	B2
T101	SMT	BOTTOM	G3	IC203	SMT	BOTTOM	A3
T102	SMT	BOTTOM	G3	IC204	SMT	TOP	A2
T103	SMT	BOTTOM	G4	IC205	SMT	BOTTOM	B3
T104	SMT	TOP	G4	IC301	SMT	TOP	A5
T105	SMT	BOTTOM	C3	IC302	SMT	TOP	C1
T106	SMT	TOP	C2	IC303	SMT	TOP	B3
T107	SMT	TOP	C2	IC304	SMT	BOTTOM	B2
T301	SMT	BOTTOM	C1	IC305	SMT	TOP	A3
T302	SMT	BOTTOM	A4	IC401	SMT	TOP	F1
T303	SMT	TOP	A4	L101	SMT	BOTTOM	F4
T304	SMT	BOTTOM	C1	L102	SMT	BOTTOM	F4
T305	SMT	TOP	B4	L301	SMT	TOP	B4
T306	SMT	BOTTOM	F1	L302	SMT	TOP	B5
T401	SMT	BOTTOM	F2	L401	SMT	TOP	G2
T402	SMT	BOTTOM	F2	L402	SMT	TOP	G2
T403	SMT	TOP	F2	L403	SMT	BOTTOM	G2
T404	SMT	BOTTOM	F2	L404	SMT	BOTTOM	B4
T405	SMT	BOTTOM	F2	L405	SMT	TOP	D4
T406	SMT	TOP	G1	SW401	LEAD	TOP	D1
T407	SMT	TOP	F2	SW402	LEAD	TOP	B1
T408	SMT	TOP	G2	SW403	LEAD	TOP	A1
T409	SMT	BOTTOM	G1	TP101	SMT	BOTTOM	D2
T410	SMT	BOTTOM	F2	TP102	SMT	BOTTOM	D1
T411	SMT	BOTTOM	F2	TP103	SMT	BOTTOM	F3
T412	SMT	BOTTOM	A4	TP104	SMT	BOTTOM	D2
T413	SMT	BOTTOM	A4	TP105	SMT	BOTTOM	C3
D101	SMT	BOTTOM	G3	TP106	SMT	BOTTOM	C3
D102	SMT	BOTTOM	E4	TP107	SMT	BOTTOM	C2
D103	SMT	TOP	D3	TP108	SMT	BOTTOM	E5
D104	SMT	BOTTOM	C2	TP109	SMT	BOTTOM	C2
D105	SMT	BOTTOM	E4	TP110	SMT	BOTTOM	D4
D106	SMT	BOTTOM	E3	TP201	SMT	BOTTOM	A3
D201	SMT	BOTTOM	A2	TP202	SMT	BOTTOM	A3

p. 4 of 5 PC. Board No. 701-8

Name Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Type	Side	Cord	Component	Type	Side	Cord
TP301	SMT	BOTTOM	C1	W2	SMT	TOP	G1
TP302	SMT	BOTTOM	E1	W3	SMT	TOP	G5
TP303	SMT	BOTTOM	C3	W4	SMT	BOTTOM	A5
TP304	SMT	BOTTOM	A4	W5	SMT	BOTTOM	F5
TP401	LEAD	TOP	G2	W6	SMT	BOTTOM	G1
TP402	LEAD	TOP	G2				
TP403	LEAD	TOP	G2				
TP404	LEAD	TOP	G2				
TP405	LEAD	TOP	G2				
TP406	LEAD	TOP	G2				
TP407	LEAD	TOP	G2				
TP408	LEAD	TOP	G2				
TP409	LEAD	TOP	G2				
TP410	SMT	BOTTOM	B4				
TP411	SMT	BOTTOM	B4				
MP101	SMT	TOP	D3				
MP102	SMT	TOP	F4				
MP103	SMT	TOP	F4				
MP104	SMT	TOP	D3				
MP105	SMT	TOP	C2				
MP106	SMT	TOP	G1				
MP107	SMT	TOP	E1				
MP201	SMT	TOP	A3				
MP301	SMT	TOP	A4				
MP302	SMT	TOP	A1				
MP303	SMT	TOP	C3				
MP304	SMT	TOP	C2				
MP305	SMT	TOP	C3				
MP306	SMT	TOP	C3				
MP307	SMT	TOP	C4				
JU101	SMT	BOTTOM	F3				
JU102	SMT	TOP	F3				
JU103	SMT	TOP	D2				
JU201	SMT	TOP	A2				
JU401	SMT	TOP	B1				
J1	LEAD	TOP	F5				
J2	SMT	TOP	B4				
J3	SMT	BOTTOM	H2				
J4	SMT	TOP	E5				
J5	SMT	TOP	E1				
J6	LEAD	BOTTOM	D5				
JC1	SMT	TOP	E5				
JE1	SMT	TOP	F1				
JF1	SMT	TOP	E5				
JG1	SMT	TOP	F1				
JA1	LEAD	TOP	A3				
JB1	SMT	TOP	H1				
JD1	SMT	TOP	E5				
JH1	SMT	TOP	D3				
JI1	SMT	BOTTOM	E3				
JJ1	SMT	TOP	F1				
JA2	LEAD	TOP	A3				
W1	SMT	TOP	A1				

p. 5 of 5 PC. Board No. 701-8

7.6 Partlist

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
R101	Resistor,chip603	1 Mohm	14105
R102	Resistor,chip603	1 Mohm	14105
R103	Resistor,chip603	1 Mohm	14105
R104	Resistor,chip603	1 Mohm	14105
R105	Resistor,chip603	1 Mohm	14105
R106	Resistor,chip603	1 Mohm	14105
R107	Resistor,chip603	1 Mohm	14105
R108	Resistor,chip603	1 Mohm	14105
R109	Resistor,chip603	1 Mohm	14105
R110	Resistor,chip603	1 Mohm	14105
R111	Resistor,chip603	1 Mohm	14105
R112	Resistor,chip603	1 Mohm	14105
R113	Resistor,chip603	1 Mohm	14105
R114	Resistor,chip603	1 Mohm	14105
R115	Resistor,chip603	1 Mohm	14105
R116	Resistor,chip603	1 Mohm	14105
R117	Resistor,chip603	1 Mohm	14105
R118	Resistor,chip603	1 Mohm	14105
R119	Resistor,chip603	1 Mohm	14105
R120	Resistor,chip603	1 Mohm	14105
R121	Resistor,chip603	1 Mohm	14105
R122	Resistor,chip603	1 Mohm	14105
R123	Resistor,chip603	1 Mohm	14105
R124	Resistor,chip603	1 Mohm	14105
R125	Resistor,chip603	1 Mohm	14105
R126	Resistor,chip603	1 Mohm	14105
R127	Resistor,chip603	1 Mohm	14105
R128	Resistor,chip603	1 Mohm	14105
R129	Resistor,chip603	Not used	
R130	Resistor,chip603	Not used	
R131	Resistor,chip603	Not used	
R132	Resistor,chip603	Not used	
R133	Resistor,chip603	100 Kohm	14104
R134	Resistor,chip603	Not used	
R135	Resistor,chip603	Not used	
R136	Resistor,chip603	Not used	
R137	Resistor,chip603	Not used	
R138	Resistor,chip603	Not used	
R139	Resistor,chip603	Not used	
R140	Resistor,chip603	180 Kohm	14184
R141	Resistor,chip603	10 Kohm	14103
R142	Resistor,chip603	1 Mohm	14105
R143	Resistor,chip603	470 Kohm	14474
R144	Resistor,chip603	1 Mohm	14105
R145	Resistor,chip603	100 Kohm	14104

p. 1 of 10 PC. Board No. 701-8

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
R146	Resistor,chip603	1 Kohm	14102
R148	Resistor,chip603	10 Ohm	14100
R150	Resistor,chip603	1 Mohm	14105
R151	Resistor,chip603	1 Mohm	14105
R152	Resistor,chip603	10 Kohm	14103
R153	Resistor,chip603	10 Kohm	14103
R154	Resistor,chip603	4,7 Kohm	14472
R155	Resistor,chip603	10 Kohm	14103
R156	Resistor,chip603	10 Kohm	14103
R157	Resistor,chip603	10 Kohm	14103
R158	Resistor,chip603	100 Kohm	14104
R159	Resistor,chip603	100 Kohm	14104
R160	Resistor,chip603	22 Kohm	14223
R161	Resistor,chip603	100 Kohm	14104
R162	Resistor,chip603	100 Kohm	14104
R163	Resistor,chip603	1 Mohm	14105
R164	Resistor,chip603	100 Kohm	14104
R165	Resistor,chip603	100 Kohm	14104
R166	Resistor,chip603	100 Kohm	14104
R167	Resistor,chip603	56 Ohm	14560
R168	Resistor,chip603	1 Mohm	14105
R169	Resistor,chip603	100 Kohm	14104
R170	Resistor,chip603	100 Kohm	14104
R171	Resistor,chip603	15 Kohm	14153
R172	Resistor,chip603	100 Kohm	14104
R173	Resistor,chip603	15 Kohm	14153
R174	Resistor,chip603	220 Ohm	14221
R175	Resistor,chip603	1 Mohm	14105
R176	Resistor,chip603	1 Mohm	14105
R177	Resistor,chip603	1 Mohm	14105
R178	Resistor,chip603	1 Mohm	14105
R179	Resistor,chip603	15 Ohm	14150
R180	Resistor,chip603	100 Kohm	14104
R181	Resistor,chip603	1 Mohm	14105
R182	Resistor,chip603	220 Kohm	14224
R183	Resistor,chip603	470 Ohm	14471
R184	Resistor,chip603	470 Ohm	14471
R185	Resistor,chip603	470 Ohm	14471
R186	Resistor,chip603	470 Ohm	14471
R187	Resistor,chip603	470 Ohm	14471
R188	Resistor,chip603	470 Ohm	14471
R189	Resistor,chip603	1 Mohm	14105
R190	Resistor,chip603	10 Kohm	14103
R191	Resistor,chip603	4,7 Kohm	14472
R193	Resistor,chip603	Not used	

p. 2 of 10 PC. Board No. 701-8

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
R194	Resistor,chip603	1 Mohm	14105
R201	Resistor,chip603	27 Kohm	14273
R202	Resistor,chip603	Selected	
R203	Resistor,chip603	150 Kohm	14154
R204	Resistor,chip603	330 Kohm	14334
R205	Resistor,chip603	100 Kohm	14104
R206	Resistor,chip603	150 Kohm	14154
R207	Resistor,chip603	10 Kohm	14103
R208	Resistor,chip603	Selected	
R209	Resistor,chip603	2,2 Mohm	14225
R210	Resistor,chip603	10 Kohm	14103
R211	Resistor,chip603	100 Kohm	14104
R212	Resistor,chip603	10 Kohm	14103
R213	Resistor,chip603	120 Kohm	14124
R214	Resistor,chip603	82 Kohm	14823
R215	Resistor,chip603	100 Kohm	14104
R216	Resistor,chip603	1 Mohm	14105
R217	Resistor,chip603	1 Mohm	14105
R218	Resistor,chip603	470 Ohm	14471
R219	Resistor,chip603	470 Kohm	14474
R220	Resistor,chip805	10 Mohm	13106
R221	Resistor,chip805	10 Mohm	13106
R301	Resistor,chip603	100 Kohm	14104
R302	Resistor,chip603	100 Kohm	14104
R303	Resistor,chip603	2,2 Kohm	14222
R304	Resistor,chip603	100 Kohm	14104
R305	Resistor,chip603	220 Ohm	14221
R306	Resistor,chip603	10 Kohm	14103
R307	Resistor,chip603	220 Kohm	14224
R308	Resistor,chip603	22 Kohm	14223
R309	Resistor,chip603	2,2 Kohm	14222
R310	Resistor,chip603	100 Kohm	14104
R314	Resistor,chip603	27 Kohm	14273
R315	Resistor,chip603	4,7 Kohm	14472
R316	Resistor,chip603	4,7 Kohm	14472
R317	Resistor,chip603	2,2 Kohm	14222
R318	Resistor,chip603	1 Mohm	14105
R319	Resistor,chip603	22 Kohm	14223
R320	Resistor,chip603	1,8 Kohm	14182
R321	Resistor,chip603	10 Kohm	14103
R322	Resistor,chip603	4,7 Kohm	14472
R323	Resistor,chip603	2,2 Kohm	14222
R324	Resistor,chip603	1 Mohm	14105
R325	Resistor,chip603	22 Kohm	14223
R326	Resistor,chip603	1,5 Kohm	14152

p. 3 of 10 PC. Board No. 701-8

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
R327	Resistor,chip603	10 Kohm	14103
R328	Resistor,chip603	1 Mohm	14105
R329	Resistor,chip603	1 Mohm	14105
R330	Resistor,chip603	10 Kohm	14103
R331	Resistor,chip603	6,8 Kohm	14682
R332	Resistor,chip603	8,2 Kohm	14822
R333	Resistor,chip603	27 Kohm	14273
R334	Resistor,chip603	1 Kohm	14102
R335	Resistor,chip603	100 Kohm	14104
R336	Resistor,chip603	100 Kohm	14104
R337	Resistor,chip603	560 Kohm	14564
R338	Resistor,chip603	100 Kohm	14104
R339	Resistor,chip603	5,6 Ohm	14569
R401	Resistor,chip603	1 Mohm	14105
R402	Resistor,chip603	1 Mohm	14105
R403	Resistor,chip603	1 Mohm	14105
R404	Resistor,chip603	1 Mohm	14105
R405	Resistor,chip603	5,6 Kohm	14562
R406	Resistor,chip603	5,6 Kohm	14562
R407	Resistor,chip603	5,6 Kohm	14562
R408	Resistor,chip603	5,6 Kohm	14562
R409	Resistor,chip603	100 Kohm	14104
R410	Resistor,chip603	100 Kohm	14104
R411	Resistor,chip603	100 Kohm	14104
R412	Resistor,chip603	100 Kohm	14104
R413	Resistor,chip603	5,6 Kohm	14562
R414	Resistor,chip603	5,6 Kohm	14562
R415	Resistor,chip603	5,6 Kohm	14562
R416	Resistor,chip603	5,6 Kohm	14562
R417	Resistor,chip603	100 Kohm	14104
R418	Resistor,chip603	100 Kohm	14104
R419	Resistor,chip603	100 Kohm	14104
R420	Resistor,chip603	100 Kohm	14104
R421	Resistor,chip603	100 Kohm	14104
R422	Resistor,chip603	5,6 Kohm	14562
R423	Resistor,chip603	5,6 Kohm	14562
R424	Resistor,chip603	5,6 Kohm	14562
R425	Resistor,chip603	5,6 Kohm	14562
R426	Resistor,chip603	5,6 Kohm	14562
R427	Resistor,chip603	1 Kohm	14102
R428	Resistor,chip603	1 Kohm	14102
R429	Resistor,chip603	1 Kohm	14102
R430	Resistor,chip603	1 Kohm	14102
R431	Resistor,chip603	1 Kohm	14102
R432	Resistor,chip603	1 Kohm	14102

p. 4 of 10 PC. Board No. 701-8

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
R433	Resistor,chip603	1 Kohm	14102
R434	Resistor,chip603	1 Kohm	14102
R435	Resistor,chip603	1 Kohm	14102
R436	Resistor,chip603	1 Kohm	14102
R437	Resistor,chip603	1 Kohm	14102
R438	Resistor,chip603	1 Mohm	14105
R439	Resistor,chip603	10 Ohm	14100
R440	Resistor,chip603	3,9 Kohm	14392
R441	Resistor,chip603	150 Kohm	14154
R442	Resistor,chip603	100 Kohm	14104
R443	Resistor,chip603	220 Ohm	14221
R444	Resistor,chip603	220 Ohm	14221
R445	Resistor,chip603	4,7 Kohm	14472
R446	Resistor,chip603	4,7 Kohm	14472
R447	Resistor,chip603	47 Kohm	14473
R448	Resistor,chip603	100 Kohm	14104
R449	Resistor,chip603	100 Kohm	14104
R450	Resistor,chip603	4,7 Kohm	14472
R451	Resistor,chip603	10 Kohm	14103
R452	Resistor,chip603	10 Kohm	14103
R453	Resistor,chip603	47 Kohm	14473
R454	Resistor,chip603	47 Kohm	14473
R455	Resistor,chip603	47 Kohm	14473
R456	Resistor,chip603	470 Ohm	14471
R457	Resistor,chip603	5,6 Kohm	14562
R458	Resistor,chip603	5,6 Kohm	14562
R459	Resistor,chip603	1 Kohm	14102
R460	Resistor,chip603	330 Ohm	14331
R461	Resistor,chip603	1 Kohm	14102
R463	Resistor,chip603	470 Kohm	14474
R464	Resistor,chip603	470 Kohm	14474
R465	Resistor,chip603	470 Kohm	14474
R466	Resistor,chip805	2,2 Ohm	13229
R467	Resistor,chip603	1 Kohm	14102
C101	Capacitor,chip603	10 nF	21103
C102	Capacitor,chip603	10 nF	21103
C103	Capacitor,chip603	10 nF	21103
C104	Capacitor,chip603	10 nF	21103
C105	Capacitor,ctan_a	Not used	
C106	Capacitor,chip603	Not used	
C107	Capacitor,chip603	Not used	
C108	Capacitor,chip603	100 pF	21101
C109	Capacitor,chip603	10 nF	21103
C110	Capacitor,chip603	10 nF	21103

p. 5 of 10 PC. Board No. 701-8

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
C111	Capacitor,chip603	10 nF	21103
C112	Capacitor,chip603	1 nF	21102
C113	Capacitor,chip603	1 nF	21102
C114	Capacitor,chip603	10 nF	21103
C115	Capacitor,chip603	220 nF	21224
C116	Capacitor,chip603	10 nF	21103
C117	Capacitor,chip603	10 nF	21103
C118	Capacitor,chip603	1 nF	21102
C119	Capacitor,chip603	10 nF	21103
C120	Capacitor,ctan_a	0,68 uF/16V	25611
C121	Capacitor,ctan_a	2,2 uF/6V3	25602
C122	Capacitor,ctan_b	15 uF/6V3	25606
C123	Capacitor,chip603	10 nF	21103
C124	Capacitor,chip603	10 nF	21103
C125	Capacitor,chip603	10 nF	21103
C126	Capacitor,chip603	100 pF	21101
C127	Capacitor,chip603	100 pF	21101
C128	Capacitor,chip603	100 pF	21101
C129	Capacitor,chip603	100 pF	21101
C130	Capacitor,chip603	100 pF	21101
C131	Capacitor,chip603	100 pF	21101
C132	Capacitor,chip603	10 nF	21103
C133	Capacitor,ctan_a	Not used	
C134	Capacitor,ctan_a	Not used	
C135	Capacitor,chip603	100 pF	21101
C136	Capacitor,chip603	100 pF	21101
C137	Capacitor,chip603	100 pF	21101
C138	Capacitor,chip603	100 pF	21101
C139	Capacitor,chip603	100 pF	21101
C140	Capacitor,chip603	220 nF	21224
C141	Capacitor,chip603	220 nF	21224
C142	Capacitor,chip603	1 nF	21102
C201	Capacitor,chip805	100 nF	20654
C202	Capacitor,chip603	10 nF	21103
C203	Capacitor,ctan_a	2,2 uF/6V3	25602
C204	Capacitor,ctan_a	0,68 uF/16V	25611
C205	Capacitor,ctan_b	15 uF/6V3	25606
C206	Capacitor,chip603	1 nF	21102
C207	Capacitor,ctan_a	2,2 uF/6V3	25602
C208	Capacitor,chip603	10 nF	21103
C209	Capacitor,chip603	220 pF	21221
C210	Capacitor,chip603	5,6 pF	21569
C211	Capacitor,chip603	5,6 pF	21569
C212	Capacitor,chip603	10 nF	21103
C213	Capacitor,chip603	1 nF	21102

p. 6 of 10 PC. Board No. 701-8

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
C214	Capacitor,chip603	4,7 nF	21472
C215	Capacitor,chip805	100 nF	20654
C216	Capacitor,chip805	100 nF	20654
C301	Capacitor,chip603	22 nF	21223
C302	Capacitor,chip603	220 nF	21224
C303	Capacitor,chip603	220 nF	21224
C304	Capacitor,chip805	100 nF	20654
C305	Capacitor,ctan_c	10 uF/16V	25614
C306	Capacitor,ctan_a	0,68 uF/16V	25611
C307	Capacitor,chip805	100 nF	20654
C308	Capacitor,chip603	220 nF	21224
C309	Capacitor,ctan_a	2,2 uF/6V3	25602
C310	Capacitor,ctan_a	2,2 uF/6V3	25602
C311	Capacitor,ctan_b	15 uF/6V3	25606
C312	Capacitor,chip603	10 nF	21103
C313	Capacitor,chip805	100 nF	20654
C314	Capacitor,ctan_b	15 uF/6V3	25606
C315	Capacitor,chip603	10 nF	21103
C316	Capacitor,chip805	100 nF	20654
C317	Capacitor,ctan_a	0,68 uF/16V	25611
C318	Capacitor,chip603	10 nF	21103
C319	Capacitor,ctan_a	2,2 uF/6V3	25602
C320	Capacitor,chip603	4,7 nF	21472
C321	Capacitor,ctan_b	15 uF/6V3	25606
C322	Capacitor,chip603	1 nF	21102
C323	Capacitor,chip805	100 nF	20654
C324	Capacitor,chip603	22 pF	21220
C325	Capacitor,chip603	10 nF	21103
C326	Capacitor,chip603	10 nF	21103
C327	Capacitor,chip603	4,7 nF	21472
C328	Capacitor,chip603	100 pF	21101
C329	Capacitor,chip603	4,7 nF	21472
C330	Capacitor,chip805	100 nF	20654
C331	Capacitor,chip603	1 nF	21102
C332	Capacitor,chip603	220 nF	21224
C333	Capacitor,chip603_ln	1,5 nF	20802
C334	Capacitor,chip603_ln	1,5 nF	20802
C335	Capacitor,chip603	1 nF	21102
C401	Capacitor,chip603	1 nF	21102
C402	Capacitor,chip603	1 nF	21102
C403	Capacitor,chip603	1 nF	21102
C404	Capacitor,chip603	1 nF	21102
C405	Capacitor,chip603	1 nF	21102
C406	Capacitor,chip603	1 nF	21102
C407	Capacitor,chip603	1 nF	21102

p. 7 of 10 PC. Board No. 701-8

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
C408	Capacitor,chip603	1 nF	21102
C409	Capacitor,chip603	1 nF	21102
C410	Capacitor,chip603	1 nF	21102
C411	Capacitor,chip603	1 nF	21102
C412	Capacitor,chip603	1 nF	21102
C413	Capacitor,chip603	1 nF	21102
C414	Capacitor,chip603	10 nF	21103
C415	Capacitor,chip603	1 nF	21102
C416	Capacitor,chip805	100 nF	20654
C417	Capacitor,chip603	1 nF	21102
C418	Capacitor,chip603	1 nF	21102
C419	Capacitor,chip603	1 nF	21102
C420	Capacitor,chip603	1 nF	21102
C421	Capacitor,chip603	10 nF	21103
C422	Capacitor,chip603	10 nF	21103
C423	Capacitor,chip603	10 nF	21103
C424	Capacitor,chip603	1 nF	21102
C425	Capacitor,chip603	1 nF	21102
C426	Capacitor,chip603	1 nF	21102
C427	Capacitor,chip603	1 nF	21102
C428	Capacitor,chip603	33 pF	21330
F401	Filter	4N7	75906
X101	Crystal	16 MHz	31191
X201	Crystal	4 MHz	31183
T101	Transistor	Not used	
T102	Transistor	Not used	
T103	Transistor	Not used	
T104	Transistor	Not used	
T105	Transistor	BCW61D	40157
T106	Transistor	BCW61D	40157
T107	Transistor	BC869-25	40185
T301	Transistor	BCW60D	40156
T302	Transistor	BCW60D	40156
T303	Transistor	BC869-25	40185
T304	Transistor	BC869-25	40185
T305	Transistor	BCW60D	40156
T306	Transistor	BCW60D	40156
T401	Transistor	BCW61D	40157
T402	Transistor	BC869-25	40185
T403	Transistor	BCW60D	40156

p. 8 of 10 PC. Board No. 701-8

Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
T404	Transistor	BCW60D	40156
T405	Transistor	BCW60D	40156
T406	Transistor	BCW60D	40156
T407	Transistor	BCW60D	40156
T408	Transistor	BC807-40	40186
T409	Transistor	BCW60D	40156
T410	Transistor	BCW60D	40156
T411	Transistor	BCW61D	40157
T412	Transistor	BC868-25	40188
T413	Transistor	BCW60D	40156
D101	Diode	Not used	
D102	Diode,kap	BB134	45196
D103	Diode	BAV99	45148
D104	Diode	BAV99	45148
D105	Diode,kap	BB134	45196
D106	Diode	BAV99	45148
D201	Diode	BAV99	45148
D202	Diode	BAV70	45146
D203	Diode	BAV70	45146
D301	Diode,zener	BZX84C3V9	41238
D401	Diode	BAS28	45174
D402	Diode	BAS28	45174
D403	Diode	BYD17D	45176
D404	Diode,zener	BZX84C3V9	41238
IC101	Integrated_circuit	HM62256FP	46262
IC102	Integrated_circuit	ST29F040	46535
IC103	Integrated_circuit	74HC139M	46258
IC104	Integrated_circuit	H8/532F	46261
IC105	Integrated_circuit	4094BT	46177
IC106	Integrated_circuit	S-81250HG-RD	46221
IC107	Integrated_circuit	AT24C16N	46622
IC108	Integrated_circuit	4051BT	46172
IC109	Integrated_circuit	PIC16C57RC/SO	46259
IC110	Integrated_circuit	SCI7700Y	46256
IC111	Integrated_circuit	S-81250HG-RD	46221
IC201	Integrated_circuit	FX805LS	46265
IC202	Integrated_circuit	FX803LS	46263
IC203	Integrated_circuit	74HC4053BT	46255
IC204	Integrated_circuit	TC4SU11F	46254
IC205	Integrated_circuit	TC4S584F	46207
IC301	Integrated_circuit	MC34119	46267
IC302	Integrated_circuit	TDA7233	46268
IC303	Integrated_circuit	FX806LS	46264

p. 9 of 10 PC. Board No. 701-8

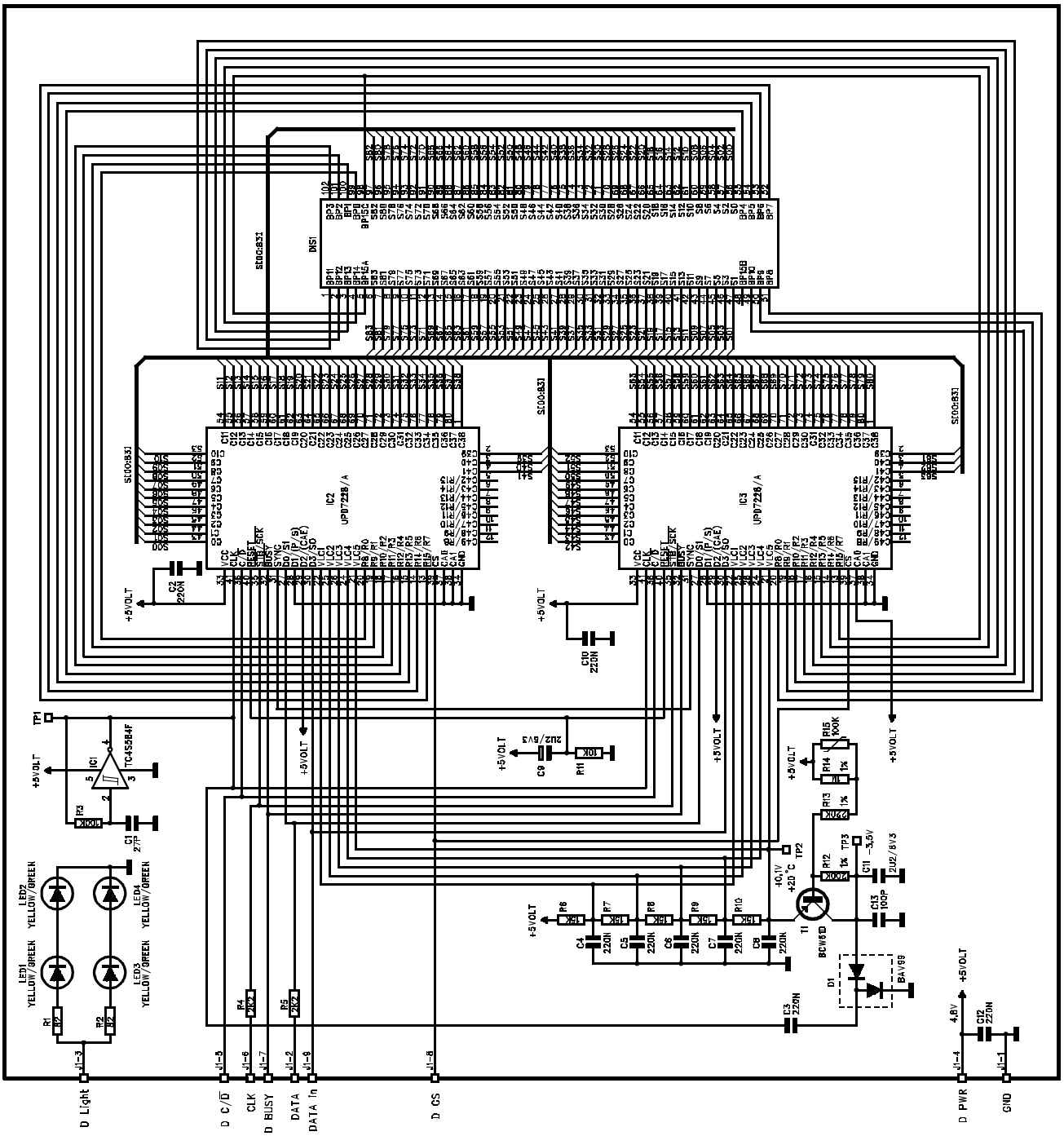
Partlist for Systemboard TRX1001 Date 01-09-2004
Drawing No. 0-9601-03-9 Unit No. 5700

Component	Description	Value	Niros No.
IC304	Integrated_circuit	TC4S66F	46250
IC305	Integrated_circuit	4094BT	46177
IC401	Integrated_circuit	4094BT	46177
L101	Coil,chip	75939	75939
L102	Coil,chip	75939	75939
L301	Coil,chip	75877	75877
L302	Coil,chip	75939	75939
L401	Coil,chip	75877	75877
L402	Coil,chip	75877	75877
L403	Coil,chip	75939	75939
L404	Coil,chip	75877	75877
L405	Coil	75958	75958
SW401	Switch	KSAV	81204
SW402	Switch	KSAV	81204
SW403	Switch	KSAV	81204
J1	Connector 9 POL	-	83313
J2	Flex CONNECTOR 20 POL	-	83318
J4	Connector 12 POL	-	83317
J5	Connector 12 POL	-	83317
J6	Connector 12 POL	-	83316
	Pc. BOARD NO. 701-8	1 pcs	95701
	Coax_cable	1 pcs	182525

p. 10 of 10 PC. Board No. 701-8

8. Display unit TRX1001

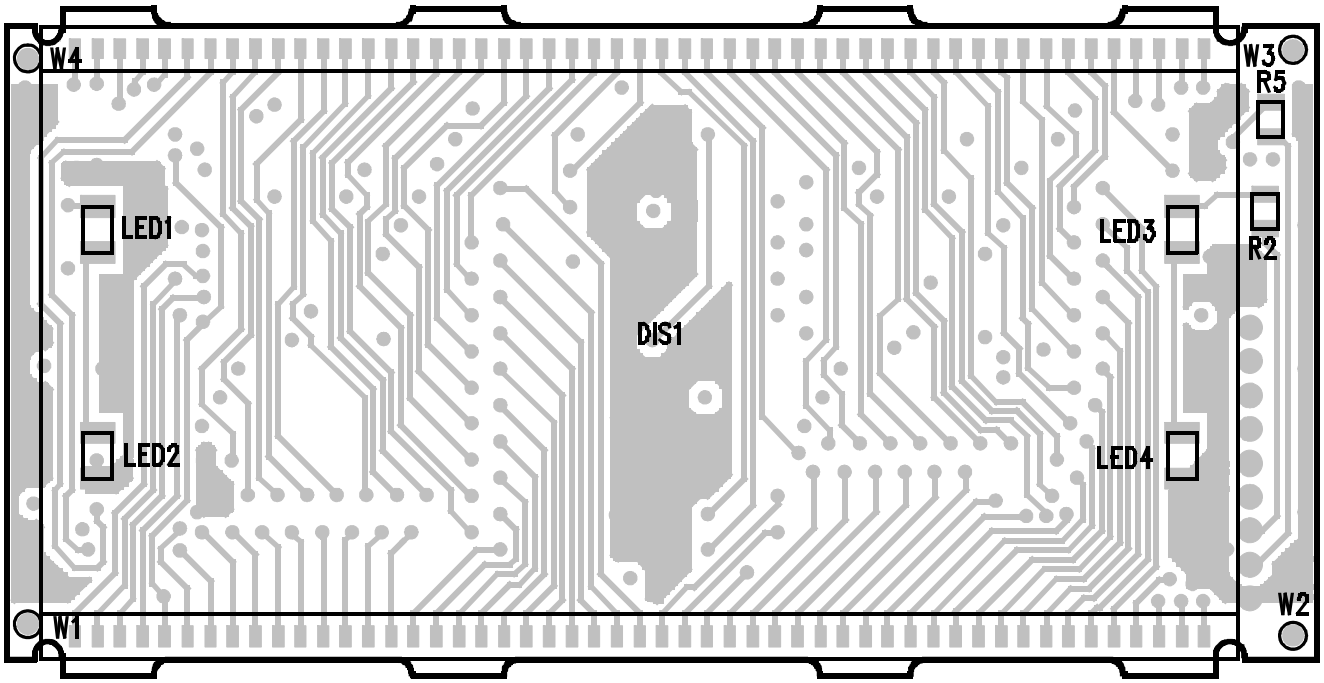
8.1 Diagram



TRX1001C/D UNIT NO. : 5710
SUBJECT TO CHANGE WITHOUT NOTICE TRX1001B UNIT NO. : 5712

DATE: 10-4-92	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 29-1-93	SIGN: PA	1	
DATE: 26-10-93	SIGN: PH	1	
DATE: 10-1-94	SIGN: PH	1	Display unit TRX1001
DATE: 3-1-00	SIGN: PH	2	
DATE:	SIGN:		
DRAWING NO: 0-9604-03-2			PCB NO: 704-3

8.2 Componentside

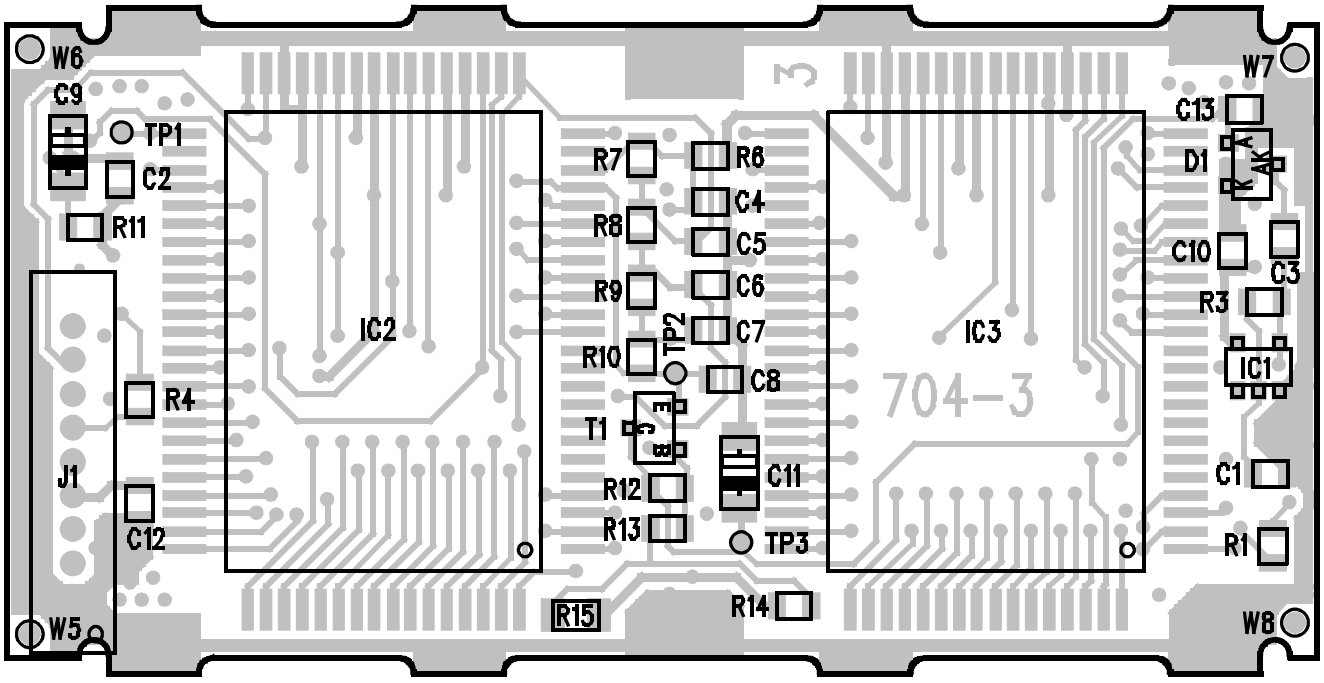


Componentside 704-3

TRX1001C/D UNIT NO. : 5710
SUBJECT TO CHANGE WITHOUT NOTICE TRX1001B UNIT NO. : 5712

DATE: 10-4-92	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 29-4-93	SIGN: PA	1	
DATE: 26-10-93	SIGN: PH	1	
DATE: 10-1-94	SIGN: PH	1	Display unit TRX1001
DATE: 3-1-00	SIGN: PH	2	
DATE:	SIGN:		
DRAWING NO: 0-9604-05-2			PCB NO: 704-3

8.3 Wiringside



Wiringside 704-3

TRX1001C/D UNIT NO. : 5710
SUBJECT TO CHANGE WITHOUT NOTICE TRX1001B UNIT NO. : 5712

DATE: 10-4-92	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 29-4-93	SIGN: PA	1	
DATE: 26-10-93	SIGN: PH	1	
DATE: 10-1-94	SIGN: PH	1	Display unit TRX1001
DATE: 3-1-00	SIGN: PH	2	
DATE:	SIGN:		
DRAWING NO: 0-9604-04-2			PCB NO: 704-3

8.4 Partlist

PARTLIST FOR Display unit TRX1001 DATE 22-12-99
DRAWING NO. 0-9604-03-2 UNIT NO. 5710

Component	Description	Value	Niros No.
	Display unit TRX1001C/D		5710
	Display unit TRX1001B		5712
	Only in TRX1001B		5711
R1	Resistor,chip603	82 Ohm	14820
R2	Resistor,chip603	82 Ohm	14820
R3	Resistor,chip603	100 Kohm	14104
R4	Resistor,chip603	2,2 Kohm	14222
R5	Resistor,chip603	2,2 Kohm	14222
R6	Resistor,chip603	15 Kohm	14153
R7	Resistor,chip603	15 Kohm	14153
R8	Resistor,chip603	15 Kohm	14153
R9	Resistor,chip603	15 Kohm	14153
R10	Resistor,chip603	15 Kohm	14153
R11	Resistor,chip603	10 Kohm	14103
R12	Resistor,chip603_1%	200 Kohm	10922
R13	Resistor,chip603_1%	220 Kohm	10923
R14	Resistor,chip603_1%	1 Mohm	10924
R15	Resistor,ntc	100 Kohm	11010
C1	Capacitor,chip603	27 pF	21270
C2	Capacitor,chip603	220 nF	21224
C3	Capacitor,chip603	220 nF	21224
C4	Capacitor,chip603	220 nF	21224
C5	Capacitor,chip603	220 nF	21224
C6	Capacitor,chip603	220 nF	21224
C7	Capacitor,chip603	220 nF	21224
C8	Capacitor,chip603	220 nF	21224
C9	Capacitor,ctan_a	2,2 uF/6V3	25602
C10	Capacitor,chip603	220 nF	21224
C11	Capacitor,ctan_a	2,2 uF/6V3	25602
C12	Capacitor,chip603	220 nF	21224
C13	Capacitor,chip603	100 pF	21101
T1	Transistor	BCW61D	40157
D1	Diode	BAV99	45148
LED1	Light_diode	YELLOW/GREEN	45187
LED2	Light_diode	YELLOW/GREEN	45187
LED3	Light_diode	YELLOW/GREEN	45187
LED4	Light_diode	YELLOW/GREEN	45187

p. 1 of 2 PC. Board No. 704-3

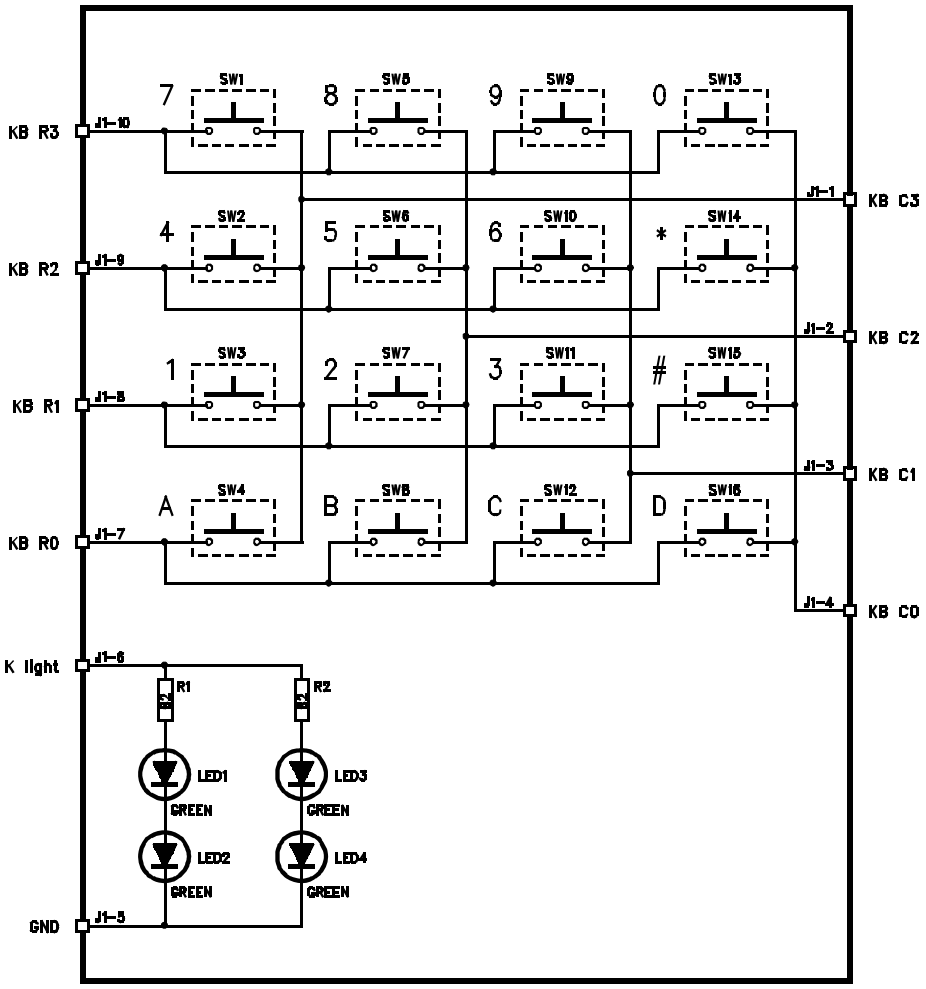
PARTLIST FOR Display unit TRX1001 DATE 22-12-99
DRAWING NO. 0-9604-03-2 UNIT NO. 5710

Component	Description	Value	Niros No.
IC1	Integrated_circuit	TC4S584F	46207
IC2	Integrated_circuit	UPD7228/A	46266
IC3	Integrated_circuit	UPD7228/A	46266
J1	Connector_9pol		83314
DIS1	Display		46326
	Rubber_connector	2 pcs	46327
	Pc._board_no. 704-3	1 pcs	95704
	Frame_for_display	1 pcs	97519
	Label_for_light_guide	1 pcs	97562
	Light_guide	1 pcs	97848

p. 2 of 2 PC. Board No. 704-3

9. Keyboards TRX1001

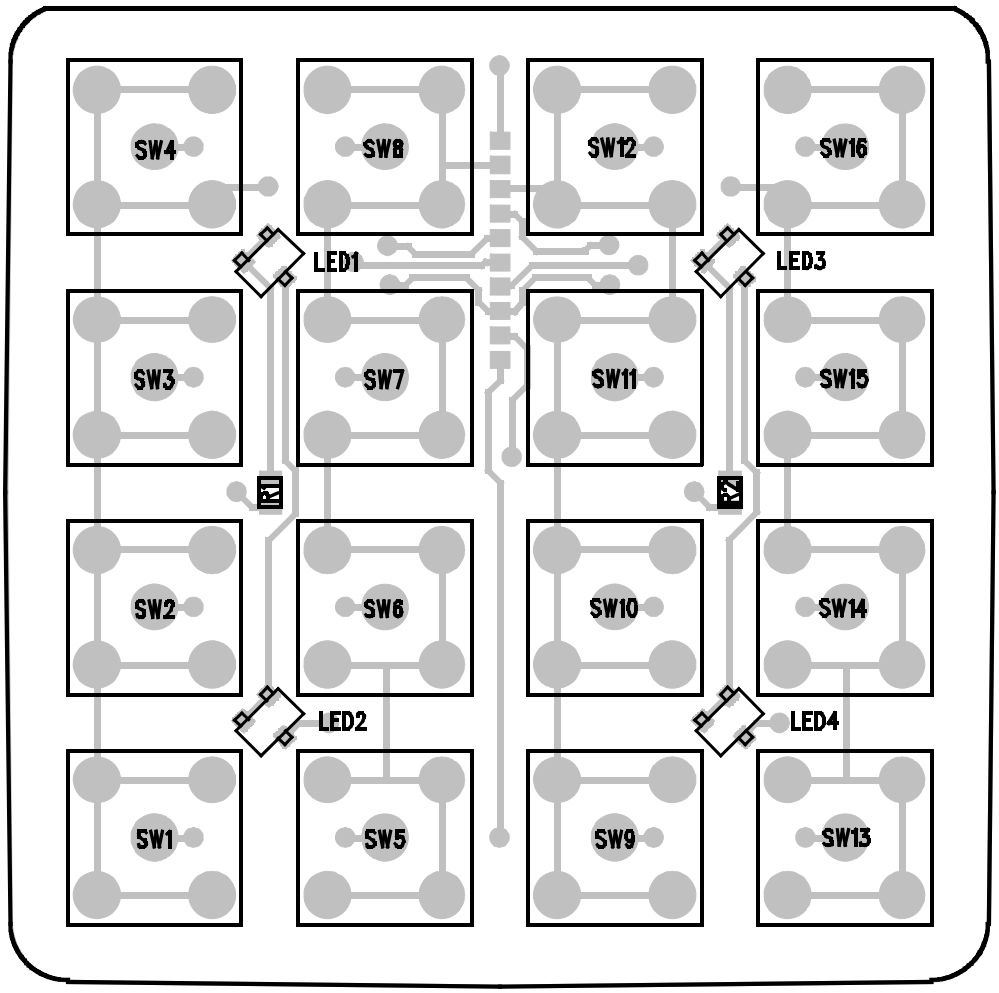
9.1 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 11-6-92	SIGN: PA	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 23-2-93	SIGN: EK	0	
DATE: 19-12-98	SIGN: PH	1	
DATE:	SIGN:		Keyboard unit TRX1001
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: D-9605-03-1			PCB NO: 705-1 UNIT NO: 980050

9.2 Componentside

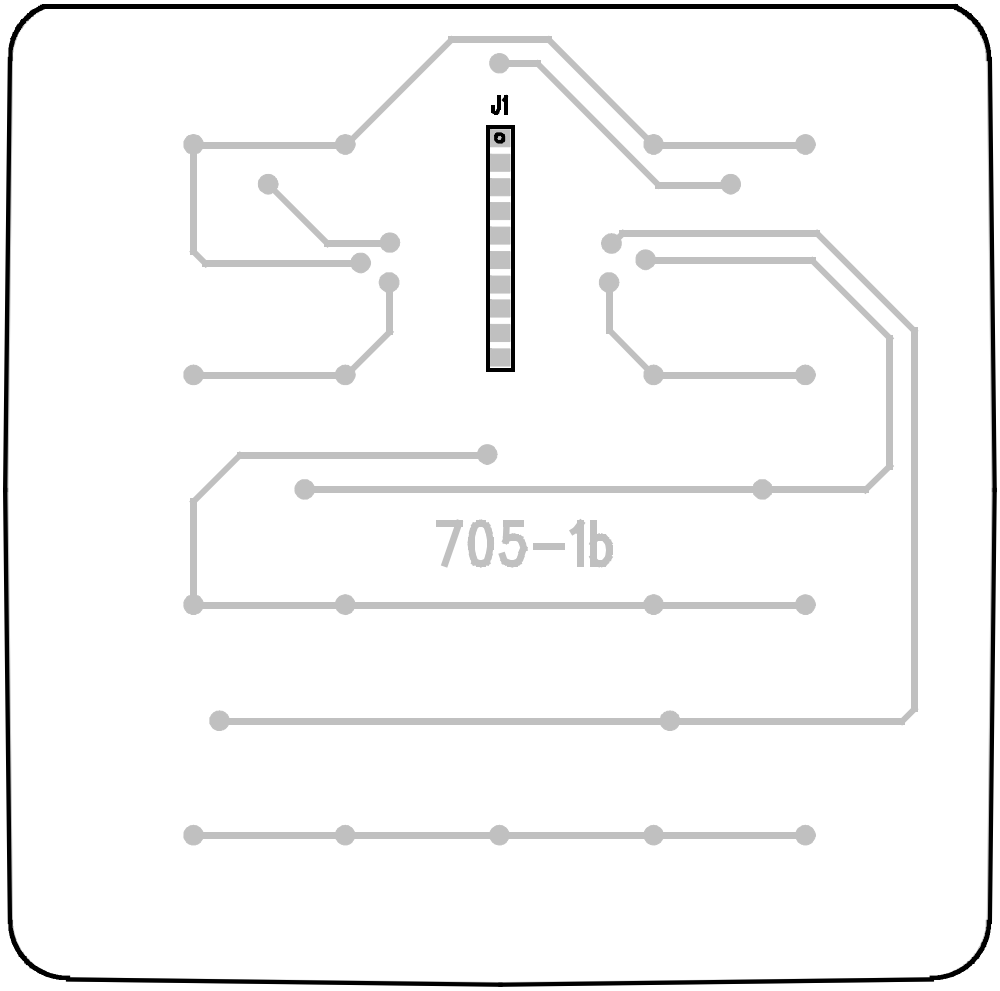


Componentside 705-1

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 11-6-92	SIGN: PA	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 23-2-93	SIGN: EK	0	
DATE: 19-12-96	SIGN: PH	1	
DATE:	SIGN:		Keyboard unit TRX1001
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: D-9605-05-1			PCB NO: 705-1 UNIT NO: 980050

9.3 Wiringside

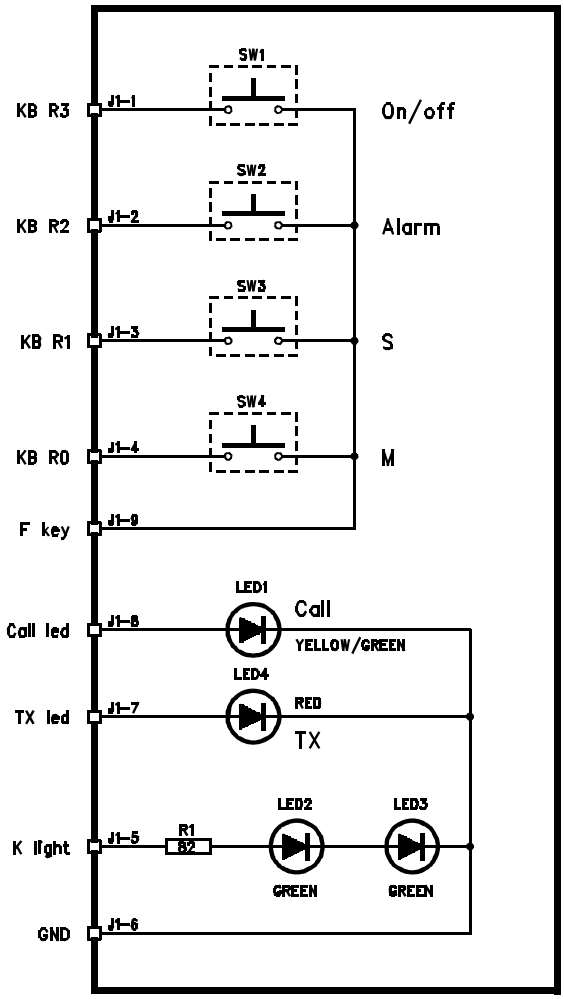


Wiringside 705-1

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 11-6-92	SIGN: PA	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 23-2-93	SIGN: EK	0	
DATE: 19-12-96	SIGN: PH	1	Keyboard unit TRX1001
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: 0-9605-04-1			PCB NO: 705-1 UNIT NO: 960050

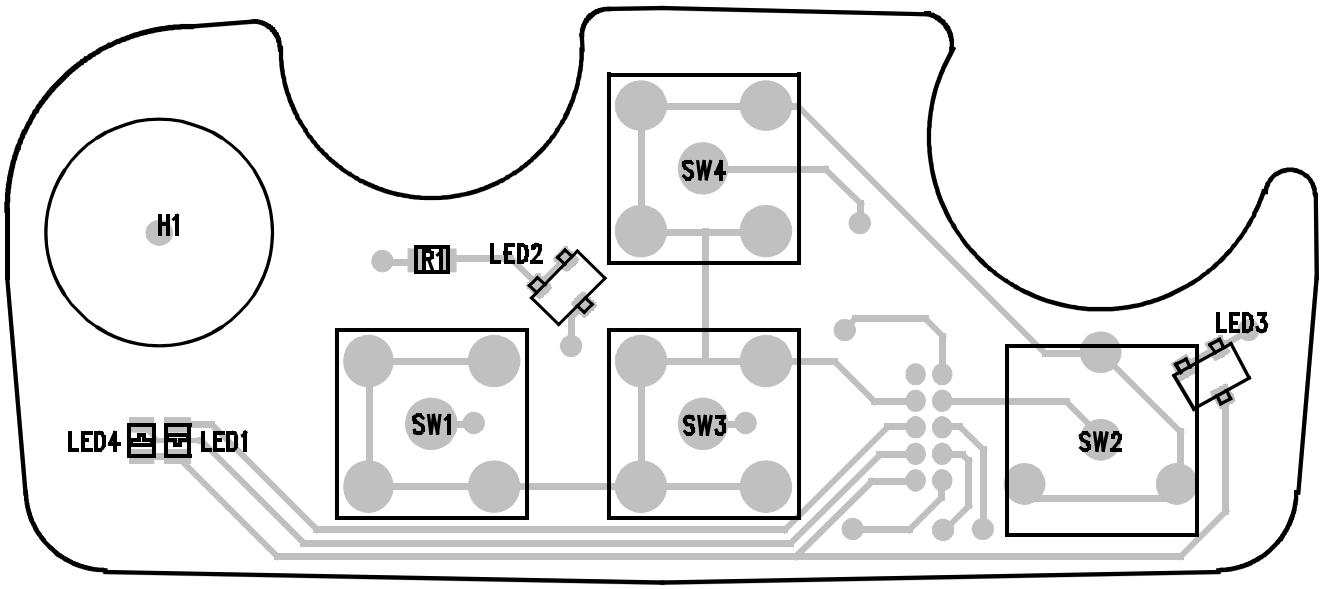
9.4 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 22-7-92 SIGN: PA	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM	
DATE: 24-2-93 SIGN: EK	0		
DATE: 17-5-93 SIGN: EK	0		
DATE: 2-12-96 SIGN: PH	1	Top keyboard I unit TRX1001/TRX1012	
DATE: 19-12-96 SIGN: PH	1		
DATE: 5-2-97 SIGN: PH	1		
DRAWING NO: 0-9607-03-1		PCB NO: 707-5 UNIT NO: 980070	

9.5 Componentside

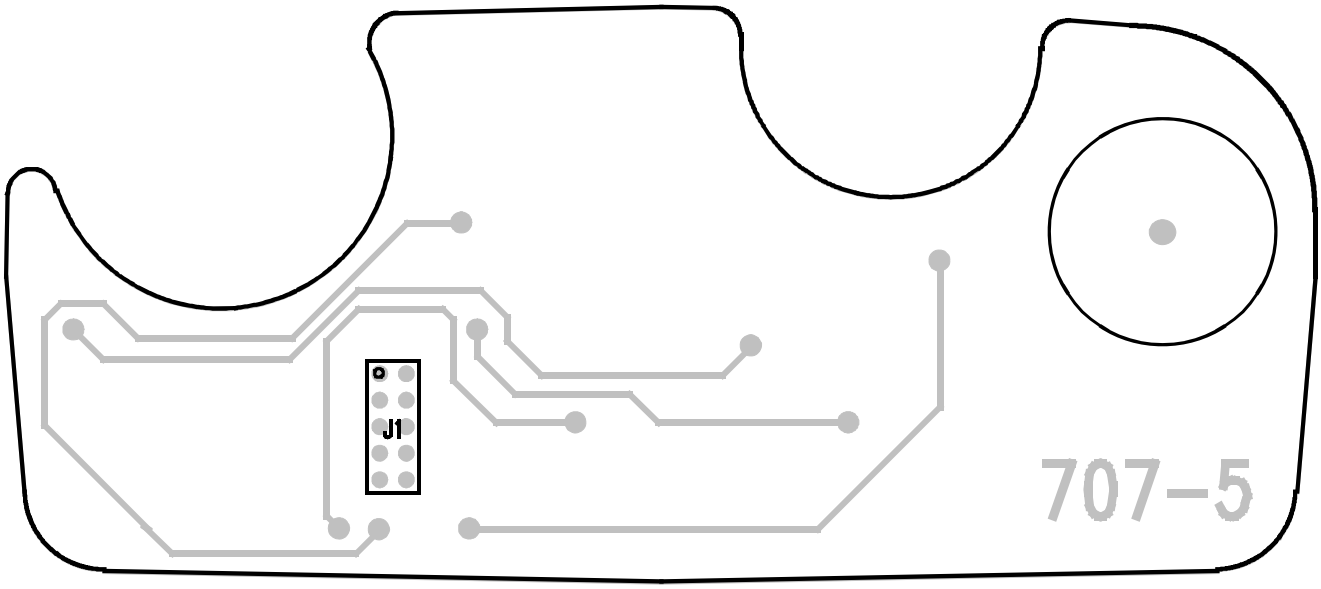


Componentside 707-5

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 22-7-92	SIGN: PA	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 24-2-93	SIGN: EK	0	
DATE: 17-5-93	SIGN: EK	0	Top keyboard I unit TRX1001/TRX1012
DATE: 2-12-96	SIGN: PH	1	
DATE: 18-12-96	SIGN: PH	1	
DATE: 5-2-97	SIGN: PH	1	
DRAWING NO: 0-9507-05-1			PCB NO: 707-5 UNIT NO: 980070

9.6 Wiringside



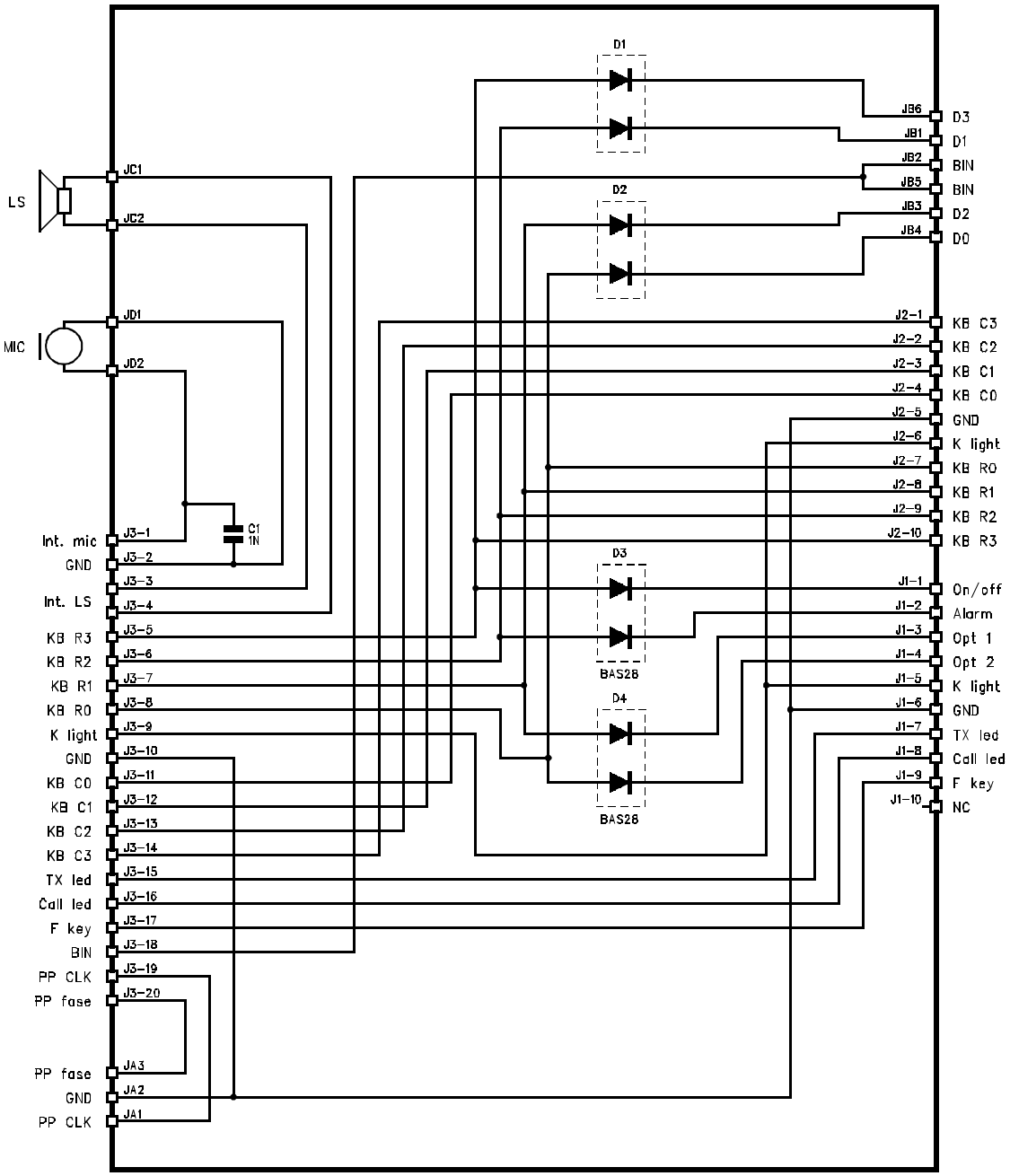
Wiringside 707-5

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 22-7-92 SIGN: PA	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 24-2-93 SIGN: EK	0	
DATE: 17-6-93 SIGN: EK	0	
DATE: 2-12-96 SIGN: PH	1	Top keyboard I unit TRX1001/TRX1012
DATE: 19-12-96 SIGN: PH	1	
DATE: 5-2-97 SIGN: PH	1	
DRAWING NO: 0-9607-04-1		PCB NO: 707-5 UNIT NO: 980070

10. Flexboard TRX1001

10.1 Diagram



Without 16 pol switch
UNIT NO: 5740
With 16 pol switch
UNIT NO: 5742

SUBJECT TO CHANGE WITHOUT NOTICE

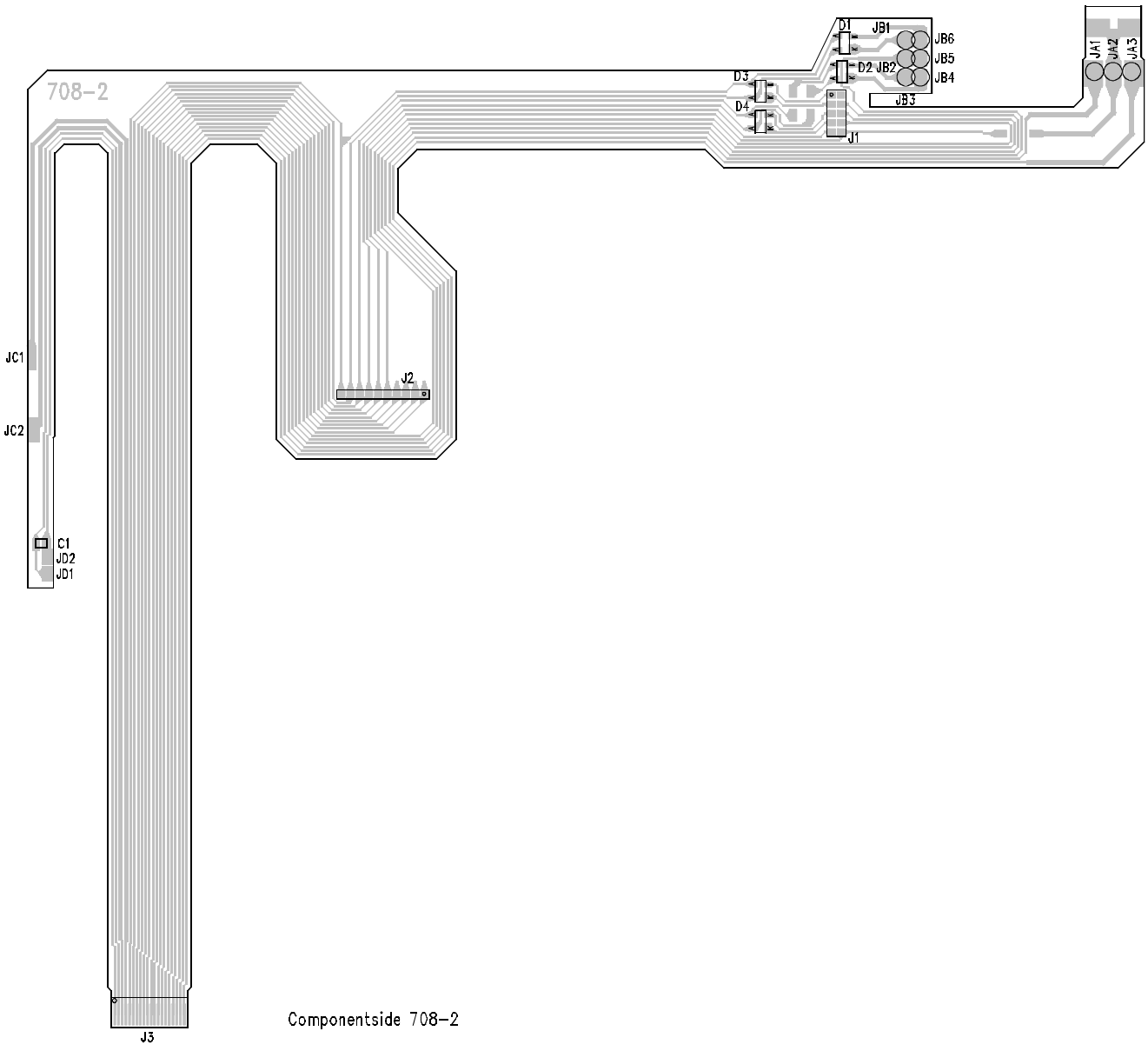
DATE: 22-6-92	SIGN: EK	0
DATE: 11-1-94	SIGN: EK	0
DATE: 2-12-96	SIGN: PH	0
DATE: 5-2-97	SIGN: PH	0
DATE: 8-7-98	SIGN: PH	0
DATE:	SIGN:	
DRAWING NO: 0-9508-03-D		

NIROS TELECOMMUNICATION A/S
HIRSEMARKEN 5, 3520 FARUM

Flex board TRX1001/TRX1012

PCB NO: 708-2

10.2 Componentside



Componentside 708-2

Without 16 pol switch
UNIT NO: 5740
With 16 pol switch
UNIT NO: 5742

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 22-6-92	SIGN: EK	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 11-1-94	SIGN: EK	0	
DATE: 2-12-96	SIGN: PH	0	
DATE: 5-2-97	SIGN: PH	0	Flex board TRX1001/TRX1012
DATE: 8-7-98	SIGN: PH	0	
DATE:	SIGN:		
DRAWING NO: 0-9808-05-0			PCB NO: 708-2

10.3 Partlist

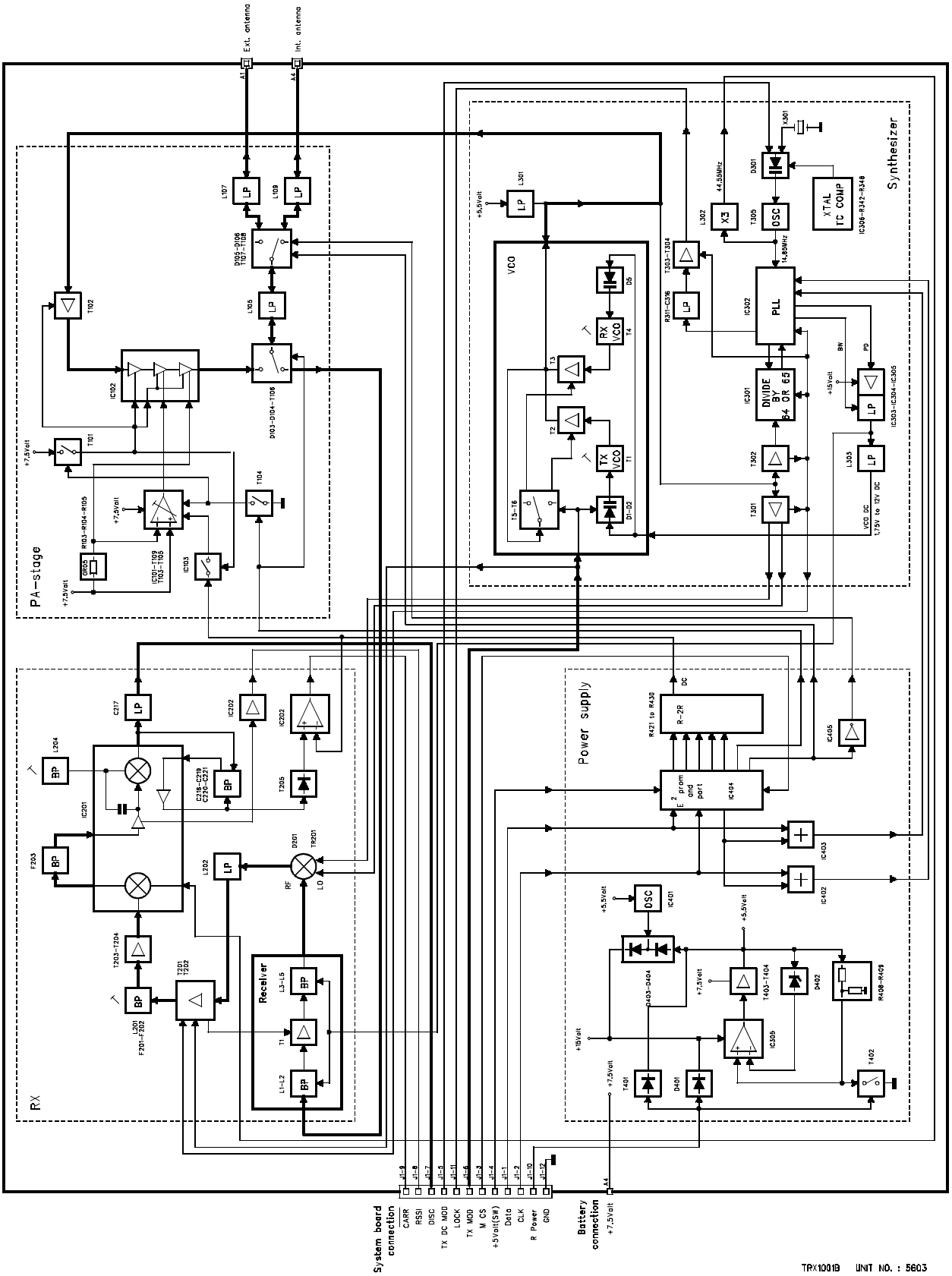
PARTLIST FOR Flex board TRX1001/TRX1012 DATE 28-11-96
DRAWING NO. 0-9608-03-0 UNIT NO. 5740

Component	Description		Value	Niros No.
	Flex board without 16 pol			5740
	Flex board with 16 pol			5742
C1	Capacitor,chip603		1 nF	21102
D1	Diode	5740	Not used	
	Diode	5742	BAS28	45174
D2	Diode	5740	Not used	
	Diode	5742	BAS28	45174
D3	Diode		BAS28	45174
D4	Diode		BAS28	45174
	1 jumper	5740		
	3 jumper	5742		

p. 1 of 1 PC. Board No. 708-1

11. Radioboard TRX1001B

11.1 Blockdiagram



SUBJECT TO CHANGE WITHOUT NOTICE

TRX1001B UNIT NO. : 5603
TRX1001C UNIT NO. : 5602

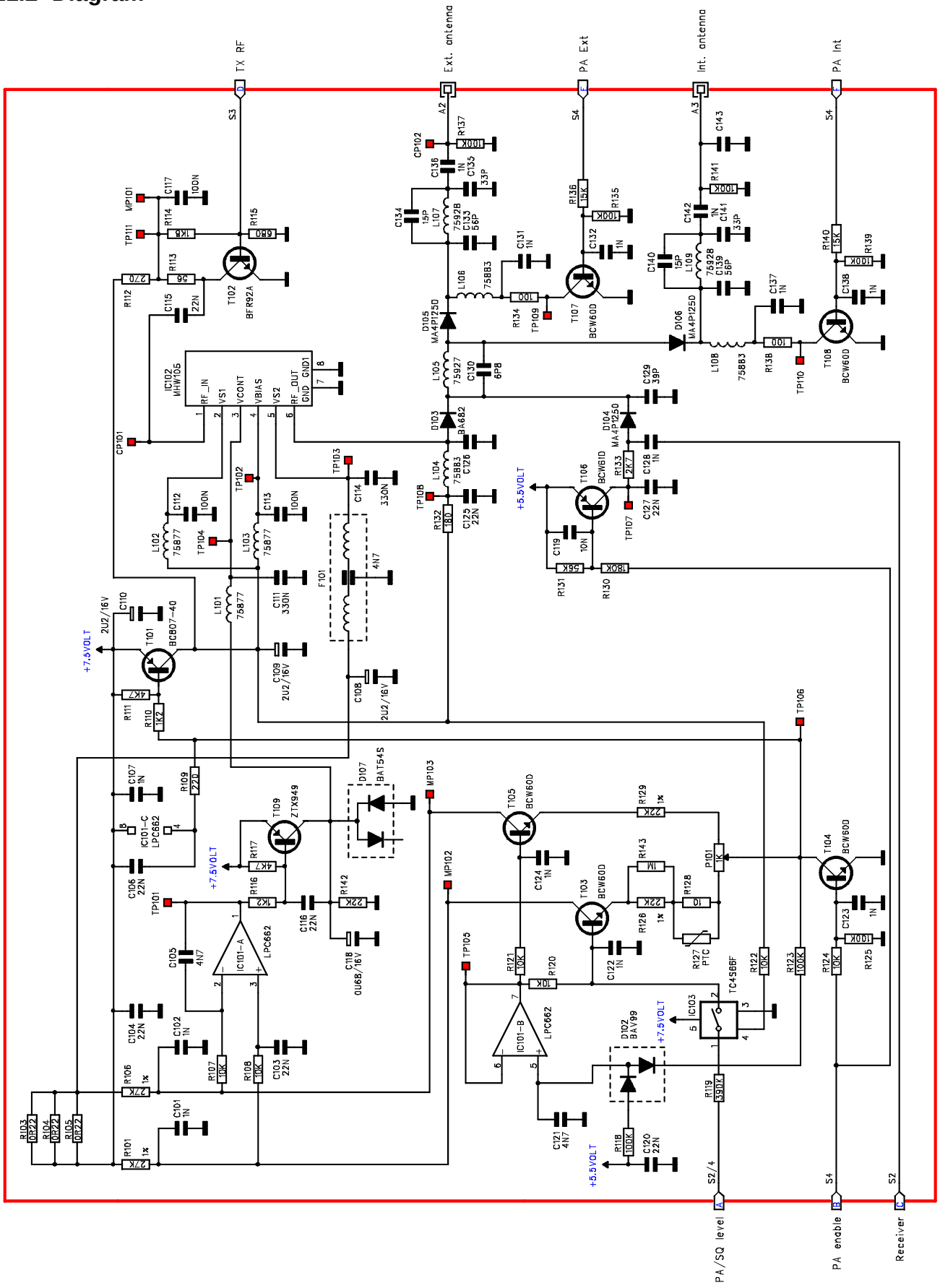
DATE: 30-6-93	SIGN: PH	0
DATE: 10-1-94	SIGN: PH	0
DATE:	SIGN:	
DATE:	SIGN:	
DATE:	SIGN:	
DATE:	SIGN:	
DRAWING NO: 0-9620-03-0		

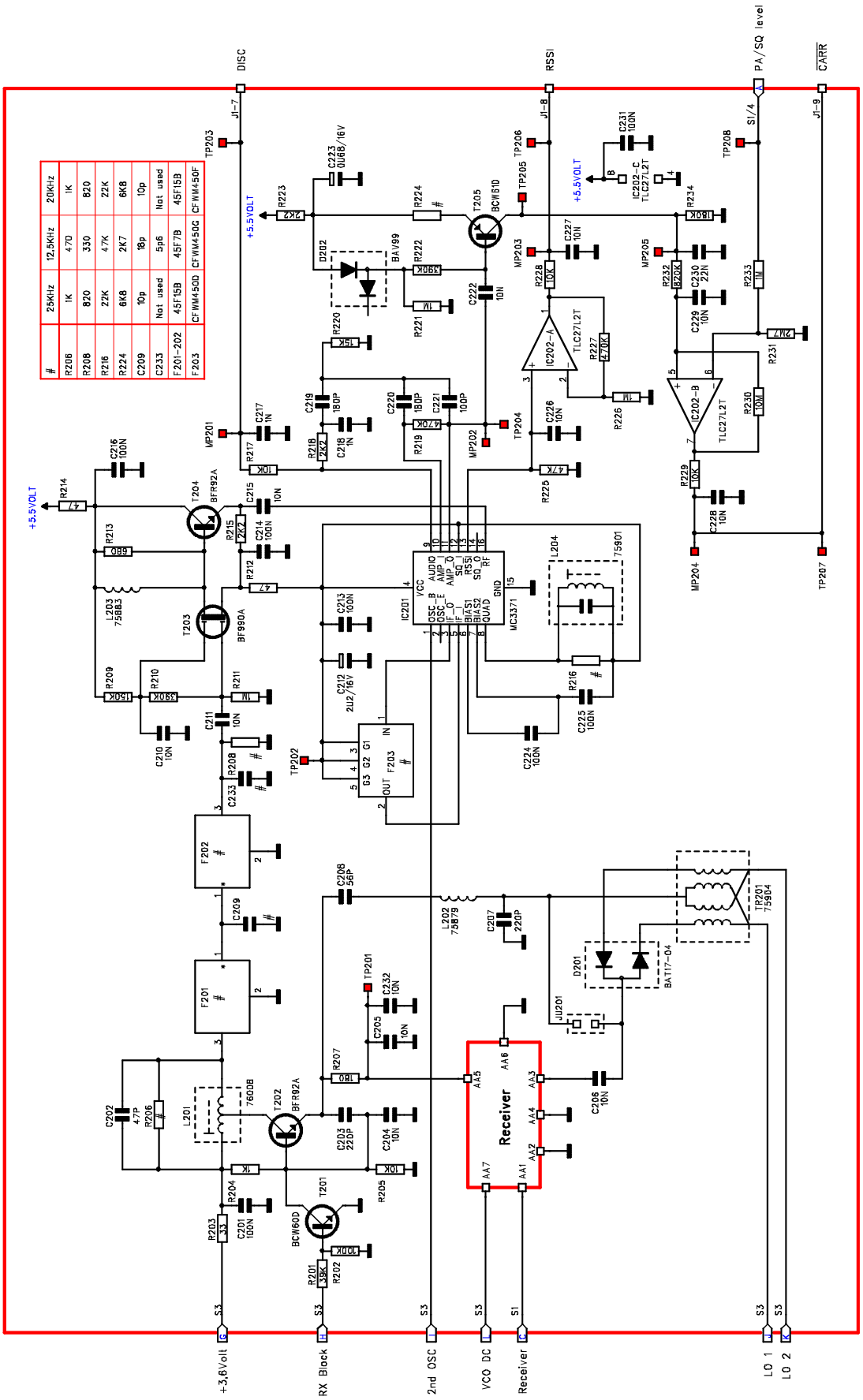
NIROS TELECOMMUNICATION A/S
HIRSEMARKEN 5, 3520 FARUM

Block diagram
Radioboard TRX1001B/C

PCB NO: 722-X

11.2 Diagram



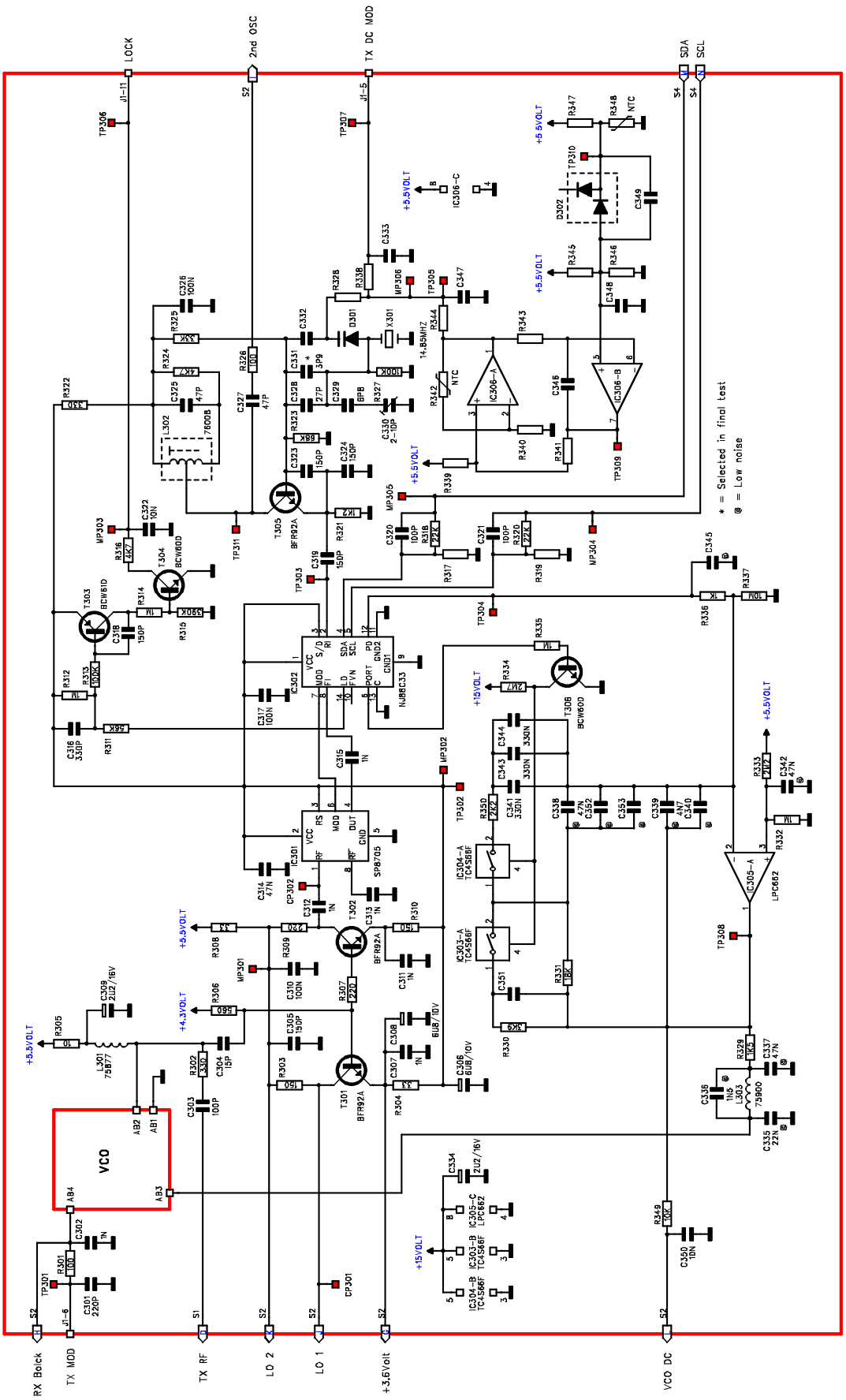


#	25KHz	12,5KHz	20KHz
R206	1K	470	1K
R208	820	330	820
R216	22K	47K	22K
R224	6K8	2K7	6K8
C209	10p	18p	10p
C233	Not used	5p6	Not used
F201-202	45F15B	45F7B	45F15B
F203	CFWM450D	CFWM450G	CFWM450F

SUBJECT TO CHANGE WITHOUT NOTICE

25 KHz Unit No. : 5603
12,5 KHz Unit No. : 5613
20 KHz Unit No. : 5618

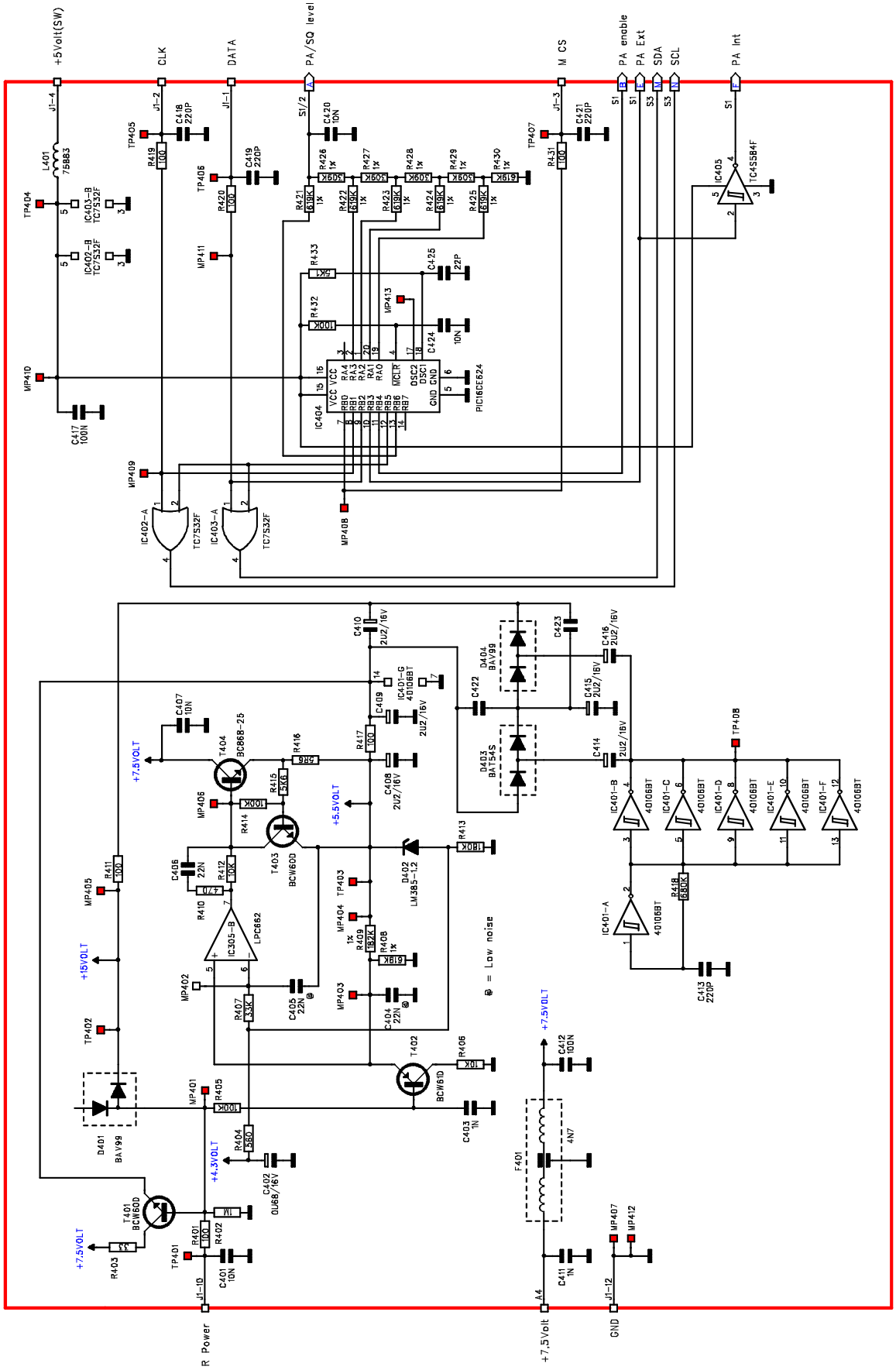
Date: 21-10-2002 Sign: PH	3	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001B
Date: 31-08-2004 Sign: PH	4		
Drawing No.: 0-9625-03-4 p 2 of 4		PC. Board No.: 722-3	



SUBJECT TO CHANGE WITHOUT NOTICE

Date: 21-10-2002 Sign: PH	3	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001B	
Date: 31-08-2004 Sign: PH	4			
Drawing No.: 0-9625-03-4 p 3 of 4		PC. Board No.: 722-3		

25 KHz Unit No. : 5603
12,5 KHz Unit No. : 5613
20 KHz Unit No. : 5618

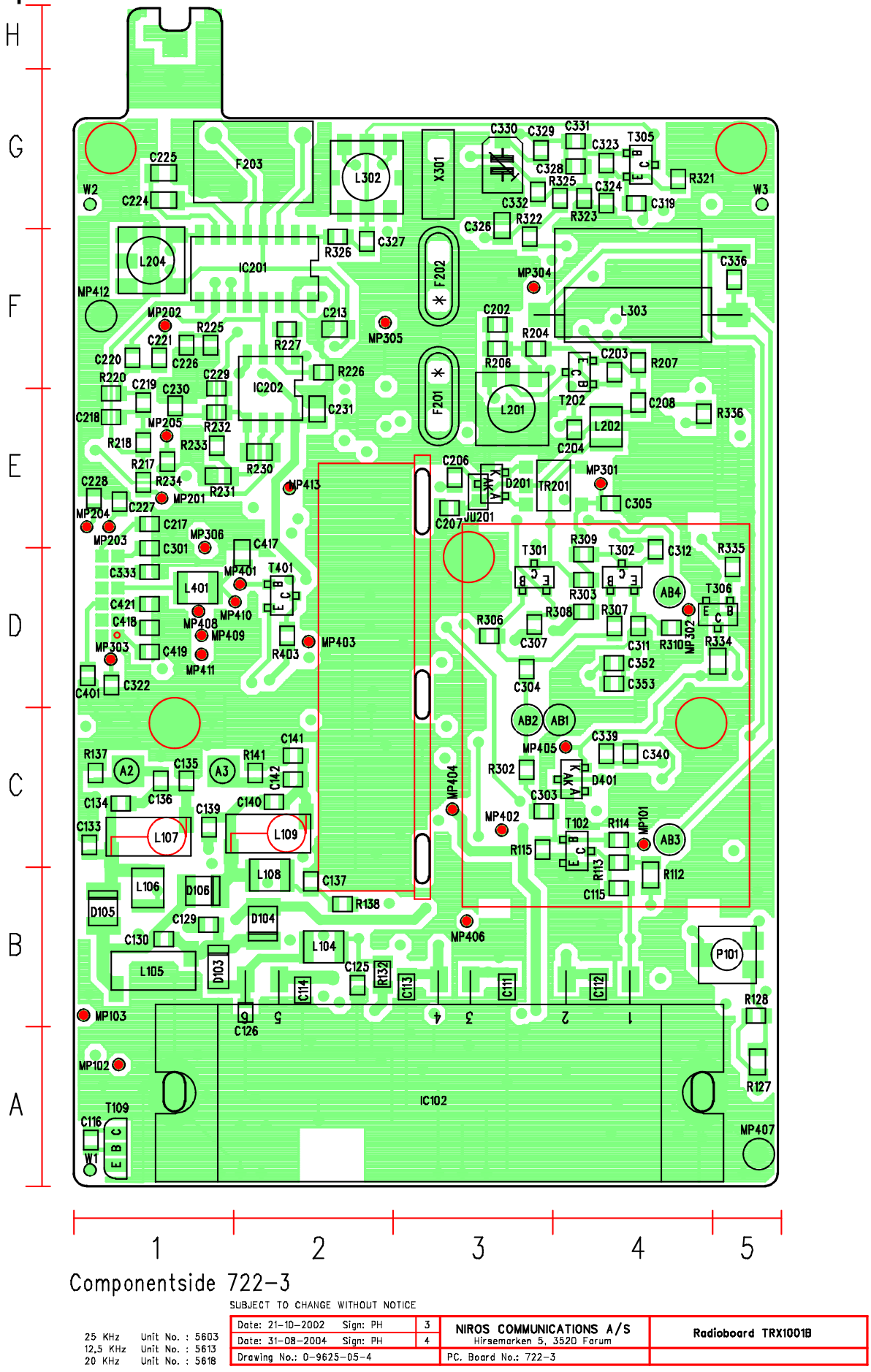


SUBJECT TO CHANGE WITHOUT NOTICE

25 KHz Unit No. : 5603
12,5 KHz Unit No. : 5613
20 KHz Unit No. : 5618

Date: 21-10-2002 Sign: PH	3	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001B
Date: 31-08-2004 Sign: PH	4		
Drawing No.: 0-9625-03-4 p 4 of 4		PC. Board No.: 722-3	

11.3 Componentside

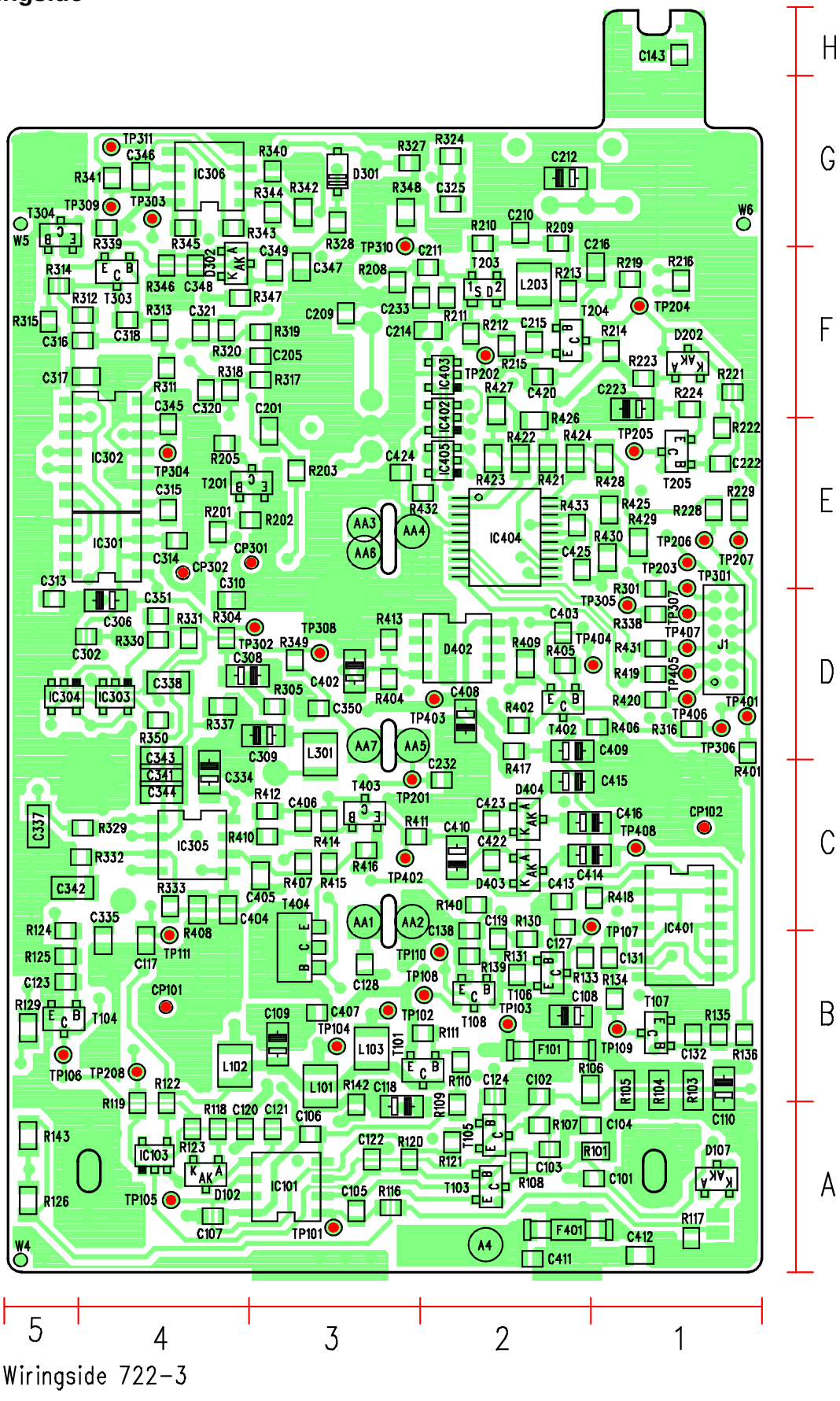


Componentside 722-3

SUBJECT TO CHANGE WITHOUT NOTICE

25 KHz Unit No. : 5603 12,5 KHz Unit No. : 5613 20 KHz Unit No. : 5618	Date: 21-10-2002 Sign: PH Date: 31-08-2004 Sign: PH Drawing No.: 0-9625-05-4	3 4	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum PC. Board No.: 722-3	Radioboard TRX1001B

11.4 Wiringside



SUBJECT TO CHANGE WITHOUT NOTICE

Date: 21-10-2002 Sign: PH	3	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001B	
Date: 31-08-2004 Sign: PH	4			
Drawing No.: 0-9625-04-4		PC. Board No.: 722-3		

25 KHz Unit No. : 5603
12,5 KHz Unit No. : 5613
20 KHz Unit No. : 5618

11.5 Fieldlist

Name Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Type	Side	Cord	Component	Type	Side	Cord
R101	SMT	BOTTOM	A1	R212	SMT	BOTTOM	F2
R103	SMT	BOTTOM	B1	R213	SMT	BOTTOM	F2
R104	SMT	BOTTOM	B1	R214	SMT	BOTTOM	F1
R105	SMT	BOTTOM	B1	R215	SMT	BOTTOM	F2
R106	SMT	BOTTOM	B2	R216	SMT	BOTTOM	F1
R107	SMT	BOTTOM	A2	R217	SMT	TOP	E1
R108	SMT	BOTTOM	A2	R218	SMT	TOP	E1
R109	SMT	BOTTOM	A2	R219	SMT	BOTTOM	F1
R110	SMT	BOTTOM	B2	R220	SMT	TOP	E1
R111	SMT	BOTTOM	B2	R221	SMT	BOTTOM	F1
R112	SMT	TOP	B4	R222	SMT	BOTTOM	E1
R113	SMT	TOP	C4	R223	SMT	BOTTOM	F1
R114	SMT	TOP	C4	R224	SMT	BOTTOM	F1
R115	SMT	TOP	C3	R225	SMT	TOP	F1
R116	SMT	BOTTOM	A3	R226	SMT	TOP	F2
R117	SMT	BOTTOM	A1	R227	SMT	TOP	F2
R118	SMT	BOTTOM	A4	R228	SMT	BOTTOM	E1
R119	SMT	BOTTOM	A4	R229	SMT	BOTTOM	E1
R120	SMT	BOTTOM	A3	R230	SMT	TOP	E2
R121	SMT	BOTTOM	A2	R231	SMT	TOP	E1
R122	SMT	BOTTOM	A4	R232	SMT	TOP	E1
R123	SMT	BOTTOM	A4	R233	SMT	TOP	E1
R124	SMT	BOTTOM	C5	R234	SMT	TOP	E1
R125	SMT	BOTTOM	B5	R301	SMT	BOTTOM	E1
R126	SMT	BOTTOM	A5	R302	SMT	TOP	C3
R127	SMT	TOP	A5	R303	SMT	TOP	D4
R128	SMT	TOP	B5	R304	SMT	BOTTOM	D4
R129	SMT	BOTTOM	B5	R305	SMT	BOTTOM	D3
R130	SMT	BOTTOM	B2	R306	SMT	TOP	D3
R131	SMT	BOTTOM	B2	R307	SMT	TOP	D4
R132	SMT	TOP	B2	R308	SMT	TOP	D4
R133	SMT	BOTTOM	B2	R309	SMT	TOP	D4
R134	SMT	BOTTOM	B1	R310	SMT	TOP	D4
R135	SMT	BOTTOM	B1	R311	SMT	BOTTOM	F4
R136	SMT	BOTTOM	B1	R312	SMT	BOTTOM	F4
R137	SMT	TOP	C1	R313	SMT	BOTTOM	F4
R138	SMT	TOP	B2	R314	SMT	BOTTOM	F5
R139	SMT	BOTTOM	B2	R315	SMT	BOTTOM	F5
R140	SMT	BOTTOM	C2	R316	SMT	BOTTOM	D1
R141	SMT	TOP	C2	R317	SMT	BOTTOM	F3
R142	SMT	BOTTOM	A3	R318	SMT	BOTTOM	F4
R143	SMT	BOTTOM	A5	R319	SMT	BOTTOM	F3
R201	SMT	BOTTOM	E4	R320	SMT	BOTTOM	F4
R202	SMT	BOTTOM	E3	R321	SMT	TOP	G4
R203	SMT	BOTTOM	E3	R322	SMT	TOP	F3
R204	SMT	TOP	F3	R323	SMT	TOP	G4
R205	SMT	BOTTOM	E4	R324	SMT	BOTTOM	G2
R206	SMT	TOP	F3	R325	SMT	TOP	G4
R207	SMT	TOP	F4	R326	SMT	TOP	F2
R208	SMT	BOTTOM	F3	R327	SMT	BOTTOM	G3
R209	SMT	BOTTOM	G2	R328	SMT	BOTTOM	G3
R210	SMT	BOTTOM	G2	R329	SMT	BOTTOM	C4
R211	SMT	BOTTOM	F2	R330	SMT	BOTTOM	D4

p. 1 of 5 — PC. Board No. 722-3

Name Radioboard TRX1001B
Drawing No. 0-9625-03-4

Date 31-08-2004
Unit No. 5603

Component	Type	Side	Cord	Component	Type	Side	Cord
R331	SMT	BOTTOM	D4	P101	SMT	TOP	B5
R332	SMT	BOTTOM	C4	C101	SMT	BOTTOM	A1
R333	SMT	BOTTOM	C4	C102	SMT	BOTTOM	B2
R334	SMT	TOP	D5	C103	SMT	BOTTOM	A2
R335	SMT	TOP	D5	C104	SMT	BOTTOM	A2
R336	SMT	TOP	E4	C105	SMT	BOTTOM	A3
R337	SMT	BOTTOM	D4	C106	SMT	BOTTOM	A3
R338	SMT	BOTTOM	D1	C107	SMT	BOTTOM	A4
R339	SMT	BOTTOM	G4	C108	SMT	BOTTOM	B2
R340	SMT	BOTTOM	G3	C109	SMT	BOTTOM	B3
R341	SMT	BOTTOM	G4	C110	SMT	BOTTOM	B1
R342	SMT	BOTTOM	G3	C111	SMT	TOP	B3
R343	SMT	BOTTOM	G4	C112	SMT	TOP	B4
R344	SMT	BOTTOM	G3	C113	SMT	TOP	B3
R345	SMT	BOTTOM	G4	C114	SMT	TOP	B2
R346	SMT	BOTTOM	F4	C115	SMT	TOP	B4
R347	SMT	BOTTOM	F4	C116	SMT	TOP	A1
R348	SMT	BOTTOM	G3	C117	SMT	BOTTOM	B4
R349	SMT	BOTTOM	D3	C118	SMT	BOTTOM	A3
R350	SMT	BOTTOM	D4	C119	SMT	BOTTOM	B2
R401	SMT	BOTTOM	D1	C120	SMT	BOTTOM	A4
R402	SMT	BOTTOM	D2	C121	SMT	BOTTOM	A3
R403	SMT	TOP	D2	C122	SMT	BOTTOM	A3
R404	SMT	BOTTOM	D3	C123	SMT	BOTTOM	B5
R405	SMT	BOTTOM	D2	C124	SMT	BOTTOM	B2
R406	SMT	BOTTOM	D1	C125	SMT	TOP	B2
R407	SMT	BOTTOM	C3	C126	SMT	TOP	B2
R408	SMT	BOTTOM	C4	C127	SMT	BOTTOM	C2
R409	SMT	BOTTOM	D2	C128	SMT	BOTTOM	B3
R410	SMT	BOTTOM	C3	C129	SMT	TOP	B1
R411	SMT	BOTTOM	C3	C130	SMT	TOP	B1
R412	SMT	BOTTOM	C3	C131	SMT	BOTTOM	B1
R413	SMT	BOTTOM	D3	C132	SMT	BOTTOM	B1
R414	SMT	BOTTOM	C3	C133	SMT	TOP	C1
R415	SMT	BOTTOM	C3	C134	SMT	TOP	C1
R416	SMT	BOTTOM	C3	C135	SMT	TOP	C1
R417	SMT	BOTTOM	D2	C136	SMT	TOP	C1
R418	SMT	BOTTOM	C1	C137	SMT	TOP	B2
R419	SMT	BOTTOM	D1	C138	SMT	BOTTOM	C2
R420	SMT	BOTTOM	D1	C139	SMT	TOP	C1
R421	SMT	BOTTOM	E2	C140	SMT	TOP	C2
R422	SMT	BOTTOM	E2	C141	SMT	TOP	C2
R423	SMT	BOTTOM	E2	C142	SMT	TOP	C2
R424	SMT	BOTTOM	E2	C143	SMT	BOTTOM	H1
R425	SMT	BOTTOM	E1	C201	SMT	BOTTOM	E3
R426	SMT	BOTTOM	E2	C202	SMT	TOP	F3
R427	SMT	BOTTOM	F2	C203	SMT	TOP	F4
R428	SMT	BOTTOM	E1	C204	SMT	TOP	E4
R429	SMT	BOTTOM	E1	C205	SMT	BOTTOM	F3
R430	SMT	BOTTOM	E1	C206	SMT	TOP	E3
R431	SMT	BOTTOM	D1	C207	SMT	TOP	E3
R432	SMT	BOTTOM	E2	C208	SMT	TOP	E4
R433	SMT	BOTTOM	E2	C209	SMT	BOTTOM	F3

p. 2 of 5

PC. Board No. 722-3

Name Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Type	Side	Cord	Component	Type	Side	Cord
C210	SMT	BOTTOM	G2	C330	SMT	TOP	G3
C211	SMT	BOTTOM	F2	C331	SMT	TOP	G4
C212	SMT	BOTTOM	G2	C332	SMT	TOP	G3
C213	SMT	TOP	F2	C333	SMT	TOP	D1
C214	SMT	BOTTOM	F2	C334	SMT	BOTTOM	C4
C215	SMT	BOTTOM	F2	C335	SMT	BOTTOM	B4
C216	SMT	BOTTOM	F1	C336	SMT	TOP	F5
C217	SMT	TOP	E1	C337	SMT	BOTTOM	C5
C218	SMT	TOP	E1	C338	SMT	BOTTOM	D4
C219	SMT	TOP	E1	C339	SMT	TOP	C4
C220	SMT	TOP	F1	C340	SMT	TOP	C4
C221	SMT	TOP	F1	C341	SMT	BOTTOM	C4
C222	SMT	BOTTOM	E1	C342	SMT	BOTTOM	C5
C223	SMT	BOTTOM	F1	C343	SMT	BOTTOM	D4
C224	SMT	TOP	G1	C344	SMT	BOTTOM	C4
C225	SMT	TOP	G1	C345	SMT	BOTTOM	E4
C226	SMT	TOP	F1	C346	SMT	BOTTOM	G4
C227	SMT	TOP	E1	C347	SMT	BOTTOM	F3
C228	SMT	TOP	E1	C348	SMT	BOTTOM	F4
C229	SMT	TOP	F1	C349	SMT	BOTTOM	F3
C230	SMT	TOP	E1	C350	SMT	BOTTOM	D3
C231	SMT	TOP	E2	C351	SMT	BOTTOM	D4
C232	SMT	BOTTOM	C2	C352	SMT	TOP	D4
C233	SMT	BOTTOM	F2	C353	SMT	TOP	D4
C301	SMT	TOP	E1	C401	SMT	TOP	D1
C302	SMT	BOTTOM	D4	C402	SMT	BOTTOM	D3
C303	SMT	TOP	C3	C403	SMT	BOTTOM	D2
C304	SMT	TOP	D3	C404	SMT	BOTTOM	C4
C305	SMT	TOP	E4	C405	SMT	BOTTOM	C3
C306	SMT	BOTTOM	D4	C406	SMT	BOTTOM	C3
C307	SMT	TOP	D3	C407	SMT	BOTTOM	B3
C308	SMT	BOTTOM	D4	C408	SMT	BOTTOM	D2
C309	SMT	BOTTOM	D3	C409	SMT	BOTTOM	D2
C310	SMT	BOTTOM	D4	C410	SMT	BOTTOM	C2
C311	SMT	TOP	D4	C411	SMT	BOTTOM	A2
C312	SMT	TOP	D4	C412	SMT	BOTTOM	A1
C313	SMT	BOTTOM	D5	C413	SMT	BOTTOM	C2
C314	SMT	BOTTOM	E4	C414	SMT	BOTTOM	C2
C315	SMT	BOTTOM	E4	C415	SMT	BOTTOM	C2
C316	SMT	BOTTOM	F4	C416	SMT	BOTTOM	C2
C317	SMT	BOTTOM	F4	C417	SMT	TOP	D2
C318	SMT	BOTTOM	F4	C418	SMT	TOP	D1
C319	SMT	TOP	G4	C419	SMT	TOP	D1
C320	SMT	BOTTOM	F4	C420	SMT	BOTTOM	F2
C321	SMT	BOTTOM	F4	C421	SMT	TOP	D1
C322	SMT	TOP	D1	C422	SMT	BOTTOM	C2
C323	SMT	TOP	G4	C423	SMT	BOTTOM	C2
C324	SMT	TOP	G4	C424	SMT	BOTTOM	E3
C325	SMT	BOTTOM	G2	C425	SMT	BOTTOM	E2
C326	SMT	TOP	G3	F101	SMT	BOTTOM	B2
C327	SMT	TOP	F2	F201	LEAD	TOP	E3
C328	SMT	TOP	G4	F202	LEAD	TOP	F3
C329	SMT	TOP	G3	F203	LEAD	TOP	G2

p. 3 of 5 — PC. Board No. 722-3

Name Radioboard TRX1001B
Drawing No. 0-9625-03-4

Date 31-08-2004
Unit No. 5603

Component	Type	Side	Cord	Component	Type	Side	Cord
F401	SMT	BOTTOM	A2	IC403	SMT	BOTTOM	F2
X301	LEAD	TOP	G3	IC404	SMT	BOTTOM	E2
T101	SMT	BOTTOM	B2	IC405	SMT	BOTTOM	E2
T102	SMT	TOP	C4	TR201	SMT	TOP	E4
T103	SMT	BOTTOM	A2	L101	SMT	BOTTOM	B3
T104	SMT	BOTTOM	B5	L102	SMT	BOTTOM	B4
T105	SMT	BOTTOM	A2	L103	SMT	BOTTOM	B3
T106	SMT	BOTTOM	B2	L104	SMT	TOP	B2
T107	SMT	BOTTOM	B1	L105	SMT	TOP	B1
T108	SMT	BOTTOM	B2	L106	SMT	TOP	B1
T109	LEAD	TOP	A1	L107	SMT	TOP	C1
T201	SMT	BOTTOM	E3	L108	SMT	TOP	B2
T202	SMT	TOP	F4	L109	SMT	TOP	C2
T203	SMT	BOTTOM	F2	L201	SMT	TOP	E3
T204	SMT	BOTTOM	F2	L202	SMT	TOP	E4
T205	SMT	BOTTOM	E1	L203	SMT	BOTTOM	F2
T301	SMT	TOP	D3	L204	SMT	TOP	F1
T302	SMT	TOP	D4	L301	SMT	BOTTOM	D3
T303	SMT	BOTTOM	F4	L302	SMT	TOP	G2
T304	SMT	BOTTOM	G5	L303	SMT	TOP	F4
T305	SMT	TOP	G4	L401	SMT	TOP	D1
T306	SMT	TOP	D5	TP101	SMT	BOTTOM	A3
T401	SMT	TOP	D2	TP102	SMT	BOTTOM	B3
T402	SMT	BOTTOM	D2	TP103	SMT	BOTTOM	B2
T403	SMT	BOTTOM	C3	TP104	SMT	BOTTOM	B3
T404	SMT	BOTTOM	B3	TP105	SMT	BOTTOM	A4
D102	SMT	BOTTOM	A4	TP106	SMT	BOTTOM	B5
D103	SMT	TOP	B1	TP107	SMT	BOTTOM	C1
D104	SMT	TOP	B2	TP108	SMT	BOTTOM	B2
D105	SMT	TOP	B1	TP109	SMT	BOTTOM	B1
D106	SMT	TOP	B1	TP110	SMT	BOTTOM	B2
D107	SMT	BOTTOM	A1	TP111	SMT	BOTTOM	B4
D201	SMT	TOP	E3	TP201	SMT	BOTTOM	C3
D202	SMT	BOTTOM	F1	TP202	SMT	BOTTOM	F2
D301	SMT	BOTTOM	G3	TP203	SMT	BOTTOM	E1
D302	SMT	BOTTOM	F4	TP204	SMT	BOTTOM	F1
D401	SMT	TOP	C4	TP205	SMT	BOTTOM	E1
D402	SMT	BOTTOM	D2	TP206	SMT	BOTTOM	E1
D403	SMT	BOTTOM	C2	TP207	SMT	BOTTOM	E1
D404	SMT	BOTTOM	C2	TP208	SMT	BOTTOM	B4
IC101	SMT	BOTTOM	A3	TP301	SMT	BOTTOM	E1
IC102	SMT	TOP	A3	TP302	SMT	BOTTOM	D3
IC103	SMT	BOTTOM	A4	TP303	SMT	BOTTOM	G4
IC201	SMT	TOP	F2	TP304	SMT	BOTTOM	E4
IC202	SMT	TOP	F2	TP305	SMT	BOTTOM	D1
IC301	SMT	BOTTOM	E4	TP306	SMT	BOTTOM	D1
IC302	SMT	BOTTOM	E4	TP307	SMT	BOTTOM	D1
IC303	SMT	BOTTOM	D4	TP308	SMT	BOTTOM	D3
IC304	SMT	BOTTOM	D5	TP309	SMT	BOTTOM	G4
IC305	SMT	BOTTOM	C4	TP310	SMT	BOTTOM	G3
IC306	SMT	BOTTOM	G4	TP311	SMT	BOTTOM	G4
IC401	SMT	BOTTOM	C1	TP401	SMT	BOTTOM	D1
IC402	SMT	BOTTOM	F2	TP402	SMT	BOTTOM	C3

p. 4 of 5

PC. Board No. 722-3

Name Radioboard TRX1001B
Drawing No. 0-9625-03-4

Date 31-08-2004
Unit No. 5603

Component	Type	Side	Cord	Component	Type	Side	Cord
TP403	SMT	BOTTOM	D2	W4	SMT	BOTTOM	A5
TP404	SMT	BOTTOM	D1	AA5	SMT	BOTTOM	D3
TP405	SMT	BOTTOM	D1	W5	SMT	BOTTOM	G5
TP406	SMT	BOTTOM	D1	AA6	SMT	BOTTOM	E3
TP407	SMT	BOTTOM	D1	W6	SMT	BOTTOM	G1
TP408	SMT	BOTTOM	C1	AA7	SMT	BOTTOM	D3
CP101	LEAD	BOTTOM	B4				
CP102	LEAD	BOTTOM	C1				
CP301	LEAD	BOTTOM	E3				
CP302	LEAD	BOTTOM	E4				
MP101	LEAD	TOP	C4				
MP102	LEAD	TOP	A1				
MP103	LEAD	TOP	B1				
MP201	LEAD	TOP	E1				
MP202	LEAD	TOP	F1				
MP203	LEAD	TOP	E1				
MP204	LEAD	TOP	E1				
MP205	LEAD	TOP	E1				
MP301	SMT	TOP	E4				
MP302	LEAD	TOP	D4				
MP303	LEAD	TOP	D1				
MP304	LEAD	TOP	F3				
MP305	LEAD	TOP	F2				
MP306	LEAD	TOP	E1				
MP401	LEAD	TOP	D2				
MP402	LEAD	TOP	C3				
MP403	LEAD	TOP	D2				
MP404	LEAD	TOP	C3				
MP405	LEAD	TOP	C4				
MP406	LEAD	TOP	B3				
MP407	LEAD	TOP	A5				
MP408	LEAD	TOP	D1				
MP409	LEAD	TOP	D1				
MP410	LEAD	TOP	D2				
MP411	LEAD	TOP	D1				
MP412	LEAD	TOP	F1				
MP413	LEAD	TOP	E2				
JU201	SMT	TOP	E3				
J1	LEAD	BOTTOM	D1				
AA1	SMT	BOTTOM	C3				
AB1	LEAD	TOP	C4				
W1	SMT	TOP	A1				
A2	SMT	TOP	C1				
AA2	SMT	BOTTOM	C3				
AB2	LEAD	TOP	C3				
W2	SMT	TOP	G1				
A3	SMT	TOP	C1				
AA3	SMT	BOTTOM	E3				
AB3	LEAD	TOP	C4				
W3	SMT	TOP	G5				
AA4	SMT	BOTTOM	E3				
AB4	LEAD	TOP	D4				
A4	LEAD	BOTTOM	A2				

p. 5 of 5

PC. Board No. 722-3

11.6 Partlist

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
	Radioboard TRX1001B	25 KHz	5603
	Radioboard TRX1001B	12,5 KHz	5613
	Radioboard TRX1001B	20 KHz	5618
R101	Resistor,chip805_1%	27 Kohm	10906
R103	Resistor,melf	0,22 Ohm	10900
R104	Resistor,melf	0,22 Ohm	10900
R105	Resistor,melf	0,22 Ohm	10900
R106	Resistor,chip805_1%	27 Kohm	10906
R107	Resistor,chip603	10 Kohm	14103
R108	Resistor,chip603	10 Kohm	14103
R109	Resistor,chip603	220 Ohm	14221
R110	Resistor,chip603	1,2 Kohm	14122
R111	Resistor,chip603	4,7 Kohm	14472
R112	Resistor,chip805	270 Ohm	13271
R113	Resistor,chip603	56 Ohm	14560
R114	Resistor,chip603	1,8 Kohm	14182
R115	Resistor,chip603	680 Ohm	14681
R116	Resistor,chip603	1,2 Kohm	14122
R117	Resistor,chip603	4,7 Kohm	14472
R118	Resistor,chip603	100 Kohm	14104
R119	Resistor,chip603	390 Kohm	14394
R120	Resistor,chip603	10 Kohm	14103
R121	Resistor,chip603	10 Kohm	14103
R122	Resistor,chip603	10 Kohm	14103
R123	Resistor,chip603	100 Kohm	14104
R124	Resistor,chip603	10 Kohm	14103
R125	Resistor,chip603	100 Kohm	14104
R126	Resistor,chip805_1%	22 Kohm	10905
R127	Resistor,ptc	Not used	
R128	Resistor,chip603	10 Ohm	14100
R129	Resistor,chip805_1%	22 Kohm	10905
R130	Resistor,chip603	180 Kohm	14184
R131	Resistor,chip603	56 Kohm	14563
R132	Resistor,chip805	180 Ohm	13181
R133	Resistor,chip603	2,7 Kohm	14272
R134	Resistor,chip603	100 Ohm	14101
R135	Resistor,chip603	100 Kohm	14104
R136	Resistor,chip603	15 Kohm	14153
R137	Resistor,chip603	100 Kohm	14104
R138	Resistor,chip603	100 Ohm	14101
R139	Resistor,chip603	100 Kohm	14104
R140	Resistor,chip603	15 Kohm	14153
R141	Resistor,chip603	100 Kohm	14104

p. 1 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
R142	Resistor,chip603	22 Kohm	14223
R143	Resistor,chip805	1 Mohm	13105
R201	Resistor,chip603	39 Kohm	14393
R202	Resistor,chip603	100 Kohm	14104
R203	Resistor,chip603	33 Ohm	14330
R204	Resistor,chip603	1 Kohm	14102
R205	Resistor,chip603	10 Kohm	14103
R206	Resistor,chip603 25KHZ	1 Kohm	14102
	Resistor,chip603 12,5KHZ	470 Ohm	14471
	Resistor,chip603 20KHZ	1 Kohm	14102
R207	Resistor,chip603	180 Ohm	14181
R208	Resistor,chip603 25KHZ	820 Ohm	14821
	Resistor,chip603 12,5KHZ	330 Ohm	14331
	Resistor,chip603 20KHZ	820 Ohm	14821
R209	Resistor,chip603	150 Kohm	14154
R210	Resistor,chip603	390 Kohm	14394
R211	Resistor,chip603	1 Mohm	14105
R212	Resistor,chip603	47 Ohm	14470
R213	Resistor,chip603	680 Ohm	14681
R214	Resistor,chip603	47 Ohm	14470
R215	Resistor,chip603	2,2 Kohm	14222
R216	Resistor,chip603 25KHZ	22 Kohm	14223
	Resistor,chip603 12,5KHZ	47 Kohm	14473
	Resistor,chip603 20KHZ	22 Kohm	14223
R217	Resistor,chip603	10 Kohm	14103
R218	Resistor,chip603	2,2 Kohm	14222
R219	Resistor,chip603	470 Kohm	14474
R220	Resistor,chip603	15 Kohm	14153
R221	Resistor,chip603	1 Mohm	14105
R222	Resistor,chip603	390 Kohm	14394
R223	Resistor,chip603	2,2 Kohm	14222
R224	Resistor,chip603 25KHZ	6,8 Kohm	14682
	Resistor,chip603 12,5KHZ	2,7 Kohm	14272
	Resistor,chip603 20KHZ	6,8 Kohm	14682
R225	Resistor,chip603	47 Kohm	14473
R226	Resistor,chip603	1 Mohm	14105
R227	Resistor,chip603	470 Kohm	14474
R228	Resistor,chip603	10 Kohm	14103
R229	Resistor,chip603	10 Kohm	14103
R230	Resistor,chip805	10 Mohm	13106
R231	Resistor,chip805	2,7 Mohm	13275
R232	Resistor,chip603	820 Kohm	14824
R233	Resistor,chip603	1 Mohm	14105
R234	Resistor,chip603	180 Kohm	14184
R301	Resistor,chip603	100 Ohm	14101

 PC. Board No. 722-3

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
R302	Resistor,chip603	330 Ohm	14331
R303	Resistor,chip603	150 Ohm	14151
R304	Resistor,chip603	33 Ohm	14330
R305	Resistor,chip603	10 Ohm	14100
R306	Resistor,chip603	560 Ohm	14561
R307	Resistor,chip603	220 Ohm	14221
R308	Resistor,chip603	33 Ohm	14330
R309	Resistor,chip603	220 Ohm	14221
R310	Resistor,chip603	150 Ohm	14151
R311	Resistor,chip603	56 Kohm	14563
R312	Resistor,chip603	1 Mohm	14105
R313	Resistor,chip603	100 Kohm	14104
R314	Resistor,chip603	1 Mohm	14105
R315	Resistor,chip603	390 Kohm	14394
R316	Resistor,chip603	4,7 Kohm	14472
R317	Resistor,chip603	Not used	
R318	Resistor,chip603	22 Kohm	14223
R319	Resistor,chip603	Not used	
R320	Resistor,chip603	22 Kohm	14223
R321	Resistor,chip603	1,2 Kohm	14122
R322	Resistor,chip603	330 Ohm	14331
R323	Resistor,chip603	68 Kohm	14683
R324	Resistor,chip603	4,7 Kohm	14472
R325	Resistor,chip603	33 Kohm	14333
R326	Resistor,chip603	100 Ohm	14101
R327	Resistor,chip603	100 Kohm	14104
R328	Resistor,chip603	Not used	
R329	Resistor,chip603	1,5 Kohm	14152
R330	Resistor,chip603	3,9 Kohm	14392
R331	Resistor,chip603	18 Kohm	14183
R332	Resistor,chip603	1 Mohm	14105
R333	Resistor,chip603	2,2 Mohm	14225
R334	Resistor,chip805	2,7 Mohm	13275
R335	Resistor,chip603	1 Mohm	14105
R336	Resistor,chip603	1 Kohm	14102
R337	Resistor,chip805	10 Mohm	13106
R338	Resistor,chip603	Not used	
R339	Resistor,chip603	Not used	
R340	Resistor,chip603	Not used	
R341	Resistor,chip603	Not used	
R342	Resistor,ntc	Not used	
R343	Resistor,chip603	Not used	
R344	Resistor,chip603	Not used	
R345	Resistor,chip603	Not used	
R346	Resistor,chip603	Not used	

p. 3 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
R347	Resistor,chip603	Not used	
R348	Resistor,ntc	Not used	
R349	Resistor,chip603	10 Kohm	14103
R350	Resistor,chip603	2,2 Kohm	14222
R401	Resistor,chip603	100 Ohm	14101
R402	Resistor,chip603	1 Mohm	14105
R403	Resistor,chip603	33 Ohm	14330
R404	Resistor,chip603	560 Ohm	14561
R405	Resistor,chip603	100 Kohm	14104
R406	Resistor,chip603	10 Kohm	14103
R407	Resistor,chip603	33 Kohm	14333
R408	Resistor,chip805_1%	619 Kohm	10903
R409	Resistor,chip805_1%	182 Kohm	10901
R410	Resistor,chip603	470 Ohm	14471
R411	Resistor,chip603	100 Ohm	14101
R412	Resistor,chip603	10 Kohm	14103
R413	Resistor,chip603	180 Kohm	14184
R414	Resistor,chip603	100 Kohm	14104
R415	Resistor,chip603	5,6 Kohm	14562
R416	Resistor,chip603	5,6 Ohm	14569
R417	Resistor,chip603	100 Ohm	14101
R418	Resistor,chip603	680 Kohm	14684
R419	Resistor,chip603	100 Ohm	14101
R420	Resistor,chip603	100 Ohm	14101
R421	Resistor,chip805_1%	619 Kohm	10903
R422	Resistor,chip805_1%	619 Kohm	10903
R423	Resistor,chip805_1%	619 Kohm	10903
R424	Resistor,chip805_1%	619 Kohm	10903
R425	Resistor,chip805_1%	619 Kohm	10903
R426	Resistor,chip805_1%	309 Kohm	10902
R427	Resistor,chip805_1%	309 Kohm	10902
R428	Resistor,chip805_1%	309 Kohm	10902
R429	Resistor,chip805_1%	309 Kohm	10902
R430	Resistor,chip805_1%	619 Kohm	10903
R431	Resistor,chip603	100 Ohm	14101
R432	Resistor,chip603	100 Kohm	14104
R433	Resistor,chip603	5,1 Kohm	14512
P101	Resistor,pre_set	1 Kohm	19034
C101	Capacitor,chip603	1 nF	21102
C102	Capacitor,chip603	1 nF	21102
C103	Capacitor,chip603	22 nF	21223
C104	Capacitor,chip603	22 nF	21223

p. 4 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
C105	Capacitor,chip603_ln	4,7 nF	20803
C106	Capacitor,chip603	22 nF	21223
C107	Capacitor,chip603	1 nF	21102
C108	Capacitor,ctan_a	2,2 uF/16V	25613
C109	Capacitor,ctan_a	2,2 uF/16V	25613
C110	Capacitor,ctan_a	2,2 uF/16V	25613
C111	Capacitor,chip805	330 nF	20662
C112	Capacitor,chip805	100 nF	20654
C113	Capacitor,chip805	100 nF	20654
C114	Capacitor,chip805	330 nF	20662
C115	Capacitor,chip603	22 nF	21223
C116	Capacitor,chip603	22 nF	21223
C117	Capacitor,chip805	100 nF	20654
C118	Capacitor,ctan_a	0,68 uF/16V	25611
C119	Capacitor,chip603	10 nF	21103
C120	Capacitor,chip603	22 nF	21223
C121	Capacitor,chip603_ln	4,7 nF	20803
C122	Capacitor,chip603	1 nF	21102
C123	Capacitor,chip603	1 nF	21102
C124	Capacitor,chip603	1 nF	21102
C125	Capacitor,chip603	22 nF	21223
C126	Capacitor,chip603	Not used	
C127	Capacitor,chip603	22 nF	21223
C128	Capacitor,chip603	1 nF	21102
C129	Capacitor,chip603	39 pF	21390
C130	Capacitor,chip603	6,8 pF	21689
C131	Capacitor,chip603	1 nF	21102
C132	Capacitor,chip603	1 nF	21102
C133	Capacitor,chip603	56 pF	21560
C134	Capacitor,chip603	15 pF	21150
C135	Capacitor,chip603	33 pF	21330
C136	Capacitor,chip603	1 nF	21102
C137	Capacitor,chip603	1 nF	21102
C138	Capacitor,chip603	1 nF	21102
C139	Capacitor,chip603	56 pF	21560
C140	Capacitor,chip603	15 pF	21150
C141	Capacitor,chip603	33 pF	21330
C142	Capacitor,chip603	1 nF	21102
C143	Capacitor,chip603	Not used	
C201	Capacitor,chip805	100 nF	20654
C202	Capacitor,chip603	47 pF	21470
C203	Capacitor,chip603	220 pF	21221
C204	Capacitor,chip603	10 nF	21103
C205	Capacitor,chip603	10 nF	21103
C206	Capacitor,chip603	10 nF	21103

p. 5 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
C207	Capacitor,chip603	220 pF	21221
C208	Capacitor,chip603	56 pF	21560
C209	Capacitor,chip603 25KHZ	10 pF	21100
	Capacitor,chip603 12,5KHZ	18 pF	21180
	Capacitor,chip603 20KHZ	10 pF	21100
C210	Capacitor,chip603	10 nF	21103
C211	Capacitor,chip603	10 nF	21103
C212	Capacitor,ctan_a	2,2 uF/16V	25613
C213	Capacitor,chip805	100 nF	20654
C214	Capacitor,chip805	100 nF	20654
C215	Capacitor,chip603	10 nF	21103
C216	Capacitor,chip805	100 nF	20654
C217	Capacitor,chip603	1 nF	21102
C218	Capacitor,chip603	1 nF	21102
C219	Capacitor,chip603	180 pF	21181
C220	Capacitor,chip603	180 pF	21181
C221	Capacitor,chip603	100 pF	21101
C222	Capacitor,chip603	10 nF	21103
C223	Capacitor,ctan_a	0,68 uF/16V	25611
C224	Capacitor,chip805	100 nF	20654
C225	Capacitor,chip805	100 nF	20654
C226	Capacitor,chip603	10 nF	21103
C227	Capacitor,chip603	10 nF	21103
C228	Capacitor,chip603	10 nF	21103
C229	Capacitor,chip603	10 nF	21103
C230	Capacitor,chip603	22 nF	21223
C231	Capacitor,chip805	100 nF	20654
C232	Capacitor,chip603	10 nF	21103
C233	Capacitor,chip603 25KHZ	Not used	
	Capacitor,chip603 12,5KHZ	5,6 pF	21569
	Capacitor,chip603 20KHZ	Not used	
C301	Capacitor,chip603	220 pF	21221
C302	Capacitor,chip603	1 nF	21102
C303	Capacitor,chip603	100 pF	21101
C304	Capacitor,chip603	15 pF	21150
C305	Capacitor,chip603	150 pF	21151
C306	Capacitor,ctan_a	6,8 uF/10V	25619
C307	Capacitor,chip603	1 nF	21102
C308	Capacitor,ctan_a	6,8 uF/10V	25619
C309	Capacitor,ctan_a	2,2 uF/16V	25613
C310	Capacitor,chip805	100 nF	20654
C311	Capacitor,chip603	1 nF	21102
C312	Capacitor,chip603	1 nF	21102
C313	Capacitor,chip603	1 nF	21102
C314	Capacitor,chip603	47 nF	21473

p. 6 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
C315	Capacitor,chip603	1 nF	21102
C316	Capacitor,chip603	330 pF	21331
C317	Capacitor,chip805	100 nF	20654
C318	Capacitor,chip603	150 pF	21151
C319	Capacitor,chip603	150 pF	21151
C320	Capacitor,chip603	100 pF	21101
C321	Capacitor,chip603	100 pF	21101
C322	Capacitor,chip603	10 nF	21103
C323	Capacitor,chip603	150 pF	21151
C324	Capacitor,chip603	150 pF	21151
C325	Capacitor,chip603	47 pF	21470
C326	Capacitor,chip805	100 nF	20654
C327	Capacitor,chip603	47 pF	21470
C328	Capacitor,chip603	27 pF	21270
C329	Capacitor,chip603	6,8 pF	21689
C330	Capacitor,var	2-10 pF	25116
C331	Capacitor,chip603	3,9 pF	21399
C332	Capacitor,chip603_n750	Not used	
C333	Capacitor,chip603	Not used	
C334	Capacitor,ctan_a	2,2 uF/16V	25613
C335	Capacitor,chip805_ln	22 nF	20804
C336	Capacitor,chip603_ln	1,5 nF	20802
C337	Capacitor,chip1206_ln	47 nF	20805
C338	Capacitor,chip1206_ln	47 nF	20805
C339	Capacitor,chip603_ln	4,7 nF	20803
C340	Capacitor,chip603_ln	Not used	
C341	Capacitor,chip1206	330 nF	20652
C342	Capacitor,chip1206_ln	47 nF	20805
C343	Capacitor,chip1206	330 nF	20652
C344	Capacitor,chip1206	330 nF	20652
C345	Capacitor,chip603_ln	Not used	
C346	Capacitor,chip805	Not used	
C347	Capacitor,chip805	Not used	
C348	Capacitor,chip603	Not used	
C349	Capacitor,chip603	Not used	
C350	Capacitor,chip603	10 nF	21103
C351	Capacitor,chip603	Not used	
C352	Capacitor,chip603	Not used	
C353	Capacitor,chip603	Not used	
C401	Capacitor,chip603	10 nF	21103
C402	Capacitor,ctan_a	0,68 uF/16V	25611
C403	Capacitor,chip603	1 nF	21102
C404	Capacitor,chip805_ln	22 nF	20804
C405	Capacitor,chip805_ln	22 nF	20804
C406	Capacitor,chip603	22 nF	21223

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
C407	Capacitor,chip603	10 nF	21103
C408	Capacitor,ctan_a	2,2 uF/16V	25613
C409	Capacitor,ctan_a	2,2 uF/16V	25613
C410	Capacitor,ctan_a	2,2 uF/16V	25613
C411	Capacitor,chip603	1 nF	21102
C412	Capacitor,chip805	100 nF	20654
C413	Capacitor,chip603	220 pF	21221
C414	Capacitor,ctan_a	2,2 uF/16V	25613
C415	Capacitor,ctan_a	2,2 uF/16V	25613
C416	Capacitor,ctan_a	2,2 uF/16V	25613
C417	Capacitor,chip805	100 nF	20654
C418	Capacitor,chip603	220 pF	21221
C419	Capacitor,chip603	220 pF	21221
C420	Capacitor,chip603	10 nF	21103
C421	Capacitor,chip603	220 pF	21221
C422	Capacitor,chip603	Not used	
C423	Capacitor,chip603	Not used	
C424	Capacitor,chip603	10 nF	21103
C425	Capacitor,chip603	22 pF	21220
F101	Filter	4N7	75906
F201-202	Crystal-filter 25KHZ	45F15B	30021
	Crystal-filter 12,5KHZ	45F7B	30022
	Crystal-filter 20KHZ	45F15B	30021
F203	Ceramic-filter 25KHZ	CFWM450D	30061
	Ceramic-filter 12,5KHZ	CFWM450G	30063
	Ceramic-filter 20KHZ	CFWM450F	30064
F401	Filter	4N7	75906
X301	Crystal	14.85 MHz	31190
T101	Transistor	BC807-40	40186
T102	Transistor	BFR92A	40150
T103	Transistor	BCW60D	40156
T104	Transistor	BCW60D	40156
T105	Transistor	BCW60D	40156
T106	Transistor	BCW61D	40157
T107	Transistor	BCW60D	40156
T108	Transistor	BCW60D	40156
T109	Transistor	ZTX949	40190
T201	Transistor	BCW60D	40156
T202	Transistor	BFR92A	40150
T203	Transistor	BF990A	40187
T204	Transistor	BFR92A	40150

p. 8 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
T205	Transistor	BCW61D	40157
T301	Transistor	BFR92A	40150
T302	Transistor	BFR92A	40150
T303	Transistor	BCW61D	40157
T304	Transistor	BCW60D	40156
T305	Transistor	BFR92A	40150
T306	Transistor	BCW60D	40156
T401	Transistor	BCW60D	40156
T402	Transistor	BCW61D	40157
T403	Transistor	BCW60D	40156
T404	Transistor	BC868-25	40188
D102	Diode	BAV99	45148
D103	Diode	BA682	45152
D104	Diode	MA4P1250	45171
D105	Diode	MA4P1250	45171
D106	Diode	MA4P1250	45171
D107	Diode	BAT54S	45173
D201	Diode	BAT17-04	45172
D202	Diode	BAV99	45148
D301	Diode,kap	Not used	
D302	Diode	Not used	
D401	Diode	BAV99	45148
D402	Diode,zener	LM385-1.2	45166
D403	Diode	BAT54S	45173
D404	Diode	BAV99	45148
IC101	Integrated_circuit	LPC662	46244
IC102	Integrated_circuit	MHW105	46291
IC103	Integrated_circuit	TC4S66F	46250
IC201	Integrated_circuit	MC3371	46247
IC202	Integrated_circuit	TLC27L2T	46222
IC301	Integrated_circuit	SP8705	46248
IC302	Integrated_circuit	NJ88C33	46249
IC303	Integrated_circuit	TC4S66F	46250
IC304	Integrated_circuit	TC4S66F	46250
IC305	Integrated_circuit	LPC662	46244
IC306	Integrated_circuit	Not used	
IC401	Integrated_circuit	40106BT	46116
IC402	Integrated_circuit	TC7S32F	46252
IC403	Integrated_circuit	TC7S32F	46252
IC404	Integrated_circuit	PIC16CE624	46621
IC405	Integrated_circuit	TC4S584F	46207

p. 9 of 10 — PC. Board No. 722-3

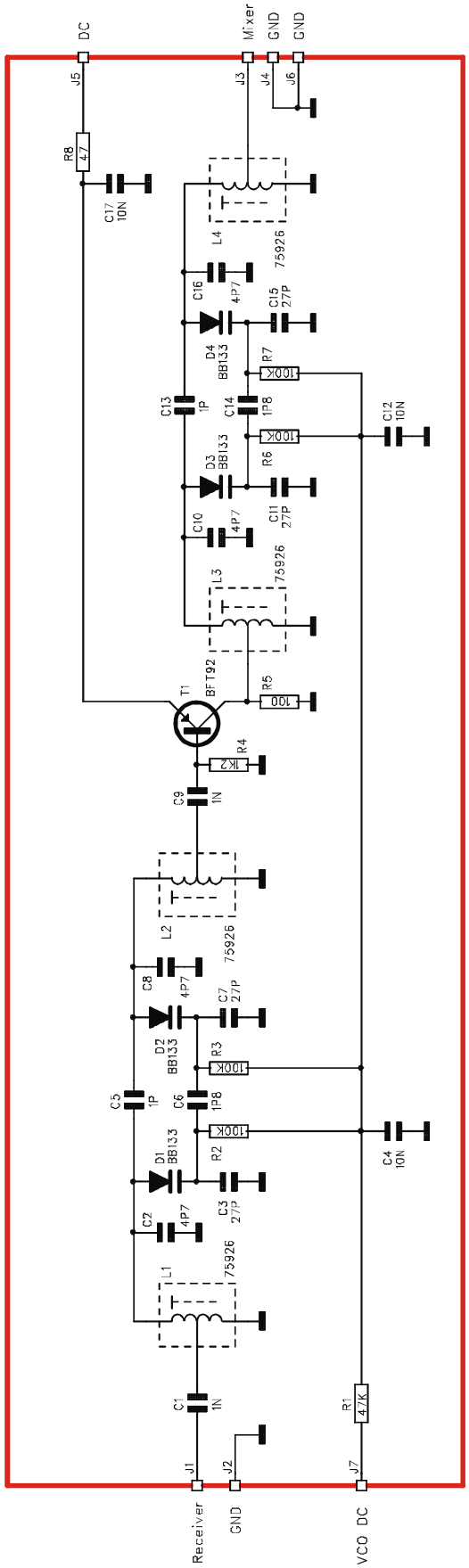
Partlist for Radioboard TRX1001B — Date 31-08-2004
Drawing No. 0-9625-03-4 — Unit No. 5603

Component	Description	Value	Niros No.
TR201	Trafo	75904	75904
L101	Coil,chip	75877	75877
L102	Coil,chip	75877	75877
L103	Coil,chip	75877	75877
L104	Coil,chip	75883	75883
L105	Coil	75927	75927
L106	Coil,chip	75883	75883
L107	Coil	75928	75928
L108	Coil,chip	75883	75883
L109	Coil	75928	75928
L201	Coil_chip	76008	76008
L202	Coil,chip	75879	75879
L203	Coil,chip	75883	75883
L204	Coil	75901	75901
L301	Coil,chip	75877	75877
L302	Coil_chip	76008	76008
L303	Coil	75900	75900
L401	Coil,chip	75883	75883
J1	Connector_12pol		83315
AB1	Connector_pin		83245
AB2	Connector_pin		83245
AB3	Connector_pin		83245
AB4	Connector_pin		83245
A4	Power_input_terminal		97530
	Acryl_tape 64X12	1 pcs	85240
	Washer CW1,6	2 pcs	92024
	Screw M1,6X6	2 pcs	92027
	Screw M1,6X4	1 pcs	92022
	Washer 1,7	2 pcs	93203
	Pc._board_no. 722-3	1 pcs	95722
	Antenna_center_connector	1 pcs	97521
	Antenna_gnd_conector	1 pcs	97522
	Heat_sink PA	1 pcs	97524
	Spring_for PA	1 pcs	97576
	Magnetic_shield	2 pcs	97577
	Heat_sink PA	1 pcs	98015
	Receiver_gnd_spring	1 pcs	98022
	Coax_cable	1 pcs	182524

p. 10 of 10 — PC. Board No. 722-3

12. Receiver TRX1001B

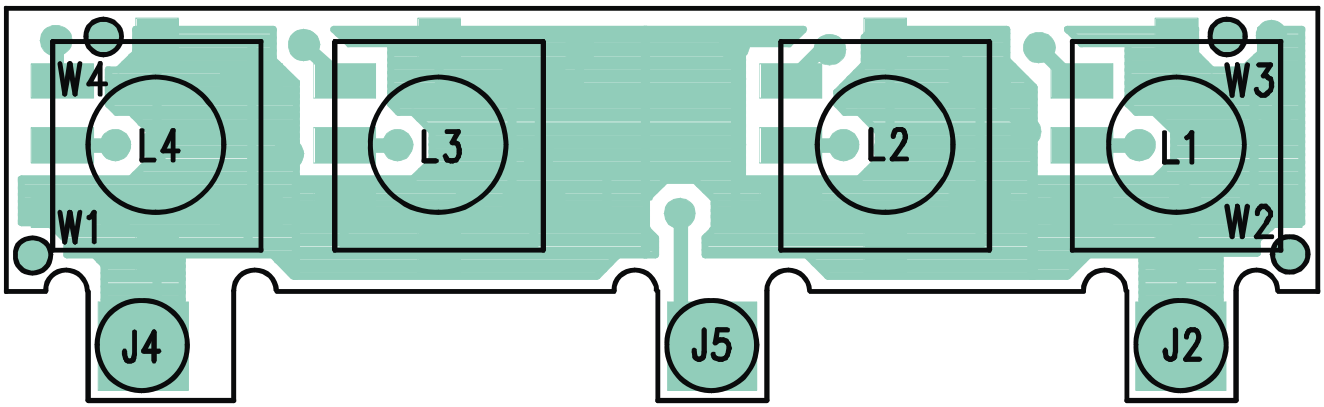
12.1 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE Unit No.: 5623

Date: 14-02-2003 Sign: PH	2	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Receiver board TRX1001B/TRX1012B/TRX1012B-IS
Date: 30-03-2004 Sign: HK	3		
Drawing No.: 0-9623-03-3		PC. Board No.: 734-1	Scheduled drawing

12.2 Componentside

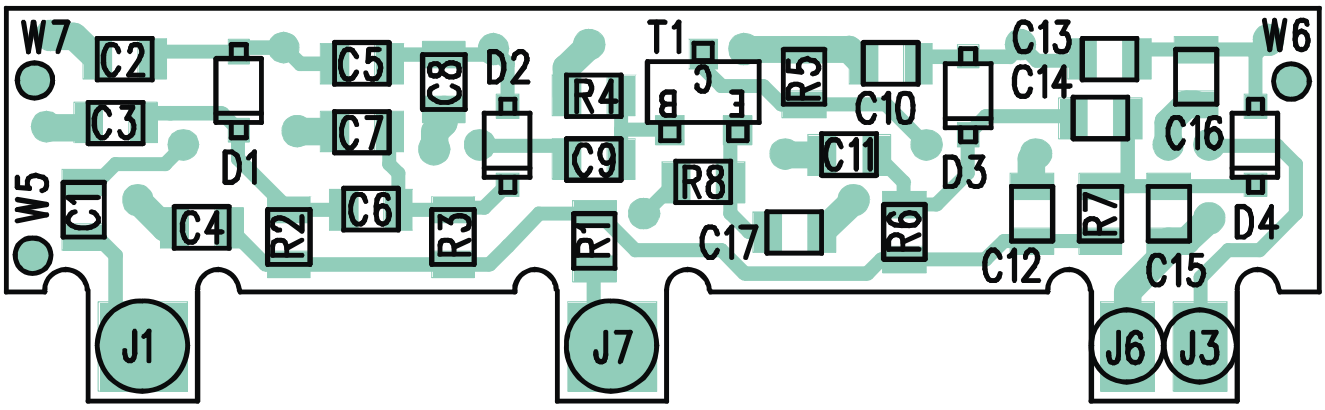


Componentside 734-1

SUBJECT TO CHANGE WITHOUT NOTICE Unit No.: 5623

Date: 14-02-2003 Sign: PH	2	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Receiver board TRX1001B/TRX1012B/TRX1012B-IS
Date: 30-03-2004 Sign: HK	3		
Drawing No.: 0-9623-05-3		PC. Board No.: 734-1	Scheduled drawing

12.3 Wiringside



Wiringside 734-1

SUBJECT TO CHANGE WITHOUT NOTICE Unit No.: 5623

Date: 14-02-2003 Sign: PH	2	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Receiver board TRX1001B/TRX1012B/TRX1012B-IS
Date: 30-03-2004 Sign: HK	3		
Drawing No.: 0-9623-04-3		PC. Board No.: 734-1	Scheduled drawing

12.4 Partlist

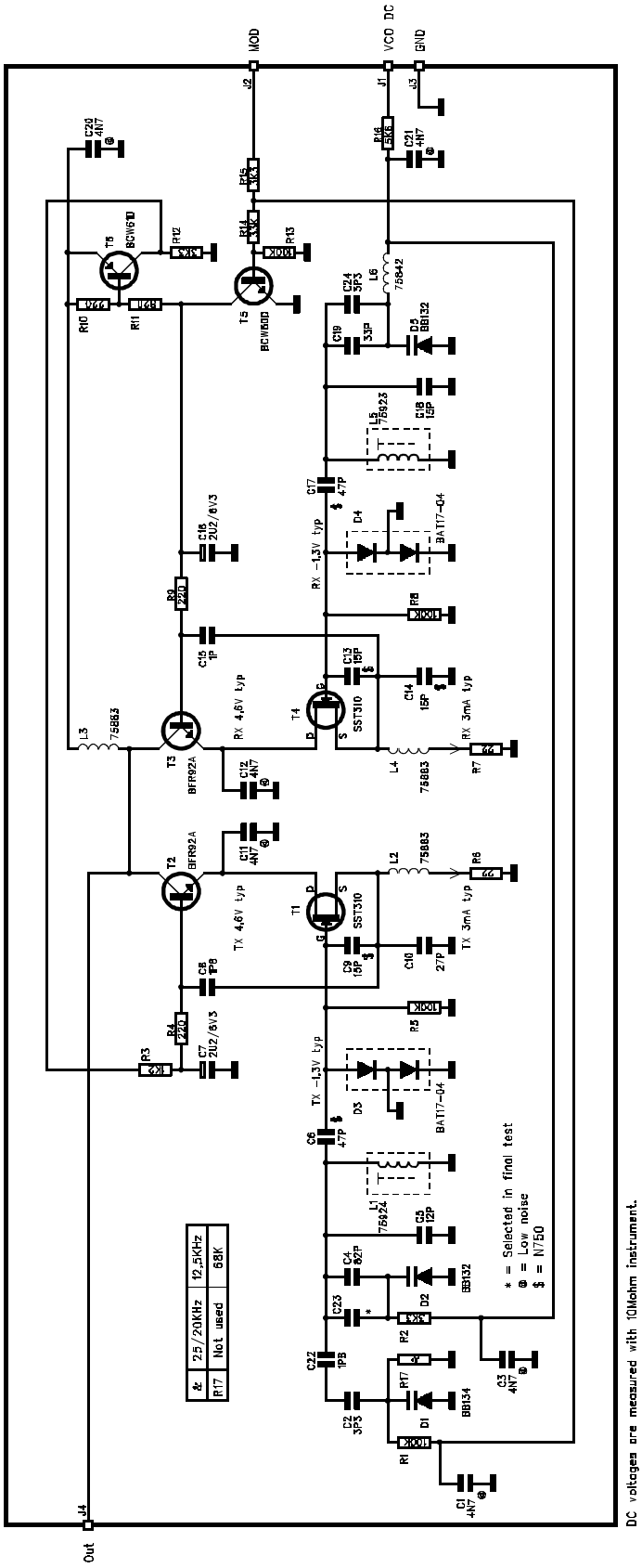
Partlist for Receiver TRX1001B/1012B/1012B-IS Date 30-03-2004
Drawing No. 0-9623-03-3 Scheduled drawing Unit No. 5623

Component	Description	Value	Niros No.
R1	Resistor,chip603	47 Kohm	14473
R2	Resistor,chip603	100 Kohm	14104
R3	Resistor,chip603	100 Kohm	14104
R4	Resistor,chip603	1,2 Kohm	14122
R5	Resistor,chip603	100 Ohm	14101
R6	Resistor,chip603	100 Kohm	14104
R7	Resistor,chip603	100 Kohm	14104
R8	Resistor,chip603	47 Ohm	14470
C1	Capacitor,chip603	1 nF	21102
C2	Capacitor,chip603	4,7 pF	21479
C3	Capacitor,chip603	27 pF	21270
C4	Capacitor,chip603	10 nF	21103
C5	Capacitor,chip603	1 pF	21109
C6	Capacitor,chip603	1,8 pF	21189
C7	Capacitor,chip603	27 pF	21270
C8	Capacitor,chip603	4,7 pF	21479
C9	Capacitor,chip603	1 nF	21102
C10	Capacitor,chip603	4,7 pF	21479
C11	Capacitor,chip603	27 pF	21270
C12	Capacitor,chip603	10 nF	21103
C13	Capacitor,chip603	1 pF	21109
C14	Capacitor,chip603	1,8 pF	21189
C15	Capacitor,chip603	27 pF	21270
C16	Capacitor,chip603	4,7 pF	21479
C17	Capacitor,chip603	10 nF	21103
T1	Transistor	BFT92	40189
D1	Diode,kap	BB133	45195
D2	Diode,kap	BB133	45195
D3	Diode,kap	BB133	45195
D4	Diode,kap	BB133	45195
L1	Coil	75926	75926
L2	Coil	75926	75926
L3	Coil	75926	75926
L4	Coil	75926	75926
	Pc._board_no. 734-1	1 pcs	95734

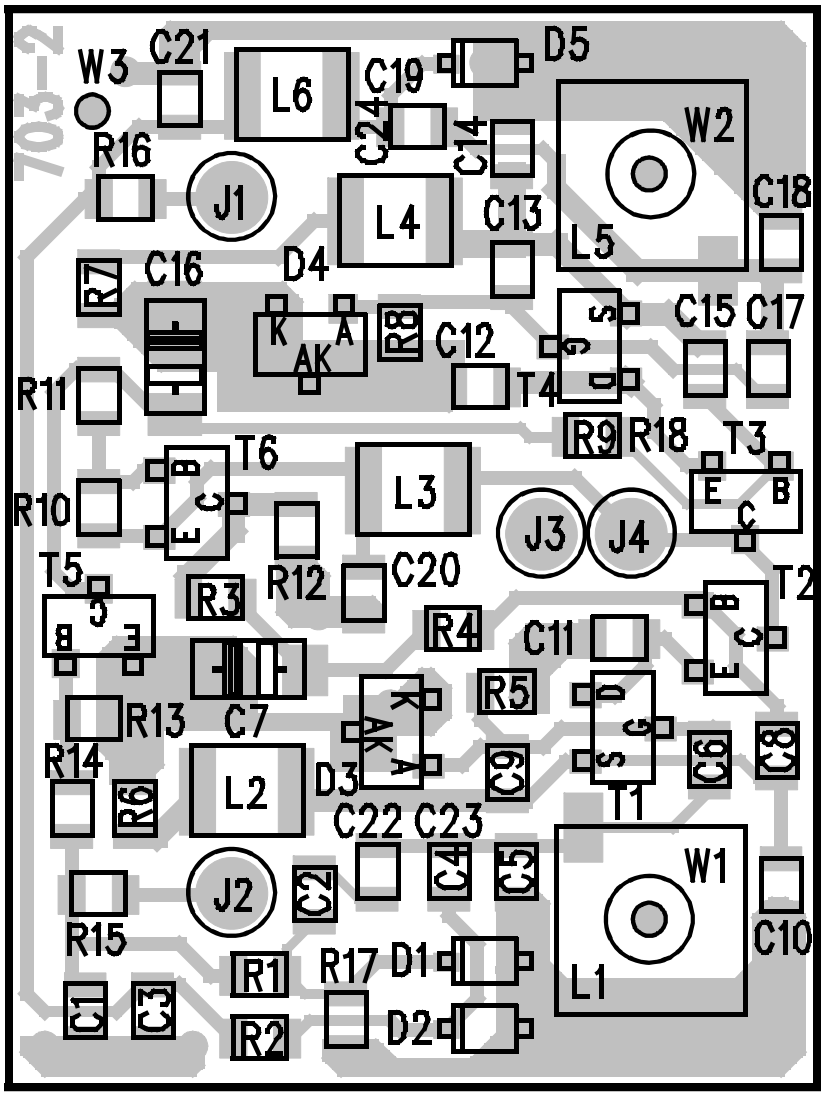
p. 1 of 1 PC. Board No. 734-1

13. VCO-board TRX1001B

13.1 Diagram



13.2 Componentside



Componentside 703-2

SUBJECT TO CHANGE WITHOUT NOTICE					25/20KHz UNIT NO: 5643 12.5KHz UNIT NO: 5644	
DATE: 27-10-93	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM			
DATE: 2-9-99	SIGN: PH	1				
DATE:	SIGN:					
DATE:	SIGN:		VCO-board TRX1001B/TRX1012B			
DATE:	SIGN:					
DATE:	SIGN:					
DRAWING NO: 0-9826-05-1			PCB NO: 703-2			

13.3 Partlist

PARTLIST FOR VCO-board TRX1001B/TRX1012B DATE 1-9-1999
DRAWING NO. 0-9626-03-1 UNIT NO. 5643

Component	Description	Value	Niros No.
	VCO-board 25/20KHZ		5643
	VCO-board 12,5KHZ		5644
R1	Resistor,chip603	100 Kohm	14104
R2	Resistor,chip603	3,3 Kohm	14332
R3	Resistor,chip603	1,2 Kohm	14122
R4	Resistor,chip603	220 Ohm	14221
R5	Resistor,chip603	100 Kohm	14104
R6	Resistor,chip603	22 Ohm	14220
R7	Resistor,chip603	22 Ohm	14220
R8	Resistor,chip603	100 Kohm	14104
R9	Resistor,chip603	220 Ohm	14221
R10	Resistor,chip603	220 Ohm	14221
R11	Resistor,chip603	820 Ohm	14821
R12	Resistor,chip603	3,3 Kohm	14332
R13	Resistor,chip603	100 Kohm	14104
R14	Resistor,chip603	33 Kohm	14333
R15	Resistor,chip603	3,3 Kohm	14332
R16	Resistor,chip603	5,6 Kohm	14562
R17	Resistor,chip603 25/20KHZ	Not used	
	Resistor,chip603 12,5KHZ	68 Kohm	14683
C1	Capacitor,chip603_ln	4,7 nF	20803
C2	Capacitor,chip603	3,3 pF	21339
C3	Capacitor,chip603_ln	4,7 nF	20803
C4	Capacitor,chip603	82 pF	21820
C5	Capacitor,chip603	12 pF	21120
C6	Capacitor,chip603_n750	47 pF	20816
C7	Capacitor,ctan_a	2,2 uF/6V3	25602
C8	Capacitor,chip603	1,8 pF	21189
C9	Capacitor,chip603_n750	15 pF	20808
C10	Capacitor,chip603	27 pF	21270
C11	Capacitor,chip603_ln	4,7 nF	20803
C12	Capacitor,chip603_ln	4,7 nF	20803
C13	Capacitor,chip603_n750	15 pF	20808
C14	Capacitor,chip603_n750	15 pF	20808
C15	Capacitor,chip603	1 pF	21109
C16	Capacitor,ctan_a	2,2 uF/6V3	25602
C17	Capacitor,chip603_n750	47 pF	20816
C18	Capacitor,chip603	15 pF	21150
C19	Capacitor,chip603	33 pF	21330
C20	Capacitor,chip603_ln	4,7 nF	20803
C21	Capacitor,chip603_ln	4,7 nF	20803
C22	Capacitor,chip603	1,8 pF	21189

p. 1 of 2 PC. Board No. 703-2

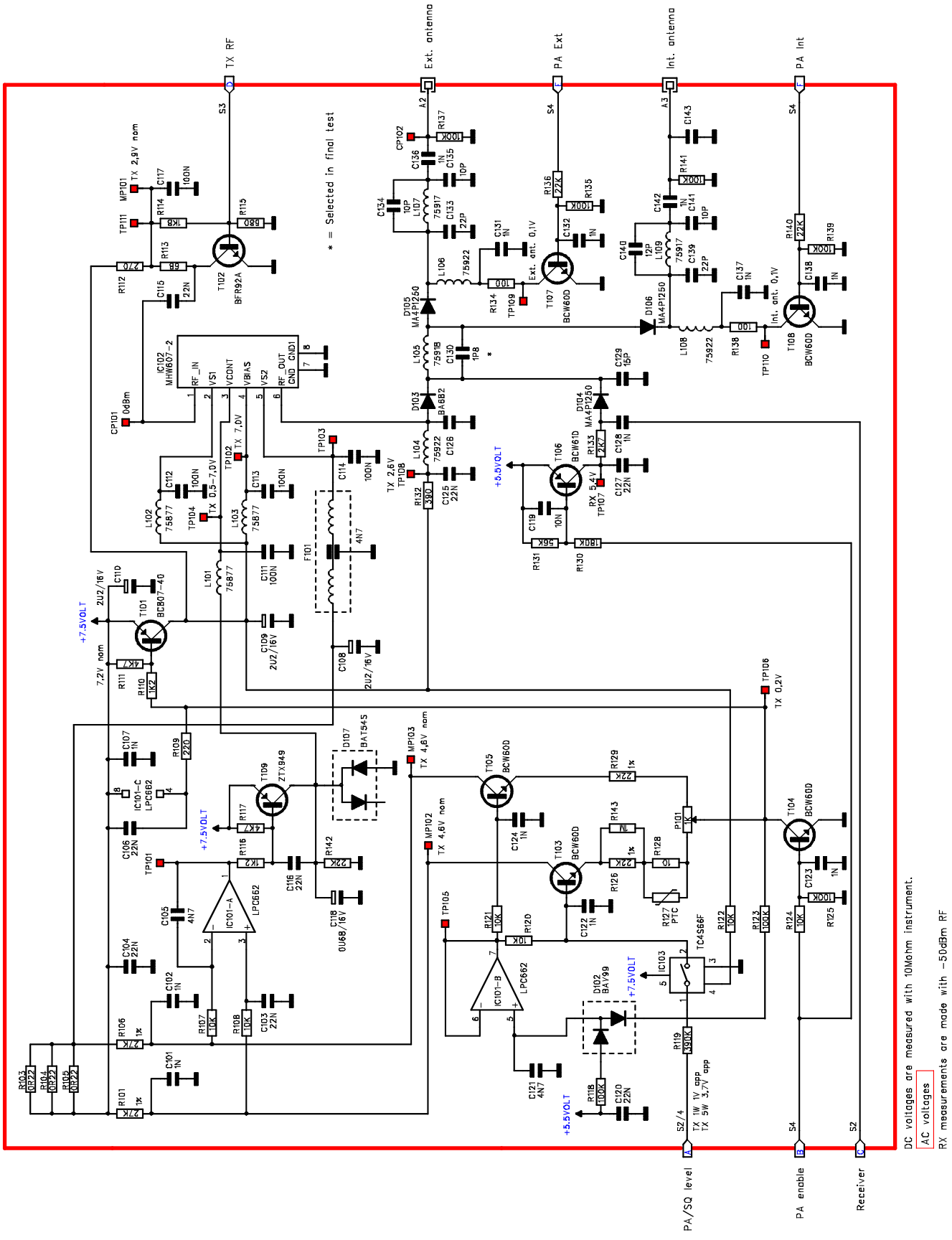
PARTLIST FOR VCO-board TRX1001B/TRX1012B DATE 1-9-1999
DRAWING NO. 0-9626-03-1 UNIT NO. 5643

Component	Description	Value	Niros No.
C23	Capacitor,chip603	Selected	
C24	Capacitor,chip603	3,3 pF	21339
T1	Transistor	SST310	40175
T2	Transistor	BFR92A	40150
T3	Transistor	BFR92A	40150
T4	Transistor	SST310	40175
T5	Transistor	BCW60D	40156
T6	Transistor	BCW61D	40157
D1	Diode,kap	BB134	45196
D2	Diode,kap	BB132	45194
D3	Diode	BAT17-04	45172
D4	Diode	BAT17-04	45172
D5	Diode,kap	BB132	45194
L1	Coil	75924	75924
L2	Coil,chip	75883	75883
L3	Coil,chip	75883	75883
L4	Coil,chip	75883	75883
L5	Coil	75923	75923
L6	Coil,chip	75842	75842
J1	Connector_pin		83251
J2	Connector_pin		83251
J3	Connector_pin		83251
J4	Connector_pin		83251
	Mylar_for_shield	1 pcs	85415
	Pc._board_no. 703-2	1 pcs	95703
	Shield	1 pcs	97523

p. 2 of 2 PC. Board No. 703-2

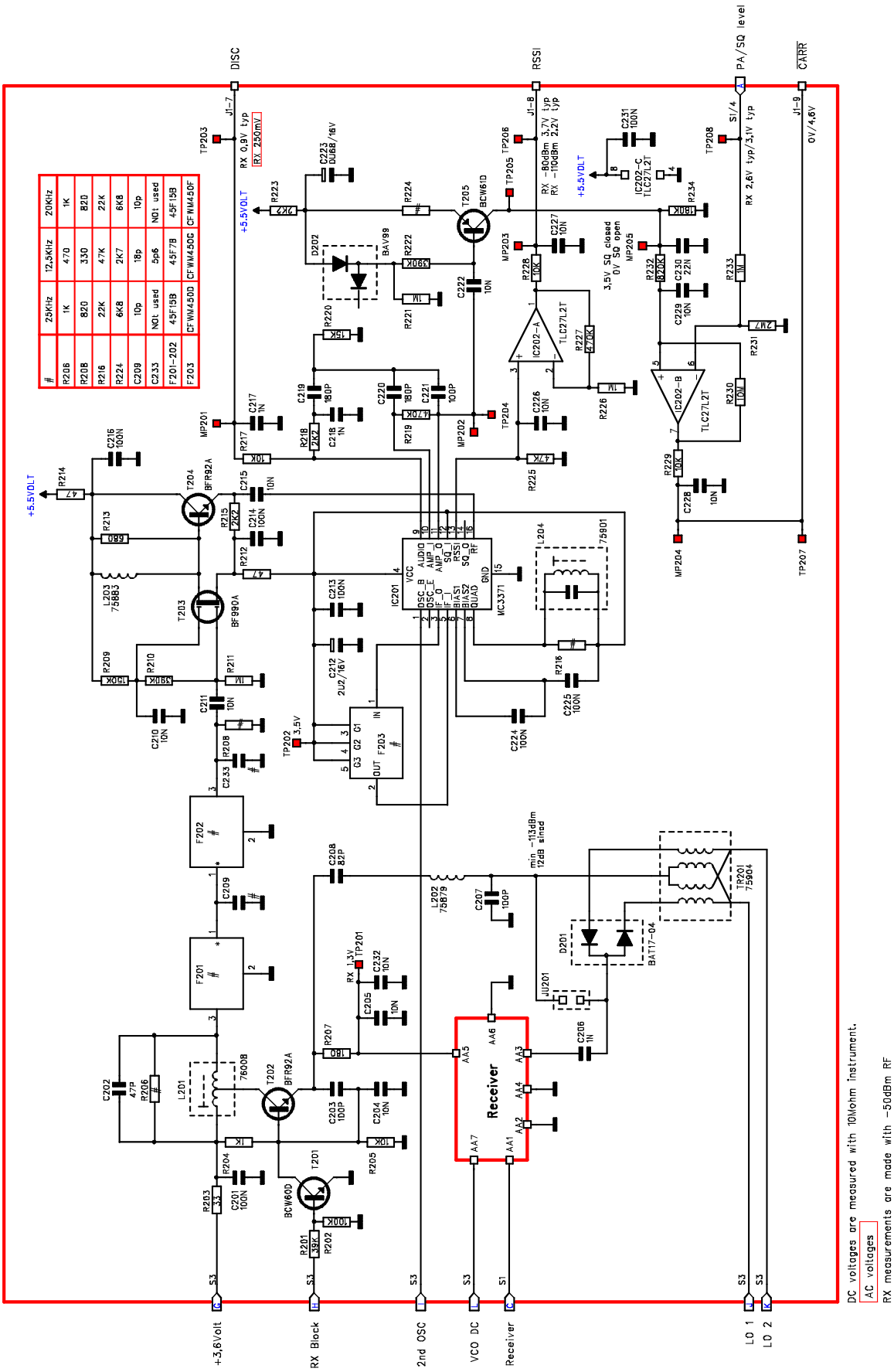
14. Radioboard TRX1001C

14.1 Diagram

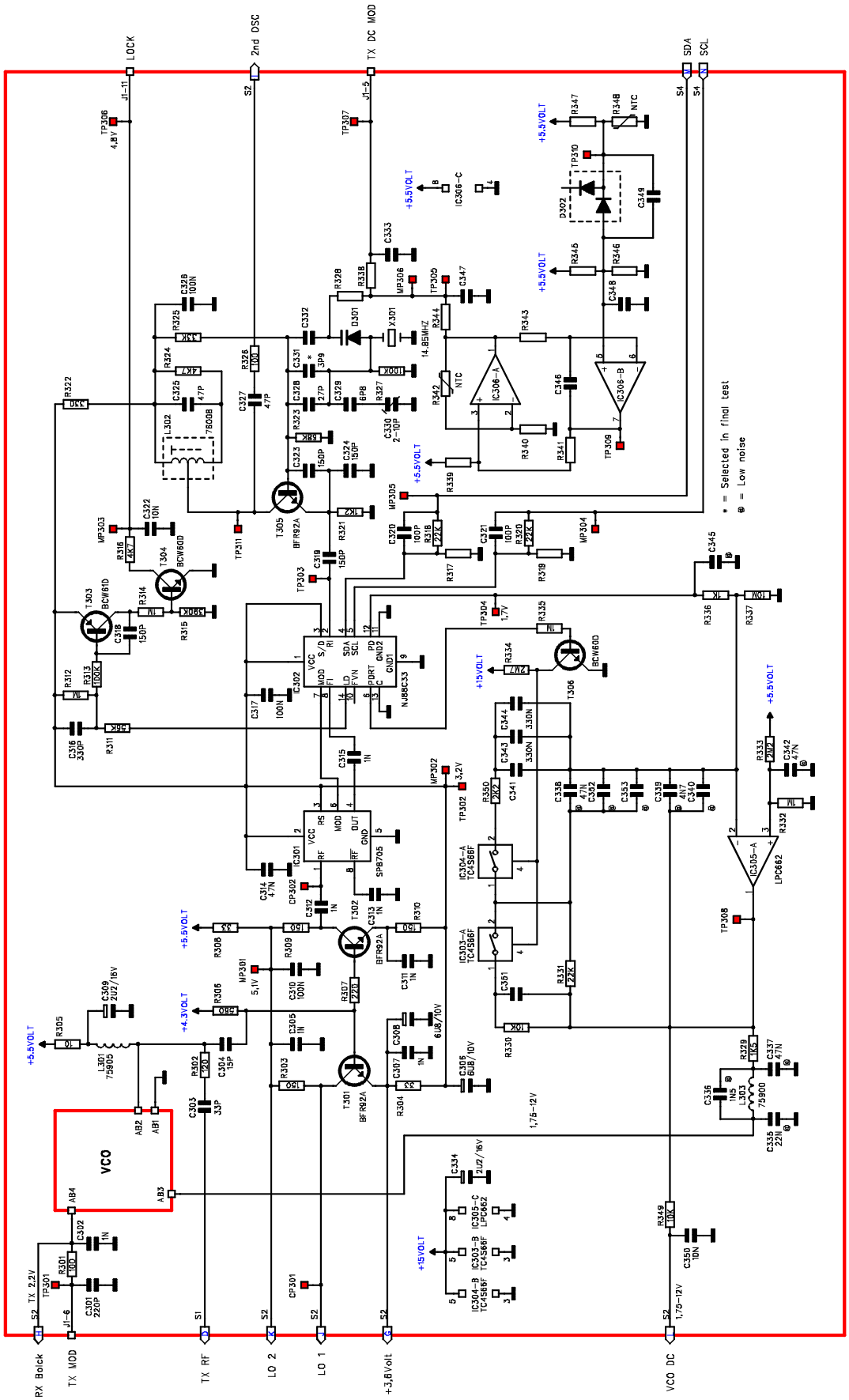


SUBJECT TO CHANGE WITHOUT NOTICE

25 KHz Unit No. : 5602 12,5 KHz Unit No. : 5612 20 KHz Unit No. : 5617	Date: 21-10-2002 Sign: PH	5	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radiobaard TRX1001C
	Date: 30-08-2004 Sign: PH	6		
	Drawing No.: 0-9613-03-6 p 1 of 4		PC. Board No.: 722-3	



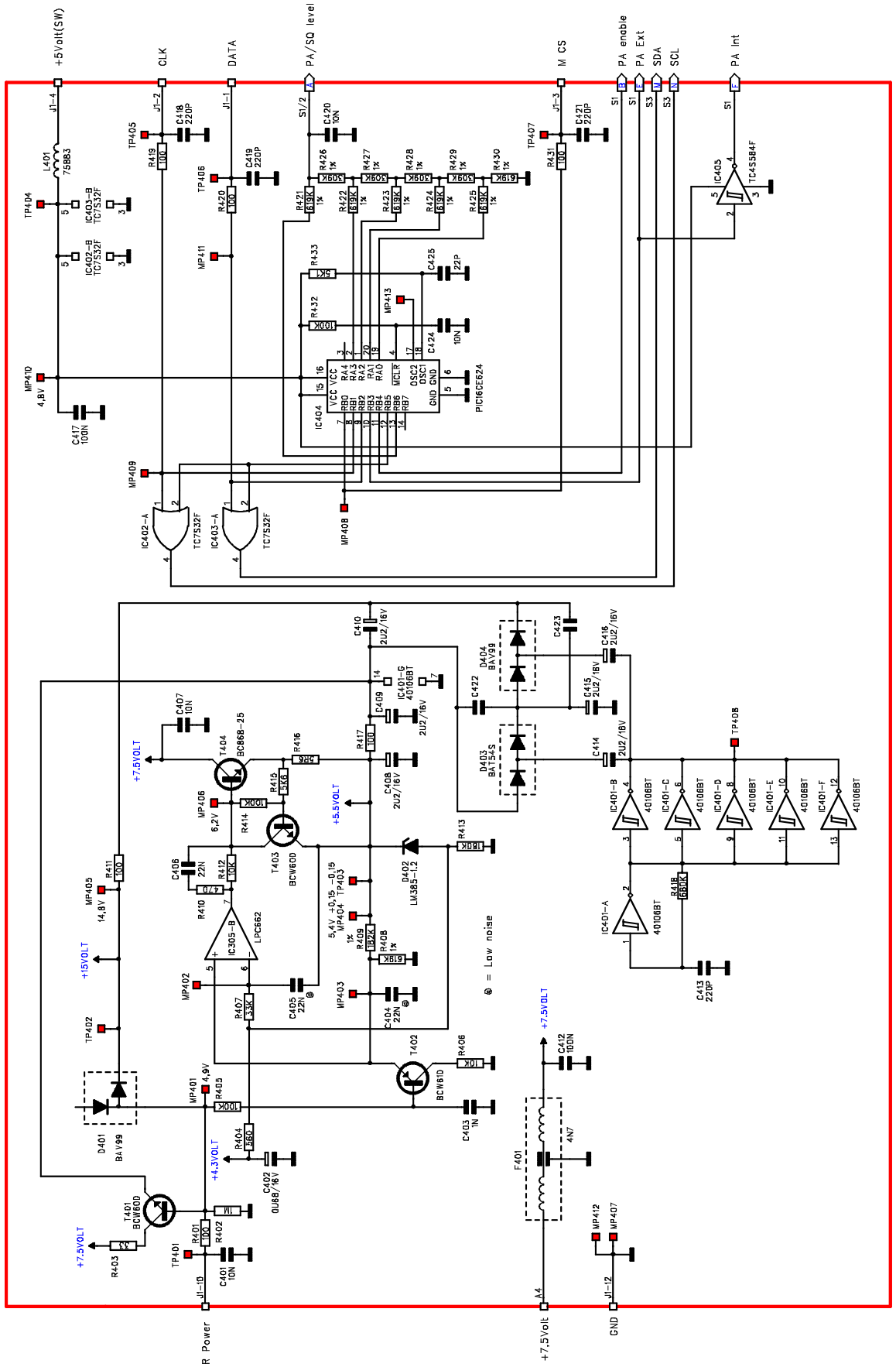
File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for TRX1001	TN	22-12-05	TN	30-08-04	2	PA



SUBJECT TO CHANGE WITHOUT NOTICE

Date: 21-10-2002 Sign: PH	5	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum		Radioboard TRX1001C
Date: 30-08-2004 Sign: PH	6			
Drawing No.: 0-9613-03-6 p 3 of 4		PC. Board No.: 722-3		

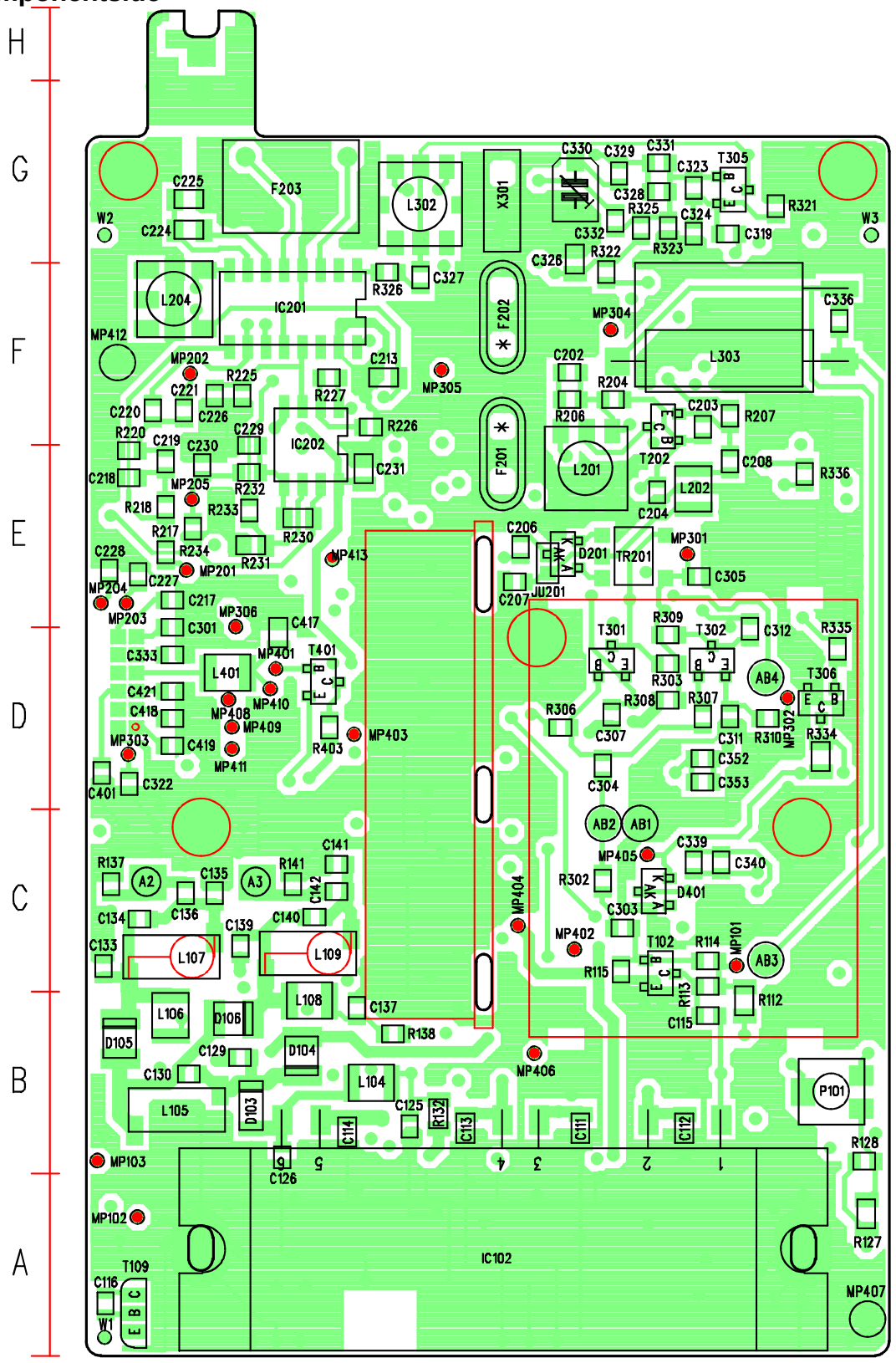
25 KHz Unit No. : 5602
12,5 KHz Unit No. : 5612
20 KHz Unit No. : 5617



SUBJECT TO CHANGE WITHOUT NOTICE

25 KHz Unit No. : 5602 12,5 KHz Unit No. : 5612 20 KHz Unit No. : 5617	Date: 21-10-2002 Sign: PH 5 Date: 30-08-2004 Sign: PH 6 Drawing No.: 0-9613-03-8 p 4 of 4	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001C PC. Board No.: 722-3

14.2 Componentside



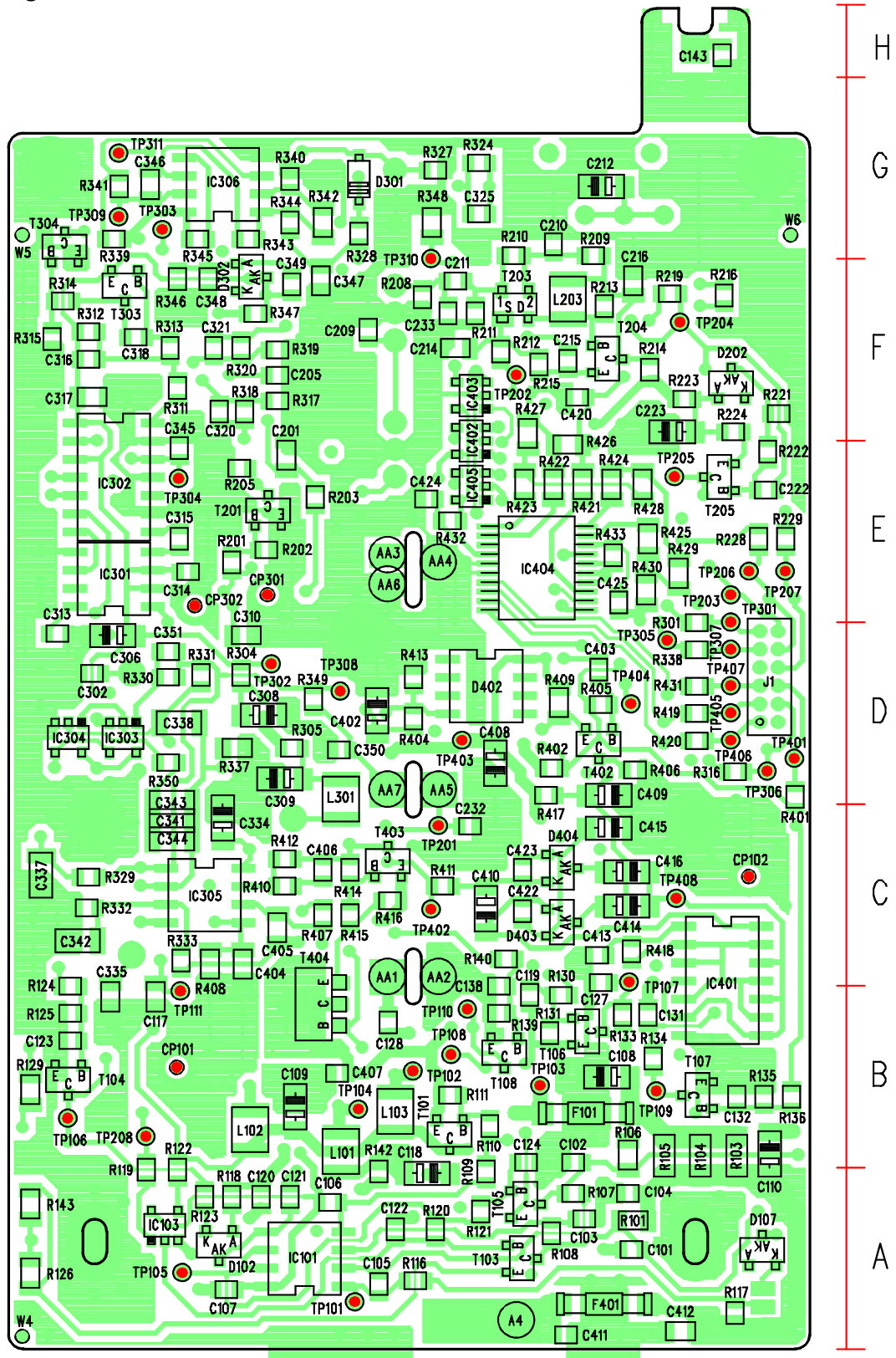
Componentside 722-3

SUBJECT TO CHANGE WITHOUT NOTICE

25 KHz Unit No. : 5602
12,5 KHz Unit No. : 5612
20 KHz Unit No. : 5617

Date: 21-10-2002 Sign: PH	5	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001C
Date: 30-08-2004 Sign: PH	B		
Drawing No.: 0-9613-05-6		PC. Board No.: 722-3	

14.3 Wiringside



Wiringside 722-3

SUBJECT TO CHANGE WITHOUT NOTICE

25 KHz Unit No. : 5602
12,5 KHz Unit No. : 5612
20 KHz Unit No. : 5617

Date: 21-10-2002 Sign: PH	5	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001C	
Date: 30-08-2004 Sign: PH	6			
Drawing No.: 0-9613-04-6		PC. Board No.: 722-3		

14.4 Fieldlist

Name Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Type	Side	Cord	Component	Type	Side	Cord
R101	SMT	BOTTOM	A1	R212	SMT	BOTTOM	F2
R103	SMT	BOTTOM	B1	R213	SMT	BOTTOM	F2
R104	SMT	BOTTOM	B1	R214	SMT	BOTTOM	F1
R105	SMT	BOTTOM	B1	R215	SMT	BOTTOM	F2
R106	SMT	BOTTOM	B2	R216	SMT	BOTTOM	F1
R107	SMT	BOTTOM	A2	R217	SMT	TOP	E1
R108	SMT	BOTTOM	A2	R218	SMT	TOP	E1
R109	SMT	BOTTOM	A2	R219	SMT	BOTTOM	F1
R110	SMT	BOTTOM	B2	R220	SMT	TOP	E1
R111	SMT	BOTTOM	B2	R221	SMT	BOTTOM	F1
R112	SMT	TOP	B4	R222	SMT	BOTTOM	E1
R113	SMT	TOP	C4	R223	SMT	BOTTOM	F1
R114	SMT	TOP	C4	R224	SMT	BOTTOM	F1
R115	SMT	TOP	C3	R225	SMT	TOP	F1
R116	SMT	BOTTOM	A3	R226	SMT	TOP	F2
R117	SMT	BOTTOM	A1	R227	SMT	TOP	F2
R118	SMT	BOTTOM	A4	R228	SMT	BOTTOM	E1
R119	SMT	BOTTOM	A4	R229	SMT	BOTTOM	E1
R120	SMT	BOTTOM	A3	R230	SMT	TOP	E2
R121	SMT	BOTTOM	A2	R231	SMT	TOP	E1
R122	SMT	BOTTOM	A4	R232	SMT	TOP	E1
R123	SMT	BOTTOM	A4	R233	SMT	TOP	E1
R124	SMT	BOTTOM	C5	R234	SMT	TOP	E1
R125	SMT	BOTTOM	B5	R301	SMT	BOTTOM	E1
R126	SMT	BOTTOM	A5	R302	SMT	TOP	C3
R127	SMT	TOP	A5	R303	SMT	TOP	D4
R128	SMT	TOP	B5	R304	SMT	BOTTOM	D4
R129	SMT	BOTTOM	B5	R305	SMT	BOTTOM	D3
R130	SMT	BOTTOM	B2	R306	SMT	TOP	D3
R131	SMT	BOTTOM	B2	R307	SMT	TOP	D4
R132	SMT	TOP	B2	R308	SMT	TOP	D4
R133	SMT	BOTTOM	B2	R309	SMT	TOP	D4
R134	SMT	BOTTOM	B1	R310	SMT	TOP	D4
R135	SMT	BOTTOM	B1	R311	SMT	BOTTOM	F4
R136	SMT	BOTTOM	B1	R312	SMT	BOTTOM	F4
R137	SMT	TOP	C1	R313	SMT	BOTTOM	F4
R138	SMT	TOP	B2	R314	SMT	BOTTOM	F5
R139	SMT	BOTTOM	B2	R315	SMT	BOTTOM	F5
R140	SMT	BOTTOM	C2	R316	SMT	BOTTOM	D1
R141	SMT	TOP	C2	R317	SMT	BOTTOM	F3
R142	SMT	BOTTOM	A3	R318	SMT	BOTTOM	F4
R143	SMT	BOTTOM	A5	R319	SMT	BOTTOM	F3
R201	SMT	BOTTOM	E4	R320	SMT	BOTTOM	F4
R202	SMT	BOTTOM	E3	R321	SMT	TOP	G4
R203	SMT	BOTTOM	E3	R322	SMT	TOP	F3
R204	SMT	TOP	F3	R323	SMT	TOP	G4
R205	SMT	BOTTOM	E4	R324	SMT	BOTTOM	G2
R206	SMT	TOP	F3	R325	SMT	TOP	G4
R207	SMT	TOP	F4	R326	SMT	TOP	F2
R208	SMT	BOTTOM	F3	R327	SMT	BOTTOM	G3
R209	SMT	BOTTOM	G2	R328	SMT	BOTTOM	G3
R210	SMT	BOTTOM	G2	R329	SMT	BOTTOM	C4
R211	SMT	BOTTOM	F2	R330	SMT	BOTTOM	D4

p. 1 of 5 — PC. Board No. 722-3

Name Radioboard TRX1001C
Drawing No. 0-9613-03-6

Date 30-08-2004
Unit No. 5602

Component	Type	Side	Cord	Component	Type	Side	Cord
R331	SMT	BOTTOM	D4	P101	SMT	TOP	B5
R332	SMT	BOTTOM	C4	C101	SMT	BOTTOM	A1
R333	SMT	BOTTOM	C4	C102	SMT	BOTTOM	B2
R334	SMT	TOP	D5	C103	SMT	BOTTOM	A2
R335	SMT	TOP	D5	C104	SMT	BOTTOM	A2
R336	SMT	TOP	E4	C105	SMT	BOTTOM	A3
R337	SMT	BOTTOM	D4	C106	SMT	BOTTOM	A3
R338	SMT	BOTTOM	D1	C107	SMT	BOTTOM	A4
R339	SMT	BOTTOM	G4	C108	SMT	BOTTOM	B2
R340	SMT	BOTTOM	G3	C109	SMT	BOTTOM	B3
R341	SMT	BOTTOM	G4	C110	SMT	BOTTOM	B1
R342	SMT	BOTTOM	G3	C111	SMT	TOP	B3
R343	SMT	BOTTOM	G4	C112	SMT	TOP	B4
R344	SMT	BOTTOM	G3	C113	SMT	TOP	B3
R345	SMT	BOTTOM	G4	C114	SMT	TOP	B2
R346	SMT	BOTTOM	F4	C115	SMT	TOP	B4
R347	SMT	BOTTOM	F4	C116	SMT	TOP	A1
R348	SMT	BOTTOM	G3	C117	SMT	BOTTOM	B4
R349	SMT	BOTTOM	D3	C118	SMT	BOTTOM	A3
R350	SMT	BOTTOM	D4	C119	SMT	BOTTOM	B2
R401	SMT	BOTTOM	D1	C120	SMT	BOTTOM	A4
R402	SMT	BOTTOM	D2	C121	SMT	BOTTOM	A3
R403	SMT	TOP	D2	C122	SMT	BOTTOM	A3
R404	SMT	BOTTOM	D3	C123	SMT	BOTTOM	B5
R405	SMT	BOTTOM	D2	C124	SMT	BOTTOM	B2
R406	SMT	BOTTOM	D1	C125	SMT	TOP	B2
R407	SMT	BOTTOM	C3	C126	SMT	TOP	B2
R408	SMT	BOTTOM	C4	C127	SMT	BOTTOM	C2
R409	SMT	BOTTOM	D2	C128	SMT	BOTTOM	B3
R410	SMT	BOTTOM	C3	C129	SMT	TOP	B1
R411	SMT	BOTTOM	C3	C130	SMT	TOP	B1
R412	SMT	BOTTOM	C3	C131	SMT	BOTTOM	B1
R413	SMT	BOTTOM	D3	C132	SMT	BOTTOM	B1
R414	SMT	BOTTOM	C3	C133	SMT	TOP	C1
R415	SMT	BOTTOM	C3	C134	SMT	TOP	C1
R416	SMT	BOTTOM	C3	C135	SMT	TOP	C1
R417	SMT	BOTTOM	D2	C136	SMT	TOP	C1
R418	SMT	BOTTOM	C1	C137	SMT	TOP	B2
R419	SMT	BOTTOM	D1	C138	SMT	BOTTOM	C2
R420	SMT	BOTTOM	D1	C139	SMT	TOP	C1
R421	SMT	BOTTOM	E2	C140	SMT	TOP	C2
R422	SMT	BOTTOM	E2	C141	SMT	TOP	C2
R423	SMT	BOTTOM	E2	C142	SMT	TOP	C2
R424	SMT	BOTTOM	E2	C143	SMT	BOTTOM	H1
R425	SMT	BOTTOM	E1	C201	SMT	BOTTOM	E3
R426	SMT	BOTTOM	E2	C202	SMT	TOP	F3
R427	SMT	BOTTOM	F2	C203	SMT	TOP	F4
R428	SMT	BOTTOM	E1	C204	SMT	TOP	E4
R429	SMT	BOTTOM	E1	C205	SMT	BOTTOM	F3
R430	SMT	BOTTOM	E1	C206	SMT	TOP	E3
R431	SMT	BOTTOM	D1	C207	SMT	TOP	E3
R432	SMT	BOTTOM	E2	C208	SMT	TOP	E4
R433	SMT	BOTTOM	E2	C209	SMT	BOTTOM	F3

p. 2 of 5

PC. Board No. 722-3

Name Radioboard TRX1001C
Drawing No. 0-9613-03-6

Date 30-08-2004
Unit No. 5602

Component	Type	Side	Cord	Component	Type	Side	Cord
C210	SMT	BOTTOM	G2	C330	SMT	TOP	G3
C211	SMT	BOTTOM	F2	C331	SMT	TOP	G4
C212	SMT	BOTTOM	G2	C332	SMT	TOP	G3
C213	SMT	TOP	F2	C333	SMT	TOP	D1
C214	SMT	BOTTOM	F2	C334	SMT	BOTTOM	C4
C215	SMT	BOTTOM	F2	C335	SMT	BOTTOM	B4
C216	SMT	BOTTOM	F1	C336	SMT	TOP	F5
C217	SMT	TOP	E1	C337	SMT	BOTTOM	C5
C218	SMT	TOP	E1	C338	SMT	BOTTOM	D4
C219	SMT	TOP	E1	C339	SMT	TOP	C4
C220	SMT	TOP	F1	C340	SMT	TOP	C4
C221	SMT	TOP	F1	C341	SMT	BOTTOM	C4
C222	SMT	BOTTOM	E1	C342	SMT	BOTTOM	C5
C223	SMT	BOTTOM	F1	C343	SMT	BOTTOM	D4
C224	SMT	TOP	G1	C344	SMT	BOTTOM	C4
C225	SMT	TOP	G1	C345	SMT	BOTTOM	E4
C226	SMT	TOP	F1	C346	SMT	BOTTOM	G4
C227	SMT	TOP	E1	C347	SMT	BOTTOM	F3
C228	SMT	TOP	E1	C348	SMT	BOTTOM	F4
C229	SMT	TOP	F1	C349	SMT	BOTTOM	F3
C230	SMT	TOP	E1	C350	SMT	BOTTOM	D3
C231	SMT	TOP	E2	C351	SMT	BOTTOM	D4
C232	SMT	BOTTOM	C2	C352	SMT	TOP	D4
C233	SMT	BOTTOM	F2	C353	SMT	TOP	D4
C301	SMT	TOP	E1	C401	SMT	TOP	D1
C302	SMT	BOTTOM	D4	C402	SMT	BOTTOM	D3
C303	SMT	TOP	C3	C403	SMT	BOTTOM	D2
C304	SMT	TOP	D3	C404	SMT	BOTTOM	C4
C305	SMT	TOP	E4	C405	SMT	BOTTOM	C3
C306	SMT	BOTTOM	D4	C406	SMT	BOTTOM	C3
C307	SMT	TOP	D3	C407	SMT	BOTTOM	B3
C308	SMT	BOTTOM	D4	C408	SMT	BOTTOM	D2
C309	SMT	BOTTOM	D3	C409	SMT	BOTTOM	D2
C310	SMT	BOTTOM	D4	C410	SMT	BOTTOM	C2
C311	SMT	TOP	D4	C411	SMT	BOTTOM	A2
C312	SMT	TOP	D4	C412	SMT	BOTTOM	A1
C313	SMT	BOTTOM	D5	C413	SMT	BOTTOM	C2
C314	SMT	BOTTOM	E4	C414	SMT	BOTTOM	C2
C315	SMT	BOTTOM	E4	C415	SMT	BOTTOM	C2
C316	SMT	BOTTOM	F4	C416	SMT	BOTTOM	C2
C317	SMT	BOTTOM	F4	C417	SMT	TOP	D2
C318	SMT	BOTTOM	F4	C418	SMT	TOP	D1
C319	SMT	TOP	G4	C419	SMT	TOP	D1
C320	SMT	BOTTOM	F4	C420	SMT	BOTTOM	F2
C321	SMT	BOTTOM	F4	C421	SMT	TOP	D1
C322	SMT	TOP	D1	C422	SMT	BOTTOM	C2
C323	SMT	TOP	G4	C423	SMT	BOTTOM	C2
C324	SMT	TOP	G4	C424	SMT	BOTTOM	E3
C325	SMT	BOTTOM	G2	C425	SMT	BOTTOM	E2
C326	SMT	TOP	G3	F101	SMT	BOTTOM	B2
C327	SMT	TOP	F2	F201	LEAD	TOP	E3
C328	SMT	TOP	G4	F202	LEAD	TOP	F3
C329	SMT	TOP	G3	F203	LEAD	TOP	G2

PC. Board No. 722-3

Name Radioboard TRX1001C
Drawing No. 0-9613-03-6

Date 30-08-2004
Unit No. 5602

Component	Type	Side	Cord	Component	Type	Side	Cord
F401	SMT	BOTTOM	A2	IC403	SMT	BOTTOM	F2
X301	LEAD	TOP	G3	IC404	SMT	BOTTOM	E2
T101	SMT	BOTTOM	B2	IC405	SMT	BOTTOM	E2
T102	SMT	TOP	C4	TR201	SMT	TOP	E4
T103	SMT	BOTTOM	A2	L101	SMT	BOTTOM	B3
T104	SMT	BOTTOM	B5	L102	SMT	BOTTOM	B4
T105	SMT	BOTTOM	A2	L103	SMT	BOTTOM	B3
T106	SMT	BOTTOM	B2	L104	SMT	TOP	B2
T107	SMT	BOTTOM	B1	L105	SMT	TOP	B1
T108	SMT	BOTTOM	B2	L106	SMT	TOP	B1
T109	LEAD	TOP	A1	L107	SMT	TOP	C1
T201	SMT	BOTTOM	E3	L108	SMT	TOP	B2
T202	SMT	TOP	F4	L109	SMT	TOP	C2
T203	SMT	BOTTOM	F2	L201	SMT	TOP	E3
T204	SMT	BOTTOM	F2	L202	SMT	TOP	E4
T205	SMT	BOTTOM	E1	L203	SMT	BOTTOM	F2
T301	SMT	TOP	D3	L204	SMT	TOP	F1
T302	SMT	TOP	D4	L301	SMT	BOTTOM	D3
T303	SMT	BOTTOM	F4	L302	SMT	TOP	G2
T304	SMT	BOTTOM	G5	L303	SMT	TOP	F4
T305	SMT	TOP	G4	L401	SMT	TOP	D1
T306	SMT	TOP	D5	TP101	SMT	BOTTOM	A3
T401	SMT	TOP	D2	TP102	SMT	BOTTOM	B3
T402	SMT	BOTTOM	D2	TP103	SMT	BOTTOM	B2
T403	SMT	BOTTOM	C3	TP104	SMT	BOTTOM	B3
T404	SMT	BOTTOM	B3	TP105	SMT	BOTTOM	A4
D102	SMT	BOTTOM	A4	TP106	SMT	BOTTOM	B5
D103	SMT	TOP	B1	TP107	SMT	BOTTOM	C1
D104	SMT	TOP	B2	TP108	SMT	BOTTOM	B2
D105	SMT	TOP	B1	TP109	SMT	BOTTOM	B1
D106	SMT	TOP	B1	TP110	SMT	BOTTOM	B2
D107	SMT	BOTTOM	A1	TP111	SMT	BOTTOM	B4
D201	SMT	TOP	E3	TP201	SMT	BOTTOM	C3
D202	SMT	BOTTOM	F1	TP202	SMT	BOTTOM	F2
D301	SMT	BOTTOM	G3	TP203	SMT	BOTTOM	E1
D302	SMT	BOTTOM	F4	TP204	SMT	BOTTOM	F1
D401	SMT	TOP	C4	TP205	SMT	BOTTOM	E1
D402	SMT	BOTTOM	D2	TP206	SMT	BOTTOM	E1
D403	SMT	BOTTOM	C2	TP207	SMT	BOTTOM	E1
D404	SMT	BOTTOM	C2	TP208	SMT	BOTTOM	B4
IC101	SMT	BOTTOM	A3	TP301	SMT	BOTTOM	E1
IC102	SMT	TOP	A3	TP302	SMT	BOTTOM	D3
IC103	SMT	BOTTOM	A4	TP303	SMT	BOTTOM	G4
IC201	SMT	TOP	F2	TP304	SMT	BOTTOM	E4
IC202	SMT	TOP	F2	TP305	SMT	BOTTOM	D1
IC301	SMT	BOTTOM	E4	TP306	SMT	BOTTOM	D1
IC302	SMT	BOTTOM	E4	TP307	SMT	BOTTOM	D1
IC303	SMT	BOTTOM	D4	TP308	SMT	BOTTOM	D3
IC304	SMT	BOTTOM	D5	TP309	SMT	BOTTOM	G4
IC305	SMT	BOTTOM	C4	TP310	SMT	BOTTOM	G3
IC306	SMT	BOTTOM	G4	TP311	SMT	BOTTOM	G4
IC401	SMT	BOTTOM	C1	TP401	SMT	BOTTOM	D1
IC402	SMT	BOTTOM	F2	TP402	SMT	BOTTOM	C3

p. 4 of 5

PC. Board No. 722-3

Name Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Type	Side	Cord	Component	Type	Side	Cord
TP403	SMT	BOTTOM	D2	W4	SMT	BOTTOM	A5
TP404	SMT	BOTTOM	D1	AA5	SMT	BOTTOM	D3
TP405	SMT	BOTTOM	D1	W5	SMT	BOTTOM	G5
TP406	SMT	BOTTOM	D1	AA6	SMT	BOTTOM	E3
TP407	SMT	BOTTOM	D1	W6	SMT	BOTTOM	G1
TP408	SMT	BOTTOM	C1	AA7	SMT	BOTTOM	D3
CP101	LEAD	BOTTOM	B4				
CP102	LEAD	BOTTOM	C1				
CP301	LEAD	BOTTOM	E3				
CP302	LEAD	BOTTOM	E4				
MP101	LEAD	TOP	C4				
MP102	LEAD	TOP	A1				
MP103	LEAD	TOP	B1				
MP201	LEAD	TOP	E1				
MP202	LEAD	TOP	F1				
MP203	LEAD	TOP	E1				
MP204	LEAD	TOP	E1				
MP205	LEAD	TOP	E1				
MP301	SMT	TOP	E4				
MP302	LEAD	TOP	D4				
MP303	LEAD	TOP	D1				
MP304	LEAD	TOP	F3				
MP305	LEAD	TOP	F2				
MP306	LEAD	TOP	E1				
MP401	LEAD	TOP	D2				
MP402	LEAD	TOP	C3				
MP403	LEAD	TOP	D2				
MP404	LEAD	TOP	C3				
MP405	LEAD	TOP	C4				
MP406	LEAD	TOP	B3				
MP407	LEAD	TOP	A5				
MP408	LEAD	TOP	D1				
MP409	LEAD	TOP	D1				
MP410	LEAD	TOP	D2				
MP411	LEAD	TOP	D1				
MP412	LEAD	TOP	F1				
MP413	LEAD	TOP	E2				
JU201	SMT	TOP	E3				
J1	LEAD	BOTTOM	D1				
AA1	SMT	BOTTOM	C3				
AB1	LEAD	TOP	C4				
W1	SMT	TOP	A1				
A2	SMT	TOP	C1				
AA2	SMT	BOTTOM	C3				
AB2	LEAD	TOP	C3				
W2	SMT	TOP	G1				
A3	SMT	TOP	C1				
AA3	SMT	BOTTOM	E3				
AB3	LEAD	TOP	C4				
W3	SMT	TOP	G5				
AA4	SMT	BOTTOM	E3				
AB4	LEAD	TOP	D4				
A4	LEAD	BOTTOM	A2				

p. 5 of 5 — PC. Board No. 722-3

14.5 Partlist

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
	Radioboard TRX1001C	25 KHz	5602
	Radioboard TRX1001C	12,5 KHz	5612
	Radioboard TRX1001C	20 KHz	5617
R101	Resistor,chip805_1%	27 Kohm	10906
R103	Resistor,melf	0,22 Ohm	10900
R104	Resistor,melf	0,22 Ohm	10900
R105	Resistor,melf	0,22 Ohm	10900
R106	Resistor,chip805_1%	27 Kohm	10906
R107	Resistor,chip603	10 Kohm	14103
R108	Resistor,chip603	10 Kohm	14103
R109	Resistor,chip603	220 Ohm	14221
R110	Resistor,chip603	1,2 Kohm	14122
R111	Resistor,chip603	4,7 Kohm	14472
R112	Resistor,chip805	270 Ohm	13271
R113	Resistor,chip603	68 Ohm	14680
R114	Resistor,chip603	1,8 Kohm	14182
R115	Resistor,chip603	680 Ohm	14681
R116	Resistor,chip603	1,2 Kohm	14122
R117	Resistor,chip603	4,7 Kohm	14472
R118	Resistor,chip603	100 Kohm	14104
R119	Resistor,chip603	390 Kohm	14394
R120	Resistor,chip603	10 Kohm	14103
R121	Resistor,chip603	10 Kohm	14103
R122	Resistor,chip603	10 Kohm	14103
R123	Resistor,chip603	100 Kohm	14104
R124	Resistor,chip603	10 Kohm	14103
R125	Resistor,chip603	100 Kohm	14104
R126	Resistor,chip805_1%	22 Kohm	10905
R127	Resistor,ptc	Not used	
R128	Resistor,chip603	10 Ohm	14100
R129	Resistor,chip805_1%	22 Kohm	10905
R130	Resistor,chip603	180 Kohm	14184
R131	Resistor,chip603	56 Kohm	14563
R132	Resistor,chip805	390 Ohm	13391
R133	Resistor,chip603	2,7 Kohm	14272
R134	Resistor,chip603	100 Ohm	14101
R135	Resistor,chip603	100 Kohm	14104
R136	Resistor,chip603	22 Kohm	14223
R137	Resistor,chip603	100 Kohm	14104
R138	Resistor,chip603	100 Ohm	14101
R139	Resistor,chip603	100 Kohm	14104
R140	Resistor,chip603	22 Kohm	14223
R141	Resistor,chip603	100 Kohm	14104

p. 1 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
R142	Resistor,chip603	22 Kohm	14223
R143	Resistor,chip805	1 Mohm	13105
R201	Resistor,chip603	39 Kohm	14393
R202	Resistor,chip603	100 Kohm	14104
R203	Resistor,chip603	33 Ohm	14330
R204	Resistor,chip603	1 Kohm	14102
R205	Resistor,chip603	10 Kohm	14103
R206	Resistor,chip603 25KHZ	1 Kohm	14102
	Resistor,chip603 12,5KHZ	470 Ohm	14471
	Resistor,chip603 20KHZ	1 Kohm	14102
R207	Resistor,chip603	180 Ohm	14181
R208	Resistor,chip603 25KHZ	820 Ohm	14821
	Resistor,chip603 12,5KHZ	330 Ohm	14331
	Resistor,chip603 20KHZ	820 Ohm	14821
R209	Resistor,chip603	150 Kohm	14154
R210	Resistor,chip603	390 Kohm	14394
R211	Resistor,chip603	1 Mohm	14105
R212	Resistor,chip603	47 Ohm	14470
R213	Resistor,chip603	680 Ohm	14681
R214	Resistor,chip603	47 Ohm	14470
R215	Resistor,chip603	2,2 Kohm	14222
R216	Resistor,chip603 25KHZ	22 Kohm	14223
	Resistor,chip603 12,5KHZ	47 Kohm	14473
	Resistor,chip603 20KHZ	22 Kohm	14223
R217	Resistor,chip603	10 Kohm	14103
R218	Resistor,chip603	2,2 Kohm	14222
R219	Resistor,chip603	470 Kohm	14474
R220	Resistor,chip603	15 Kohm	14153
R221	Resistor,chip603	1 Mohm	14105
R222	Resistor,chip603	390 Kohm	14394
R223	Resistor,chip603	2,2 Kohm	14222
R224	Resistor,chip603 25KHZ	6,8 Kohm	14682
	Resistor,chip603 12,5KHZ	2,7 Kohm	14272
	Resistor,chip603 20KHZ	6,8 Kohm	14682
R225	Resistor,chip603	47 Kohm	14473
R226	Resistor,chip603	1 Mohm	14105
R227	Resistor,chip603	470 Kohm	14474
R228	Resistor,chip603	10 Kohm	14103
R229	Resistor,chip603	10 Kohm	14103
R230	Resistor,chip805	10 Mohm	13106
R231	Resistor,chip805	2,7 Mohm	13275
R232	Resistor,chip603	820 Kohm	14824
R233	Resistor,chip603	1 Mohm	14105
R234	Resistor,chip603	180 Kohm	14184
R301	Resistor,chip603	100 Ohm	14101

p. 2 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
R302	Resistor,chip603	120 Ohm	14121
R303	Resistor,chip603	150 Ohm	14151
R304	Resistor,chip603	33 Ohm	14330
R305	Resistor,chip603	10 Ohm	14100
R306	Resistor,chip603	560 Ohm	14561
R307	Resistor,chip603	220 Ohm	14221
R308	Resistor,chip603	33 Ohm	14330
R309	Resistor,chip603	150 Ohm	14151
R310	Resistor,chip603	150 Ohm	14151
R311	Resistor,chip603	56 Kohm	14563
R312	Resistor,chip603	1 Mohm	14105
R313	Resistor,chip603	100 Kohm	14104
R314	Resistor,chip603	1 Mohm	14105
R315	Resistor,chip603	390 Kohm	14394
R316	Resistor,chip603	4,7 Kohm	14472
R317	Resistor,chip603	Not used	
R318	Resistor,chip603	22 Kohm	14223
R319	Resistor,chip603	Not used	
R320	Resistor,chip603	22 Kohm	14223
R321	Resistor,chip603	1,2 Kohm	14122
R322	Resistor,chip603	330 Ohm	14331
R323	Resistor,chip603	68 Kohm	14683
R324	Resistor,chip603	4,7 Kohm	14472
R325	Resistor,chip603	33 Kohm	14333
R326	Resistor,chip603	100 Ohm	14101
R327	Resistor,chip603	100 Kohm	14104
R328	Resistor,chip603	Not used	
R329	Resistor,chip603	1,5 Kohm	14152
R330	Resistor,chip603	10 Kohm	14103
R331	Resistor,chip603	22 Kohm	14223
R332	Resistor,chip603	1 Mohm	14105
R333	Resistor,chip603	2,2 Mohm	14225
R334	Resistor,chip805	2,7 Mohm	13275
R335	Resistor,chip603	1 Mohm	14105
R336	Resistor,chip603	1 Kohm	14102
R337	Resistor,chip805	10 Mohm	13106
R338	Resistor,chip603	Not used	
R339	Resistor,chip603	Not used	
R340	Resistor,chip603	Not used	
R341	Resistor,chip603	Not used	
R342	Resistor,ntc	Not used	
R343	Resistor,chip603	Not used	
R344	Resistor,chip603	Not used	
R345	Resistor,chip603	Not used	
R346	Resistor,chip603	Not used	

p. 3 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
R347	Resistor,chip603	Not used	
R348	Resistor,ntc	Not used	
R349	Resistor,chip603	10 Kohm	14103
R350	Resistor,chip603	2,2 Kohm	14222
R401	Resistor,chip603	100 Ohm	14101
R402	Resistor,chip603	1 Mohm	14105
R403	Resistor,chip603	33 Ohm	14330
R404	Resistor,chip603	560 Ohm	14561
R405	Resistor,chip603	100 Kohm	14104
R406	Resistor,chip603	10 Kohm	14103
R407	Resistor,chip603	33 Kohm	14333
R408	Resistor,chip805_1%	619 Kohm	10903
R409	Resistor,chip805_1%	182 Kohm	10901
R410	Resistor,chip603	470 Ohm	14471
R411	Resistor,chip603	100 Ohm	14101
R412	Resistor,chip603	10 Kohm	14103
R413	Resistor,chip603	180 Kohm	14184
R414	Resistor,chip603	100 Kohm	14104
R415	Resistor,chip603	5,6 Kohm	14562
R416	Resistor,chip603	5,6 Ohm	14569
R417	Resistor,chip603	100 Ohm	14101
R418	Resistor,chip603	680 Kohm	14684
R419	Resistor,chip603	100 Ohm	14101
R420	Resistor,chip603	100 Ohm	14101
R421	Resistor,chip805_1%	619 Kohm	10903
R422	Resistor,chip805_1%	619 Kohm	10903
R423	Resistor,chip805_1%	619 Kohm	10903
R424	Resistor,chip805_1%	619 Kohm	10903
R425	Resistor,chip805_1%	619 Kohm	10903
R426	Resistor,chip805_1%	309 Kohm	10902
R427	Resistor,chip805_1%	309 Kohm	10902
R428	Resistor,chip805_1%	309 Kohm	10902
R429	Resistor,chip805_1%	309 Kohm	10902
R430	Resistor,chip805_1%	619 Kohm	10903
R431	Resistor,chip603	100 Ohm	14101
R432	Resistor,chip603	100 Kohm	14104
R433	Resistor,chip603	5,1 Kohm	14512
P101	Resistor,pre_set	1 Kohm	19034
C101	Capacitor,chip603	1 nF	21102
C102	Capacitor,chip603	1 nF	21102
C103	Capacitor,chip603	22 nF	21223
C104	Capacitor,chip603	22 nF	21223

p. 4 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
C105	Capacitor,chip603_ln	4,7 nF	20803
C106	Capacitor,chip603	22 nF	21223
C107	Capacitor,chip603	1 nF	21102
C108	Capacitor,ctan_a	2,2 uF/16V	25613
C109	Capacitor,ctan_a	2,2 uF/16V	25613
C110	Capacitor,ctan_a	2,2 uF/16V	25613
C111	Capacitor,chip805	100 nF	20654
C112	Capacitor,chip805	100 nF	20654
C113	Capacitor,chip805	100 nF	20654
C114	Capacitor,chip805	100 nF	20654
C115	Capacitor,chip603	22 nF	21223
C116	Capacitor,chip603	22 nF	21223
C117	Capacitor,chip805	100 nF	20654
C118	Capacitor,ctan_a	0,68 uF/16V	25611
C119	Capacitor,chip603	10 nF	21103
C120	Capacitor,chip603	22 nF	21223
C121	Capacitor,chip603_ln	4,7 nF	20803
C122	Capacitor,chip603	1 nF	21102
C123	Capacitor,chip603	1 nF	21102
C124	Capacitor,chip603	1 nF	21102
C125	Capacitor,chip603	22 nF	21223
C126	Capacitor,chip603	Not used	
C127	Capacitor,chip603	22 nF	21223
C128	Capacitor,chip603	1 nF	21102
C129	Capacitor,chip603	15 pF	21150
C130	Capacitor,chip603	1,8 pF	21189
C131	Capacitor,chip603	1 nF	21102
C132	Capacitor,chip603	1 nF	21102
C133	Capacitor,chip603	22 pF	21220
C134	Capacitor,chip603	10 pF	21100
C135	Capacitor,chip603	10 pF	21100
C136	Capacitor,chip603	1 nF	21102
C137	Capacitor,chip603	1 nF	21102
C138	Capacitor,chip603	1 nF	21102
C139	Capacitor,chip603	22 pF	21220
C140	Capacitor,chip603	12 pF	21120
C141	Capacitor,chip603	10 pF	21100
C142	Capacitor,chip603	1 nF	21102
C143	Capacitor,chip603	Not used	
C201	Capacitor,chip805	100 nF	20654
C202	Capacitor,chip603	47 pF	21470
C203	Capacitor,chip603	100 pF	21101
C204	Capacitor,chip603	10 nF	21103
C205	Capacitor,chip603	10 nF	21103
C206	Capacitor,chip603	1 nF	21102

p. 5 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
C207	Capacitor,chip603	100 pF	21101
C208	Capacitor,chip603	82 pF	21820
C209	Capacitor,chip603 25KHZ	10 pF	21100
	Capacitor,chip603 12,5KHZ	18 pF	21180
	Capacitor,chip603 20KHZ	10 pF	21100
C210	Capacitor,chip603	10 nF	21103
C211	Capacitor,chip603	10 nF	21103
C212	Capacitor,ctan_a	2,2 uF/16V	25613
C213	Capacitor,chip805	100 nF	20654
C214	Capacitor,chip805	100 nF	20654
C215	Capacitor,chip603	10 nF	21103
C216	Capacitor,chip805	100 nF	20654
C217	Capacitor,chip603	1 nF	21102
C218	Capacitor,chip603	1 nF	21102
C219	Capacitor,chip603	180 pF	21181
C220	Capacitor,chip603	180 pF	21181
C221	Capacitor,chip603	100 pF	21101
C222	Capacitor,chip603	10 nF	21103
C223	Capacitor,ctan_a	0,68 uF/16V	25611
C224	Capacitor,chip805	100 nF	20654
C225	Capacitor,chip805	100 nF	20654
C226	Capacitor,chip603	10 nF	21103
C227	Capacitor,chip603	10 nF	21103
C228	Capacitor,chip603	10 nF	21103
C229	Capacitor,chip603	10 nF	21103
C230	Capacitor,chip603	22 nF	21223
C231	Capacitor,chip805	100 nF	20654
C232	Capacitor,chip603	10 nF	21103
C233	Capacitor,chip603 25KHZ	Not used	
	Capacitor,chip603 12,5KHZ	5,6 pF	21569
	Capacitor,chip603 20KHZ	Not used	
C301	Capacitor,chip603	220 pF	21221
C302	Capacitor,chip603	1 nF	21102
C303	Capacitor,chip603	33 pF	21330
C304	Capacitor,chip603	15 pF	21150
C305	Capacitor,chip603	1 nF	21102
C306	Capacitor,ctan_a	6,8 uF/10V	25619
C307	Capacitor,chip603	1 nF	21102
C308	Capacitor,ctan_a	6,8 uF/10V	25619
C309	Capacitor,ctan_a	2,2 uF/16V	25613
C310	Capacitor,chip805	100 nF	20654
C311	Capacitor,chip603	1 nF	21102
C312	Capacitor,chip603	1 nF	21102
C313	Capacitor,chip603	1 nF	21102
C314	Capacitor,chip603	47 nF	21473

p. 6 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
C315	Capacitor,chip603	1 nF	21102
C316	Capacitor,chip603	330 pF	21331
C317	Capacitor,chip805	100 nF	20654
C318	Capacitor,chip603	150 pF	21151
C319	Capacitor,chip603	150 pF	21151
C320	Capacitor,chip603	100 pF	21101
C321	Capacitor,chip603	100 pF	21101
C322	Capacitor,chip603	10 nF	21103
C323	Capacitor,chip603	150 pF	21151
C324	Capacitor,chip603	150 pF	21151
C325	Capacitor,chip603	47 pF	21470
C326	Capacitor,chip805	100 nF	20654
C327	Capacitor,chip603	47 pF	21470
C328	Capacitor,chip603	27 pF	21270
C329	Capacitor,chip603	6,8 pF	21689
C330	Capacitor,var	2-10 pF	25116
C331	Capacitor,chip603	3,9 pF	21399
C332	Capacitor,chip603_n750	Not used	
C333	Capacitor,chip603	Not used	
C334	Capacitor,ctan_a	2,2 uF/16V	25613
C335	Capacitor,chip805_ln	22 nF	20804
C336	Capacitor,chip603_ln	1,5 nF	20802
C337	Capacitor,chip1206_ln	47 nF	20805
C338	Capacitor,chip1206_ln	47 nF	20805
C339	Capacitor,chip603_ln	4,7 nF	20803
C340	Capacitor,chip603_ln	Not used	
C341	Capacitor,chip1206	Not used	
C342	Capacitor,chip1206_ln	47 nF	20805
C343	Capacitor,chip1206	330 nF	20652
C344	Capacitor,chip1206	330 nF	20652
C345	Capacitor,chip603_ln	Not used	
C346	Capacitor,chip805	Not used	
C347	Capacitor,chip805	Not used	
C348	Capacitor,chip603	Not used	
C349	Capacitor,chip603	Not used	
C350	Capacitor,chip603	10 nF	21103
C351	Capacitor,chip603	Not used	
C352	Capacitor,chip603	Not used	
C353	Capacitor,chip603	Not used	
C401	Capacitor,chip603	10 nF	21103
C402	Capacitor,ctan_a	0,68 uF/16V	25611
C403	Capacitor,chip603	1 nF	21102
C404	Capacitor,chip805_ln	22 nF	20804
C405	Capacitor,chip805_ln	22 nF	20804
C406	Capacitor,chip603	22 nF	21223

PC. Board No. 722-3

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
C407	Capacitor,chip603	10 nF	21103
C408	Capacitor,ctan_a	2,2 uF/16V	25613
C409	Capacitor,ctan_a	2,2 uF/16V	25613
C410	Capacitor,ctan_a	2,2 uF/16V	25613
C412	Capacitor,chip805	100 nF	20654
C413	Capacitor,chip603	220 pF	21221
C414	Capacitor,ctan_a	2,2 uF/16V	25613
C415	Capacitor,ctan_a	2,2 uF/16V	25613
C416	Capacitor,ctan_a	2,2 uF/16V	25613
C417	Capacitor,chip805	100 nF	20654
C418	Capacitor,chip603	220 pF	21221
C419	Capacitor,chip603	220 pF	21221
C420	Capacitor,chip603	10 nF	21103
C421	Capacitor,chip603	220 pF	21221
C422	Capacitor,chip603	Not used	
C423	Capacitor,chip603	Not used	
C424	Capacitor,chip603	10 nF	21103
C425	Capacitor,chip603	22 pF	21220
F101	Filter	4N7	75906
F201-202	Crystal-filter 25KHZ	45F15B	30021
	Crystal-filter 12,5KHZ	45F7B	30022
	Crystal-filter 20KHZ	45F15B	30021
F203	Ceramic-filter 25KHZ	CFWM450D	30061
	Ceramic-filter 12,5KHZ	CFWM450G	30063
	Ceramic-filter 20KHZ	CFWM450F	30064
F401	Filter	4N7	75906
X301	Crystal	14.85 MHz	31190
T101	Transistor	BC807-40	40186
T102	Transistor	BFR92A	40150
T103	Transistor	BCW60D	40156
T104	Transistor	BCW60D	40156
T105	Transistor	BCW60D	40156
T106	Transistor	BCW61D	40157
T107	Transistor	BCW60D	40156
T108	Transistor	BCW60D	40156
T109	Transistor	ZTX949	40190
T201	Transistor	BCW60D	40156
T202	Transistor	BFR92A	40150
T203	Transistor	BF990A	40187
T204	Transistor	BFR92A	40150
T205	Transistor	BCW61D	40157

p. 8 of 10 — PC. Board No. 722-3

Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
T301	Transistor	BFR92A	40150
T302	Transistor	BFR92A	40150
T303	Transistor	BCW61D	40157
T304	Transistor	BCW60D	40156
T305	Transistor	BFR92A	40150
T306	Transistor	BCW60D	40156
T401	Transistor	BCW60D	40156
T402	Transistor	BCW61D	40157
T403	Transistor	BCW60D	40156
T404	Transistor	BC868-25	40188
D102	Diode	BAV99	45148
D103	Diode	BA682	45152
D104	Diode	MA4P1250	45171
D105	Diode	MA4P1250	45171
D106	Diode	MA4P1250	45171
D107	Diode	BAT54S	45173
D201	Diode	BAT17-04	45172
D202	Diode	BAV99	45148
D301	Diode,kap	Not used	
D302	Diode	Not used	
D401	Diode	BAV99	45148
D402	Diode,zener	LM385-1.2	45166
D403	Diode	BAT54S	45173
D404	Diode	BAV99	45148
IC101	Integrated_circuit	LPC662	46244
IC102	Integrated_circuit	MHW607-2	46284
IC103	Integrated_circuit	TC4S66F	46250
IC201	Integrated_circuit	MC3371	46247
IC202	Integrated_circuit	TLC27L2T	46222
IC301	Integrated_circuit	SP8705	46248
IC302	Integrated_circuit	NJ88C33	46249
IC303	Integrated_circuit	TC4S66F	46250
IC304	Integrated_circuit	TC4S66F	46250
IC305	Integrated_circuit	LPC662	46244
IC306	Integrated_circuit	Not used	
IC401	Integrated_circuit	40106BT	46116
IC402	Integrated_circuit	TC7S32F	46252
IC403	Integrated_circuit	TC7S32F	46252
IC404	Integrated_circuit	PIC16CE624	46621
IC405	Integrated_circuit	TC4S584F	46207
TR201	Trafo	75904	75904

p. 9 of 10 — PC. Board No. 722-3

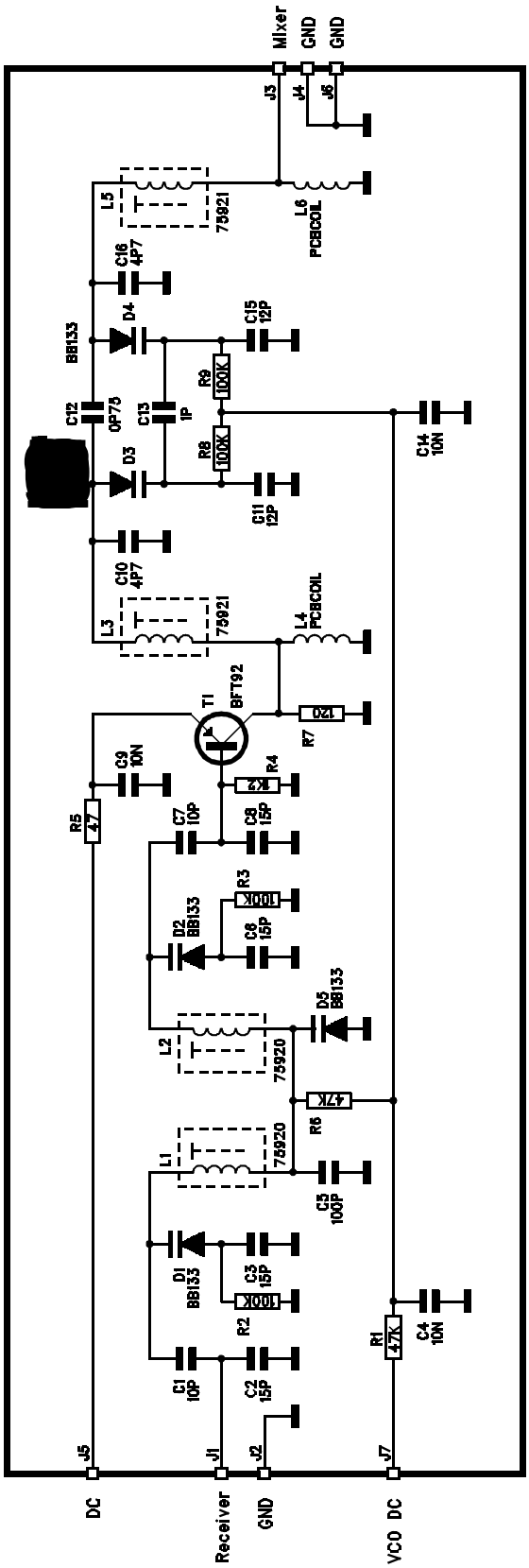
Partlist for Radioboard TRX1001C — Date 30-08-2004
Drawing No. 0-9613-03-6 — Unit No. 5602

Component	Description	Value	Niros No.
L101	Coil,chip	75877	75877
L102	Coil,chip	75877	75877
L103	Coil,chip	75877	75877
L104	Coil,chip	75922	75922
L105	Coil	75918	75918
L106	Coil,chip	75922	75922
L107	Coil	75917	75917
L108	Coil,chip	75922	75922
L109	Coil	75917	75917
L201	Coil_chip	76008	76008
L202	Coil,chip	75879	75879
L203	Coil,chip	75883	75883
L204	Coil	75901	75901
L301	Coil,chip	75905	75905
L302	Coil_chip	76008	76008
L303	Coil	75900	75900
L401	Coil,chip	75883	75883
J1	Connector_12pol		83315
AB1	Connector_pin		83245
AB2	Connector_pin		83245
AB3	Connector_pin		83245
AB4	Connector PIN		83245
A4	Power_input_terminal		97530
	Acryl_tape 64X12	1 pcs	85240
	Washer CW1,6	2 pcs	92024
	Screw M1,6X6	2 pcs	92027
	Screw M1,6X4	1 pcs	92022
	Washer 1,7	2 pcs	93203
	Pc._board_no. 722-3	1 pcs	95722
	Antenna_center_connector	1 pcs	97521
	Antenna_gnd_conector	1 pcs	97522
	Heat_sink PA	1 pcs	97524
	Spring_for PA	1 pcs	97576
	Magnetic_shield	2 pcs	97577
	Heat_sink PA	1 pcs	98015
	Receiver_gnd_spring	1 pcs	98022
	Coax_cable	1 pcs	182524

p. 10 of 10 — PC. Board No. 722-3

15. Receiver TRX1001C

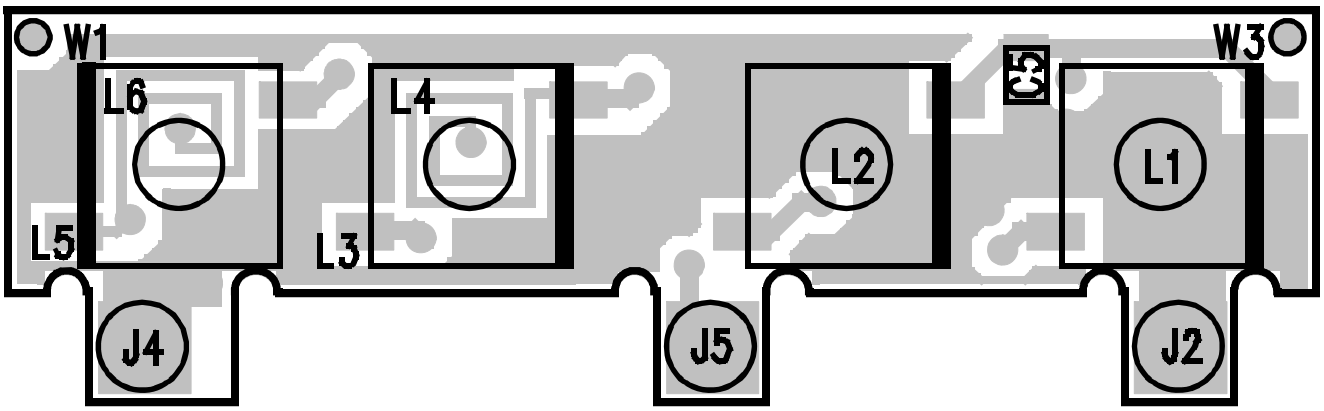
15.1 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 25-5-93 SIGN: PH	1	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM	
DATE: 10-6-97 SIGN: PH	2		
DATE: SIGN:			
DATE: SIGN:		Receiver TRX1001C/TRX1012C	
DATE: SIGN:			
DATE: SIGN:			
DRAWING NO: 0-9615-03-2		PCB NO: 725-2 UNIT NO: 5622	

15.2 Componentside

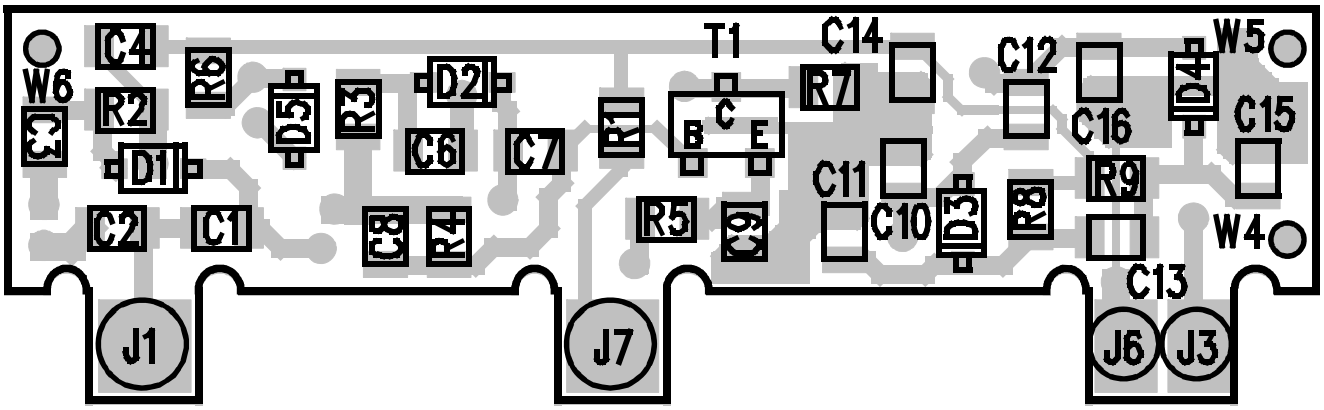


Componentside 725-2

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 25-5-93 SIGN: PH	1	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM	
DATE: 10-6-97 SIGN: PH	2		
DATE: SIGN:			
DATE: SIGN:		Receiver TRX1001C/TRX1012C	
DATE: SIGN:			
DATE: SIGN:			
DRAWING NO: D-9515-05-2		PCB NO: 725-2 UNIT NO: 5822	

15.3 Wiringside



Wiringside 725-2

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 25-5-93	SIGN: PH	1	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 18-6-97	SIGN: PH	2	
DATE:	SIGN:		Receiver TRX1001C/TRX1012C
DATE:	SIGN:		
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: 0-9615-04-2			PCB NO: 725-2 UNIT NO: 5522

15.4 Partlist

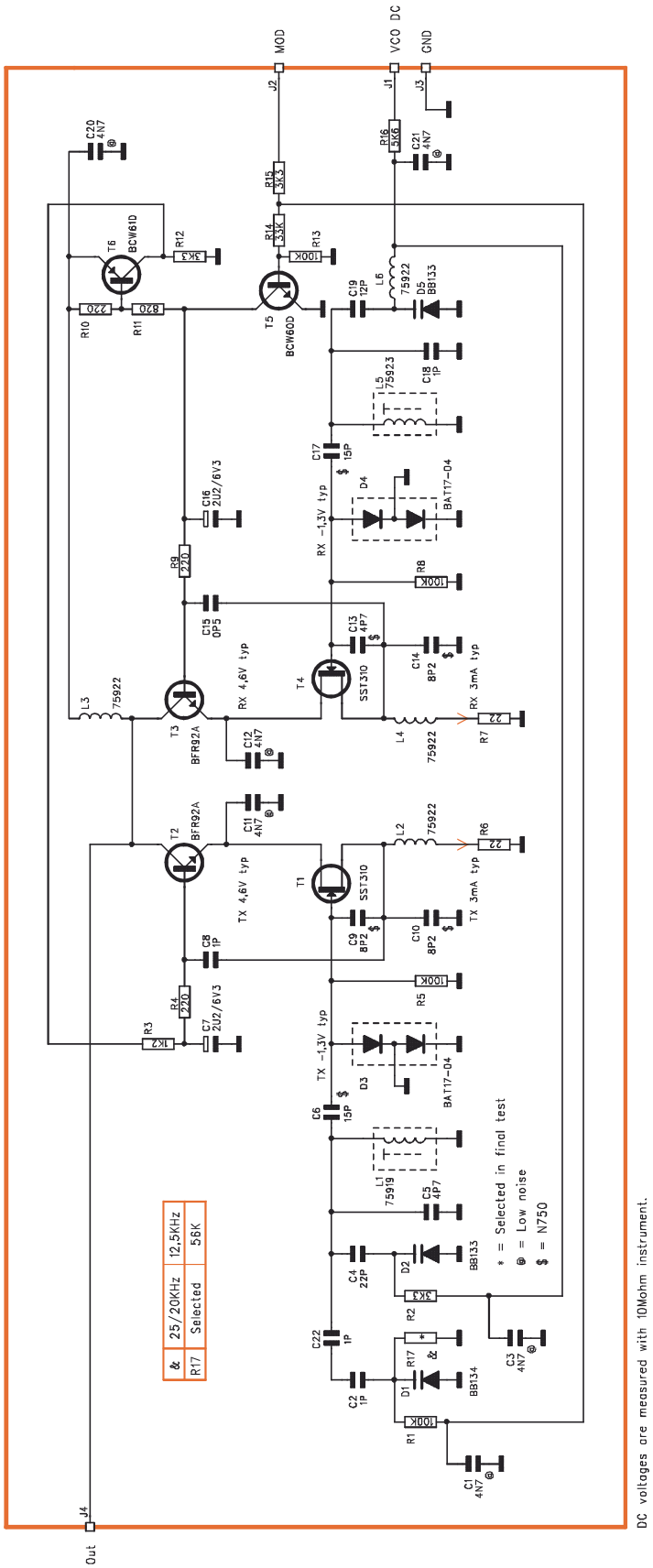
PARTLIST FOR Receiver TRX1001C/TRX1012C DATE 9-6-97
DRAWING NO. 0-9615-03-2 UNIT NO. 5622

Component	Description	Value	Niros No.
R1	Resistor,chip603	47 Kohm	14473
R2	Resistor,chip603	100 Kohm	14104
R3	Resistor,chip603	100 Kohm	14104
R4	Resistor,chip603	1,2 Kohm	14122
R5	Resistor,chip603	47 Ohm	14470
R6	Resistor,chip603	47 Kohm	14473
R7	Resistor,chip603	120 Ohm	14121
R8	Resistor,chip603	100 Kohm	14104
R9	Resistor,chip603	100 Kohm	14104
C1	Capacitor,chip603	10 pF	21100
C2	Capacitor,chip603	15 pF	21150
C3	Capacitor,chip603	15 pF	21150
C4	Capacitor,chip603	10 nF	21103
C5	Capacitor,chip603	100 pF	21101
C6	Capacitor,chip603	15 pF	21150
C7	Capacitor,chip603	10 pF	21100
C8	Capacitor,chip603	15 pF	21150
C9	Capacitor,chip603	10 nF	21103
C10	Capacitor,chip603	4,7 pF	21479
C11	Capacitor,chip603	12 pF	21120
C12	Capacitor,chip603	0,75 pF	21758
C13	Capacitor,chip603	1 pF	21109
C14	Capacitor,chip603	10 nF	21103
C15	Capacitor,chip603	12 pF	21120
C16	Capacitor,chip603	4,7 pF	21479
T1	Transistor	BFT92	40189
D1	Diode,kap	BB133	45195
D2	Diode,kap	BB133	45195
D3	Diode,kap	BB133	45195
D4	Diode,kap	BB133	45195
D5	Diode,kap	BB133	45195
L1	Coil	75920	75920
L2	Coil	75920	75920
L3	Coil	75921	75921
L4	Coil	PCBCOIL	
L5	Coil	75921	75921
L6	Coil	PCBCOIL	
	Pc._board_no. 725-2	1 pcs	95725

p. 1 of 1 PC. Board No. 725-2

16. VCO-board TRX1001C

16.1 Diagram

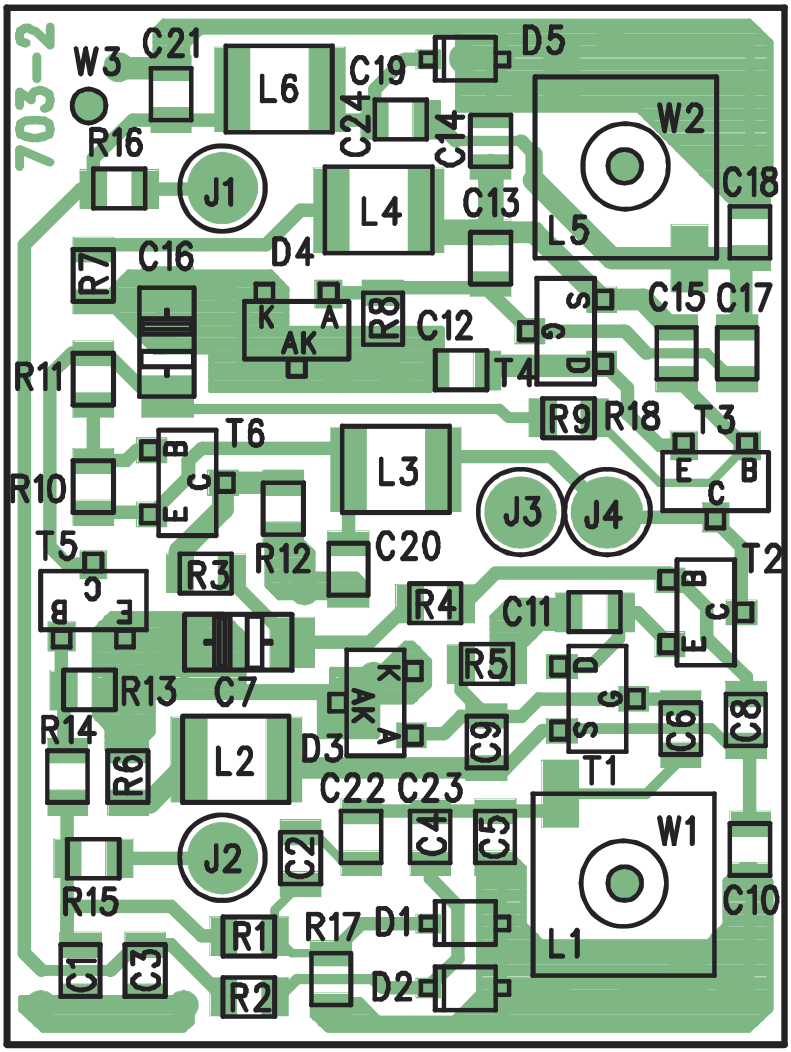


SUBJECT TO CHANGE WITHOUT NOTICE

25/20 KHz Unit No.: 5642
12,5 KHz Unit No.: 5645

Date: 27-01-1999 Sign: PH 2	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	VCO-board TRX1001C/TRX1012C
Date: 22-12-2005 Sign: PH 3		
Drawing No.: 0-9616-03-3	PC. Board No.: 703-2	

16.2 Componentside



Componentside 703-2

SUBJECT TO CHANGE WITHOUT NOTICE

25/20 KHz Unit No.: 5642
12,5 KHz Unit No.: 5645

Date: 27-01-1999 Sign: PH	2	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	VCO-board TRX1001C/TRX1012C
Date: 22-12-2005 Sign: PH	3		
Drawing No.: 0-9616-05-3		PC. Board No.: 703-2	

16.3 Partlist

Partlist for VCO-board TRX1001C/TRX1012C — Date 22-12-2005
Drawing No. 0-9616-03-3 — Unit No. 5642

Component	Description	Value	Niros No.
R1	Resistor,chip603	100 Kohm	14104
R2	Resistor,chip603	3,3 Kohm	14332
R3	Resistor,chip603	1,2 Kohm	14122
R4	Resistor,chip603	220 Ohm	14221
R5	Resistor,chip603	100 Kohm	14104
R6	Resistor,chip603	22 Ohm	14220
R7	Resistor,chip603	22 Ohm	14220
R8	Resistor,chip603	100 Kohm	14104
R9	Resistor,chip603	220 Ohm	14221
R10	Resistor,chip603	220 Ohm	14221
R11	Resistor,chip603	820 Ohm	14821
R12	Resistor,chip603	3,3 Kohm	14332
R13	Resistor,chip603	100 Kohm	14104
R14	Resistor,chip603	33 Kohm	14333
R15	Resistor,chip603	3,3 Kohm	14332
R16	Resistor,chip603	5,6 Kohm	14562
R17	Resistor,chip603 25KHZ	Selected	
	Resistor,chip603 12,5KHZ	56 Kohm	14563
C1	Capacitor,chip603_ln	4,7 nF	20803
C2	Capacitor,chip603	1 pF	21109
C3	Capacitor,chip603_ln	4,7 nF	20803
C4	Capacitor,chip603	22 pF	21220
C5	Capacitor,chip603	4,7 pF	21479
C6	Capacitor,chip603_sp	15 pF	20808
C7	Capacitor,ctan_a	2,2 uF/6V3	25602
C8	Capacitor,chip603	1 pF	21109
C9	Capacitor,chip603_sp	8,2 pF	20807
C10	Capacitor,chip603_sp	8,2 pF	20807
C11	Capacitor,chip603_ln	4,7 nF	20803
C12	Capacitor,chip603_ln	4,7 nF	20803
C13	Capacitor,chip603_sp	4,7 pF	20806
C14	Capacitor,chip603_sp	8,2 pF	20807
C15	Capacitor,chip603	0,5 pF	21508
C16	Capacitor,ctan_a	2,2 uF/6V3	25602
C17	Capacitor,chip603_sp	15 pF	20808
C18	Capacitor,chip603	1 pF	21109
C19	Capacitor,chip603	12 pF	21120
C20	Capacitor,chip603_ln	4,7 nF	20803
C21	Capacitor,chip603_ln	4,7 nF	20803
C22	Capacitor,chip603	1 pF	21109
T1	Transistor	SST310	40175
T2	Transistor	BFR92A	40150

p. 1 of 2 — PC. Board No. 703-2

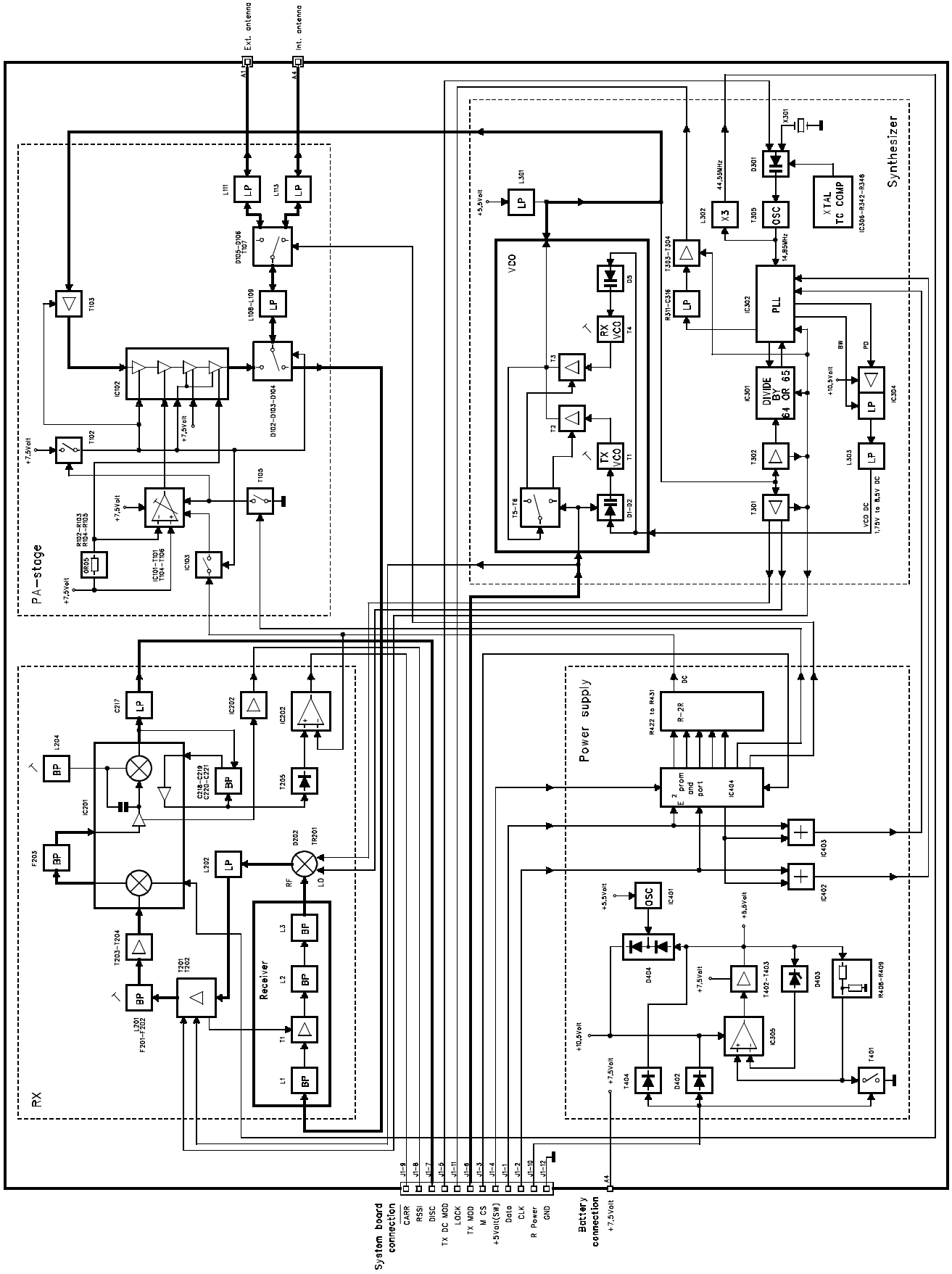
Partlist for VCO-board TRX1001C/TRX1012C Date 22-12-2005
Drawing No. 0-9616-03-3 Unit No. 5642

Component	Description	Value	Niros No.
T3	Transistor	BFR92A	40150
T4	Transistor	SST310	40175
T5	Transistor	BCW60D	40156
T6	Transistor	BCW61D	40157
D1	Diode,kap	BB134	45196
D2	Diode,kap	BB133	45195
D3	Diode	BAT17-04	45172
D4	Diode	BAT17-04	45172
D5	Diode,kap	BB133	45195
L1	Coil	75919	75919
L2	Coil,chip	75922	75922
L3	Coil,chip	75922	75922
L4	Coil,chip	75922	75922
L5	Coil	75923	75923
L6	Coil,chip	75922	75922
J1	Connector_pin		83251
J2	Connector_pin		83251
J3	Connector_pin		83251
J4	Connector_pin		83251
	Mylar_for_shield	1 pcs	85415
	Pc._board_no 703-2	1 pcs	95703
	Shield	1 pcs	97523

p. 2 of 2 PC. Board No. 703-2

17. Radioboard TRX1001D

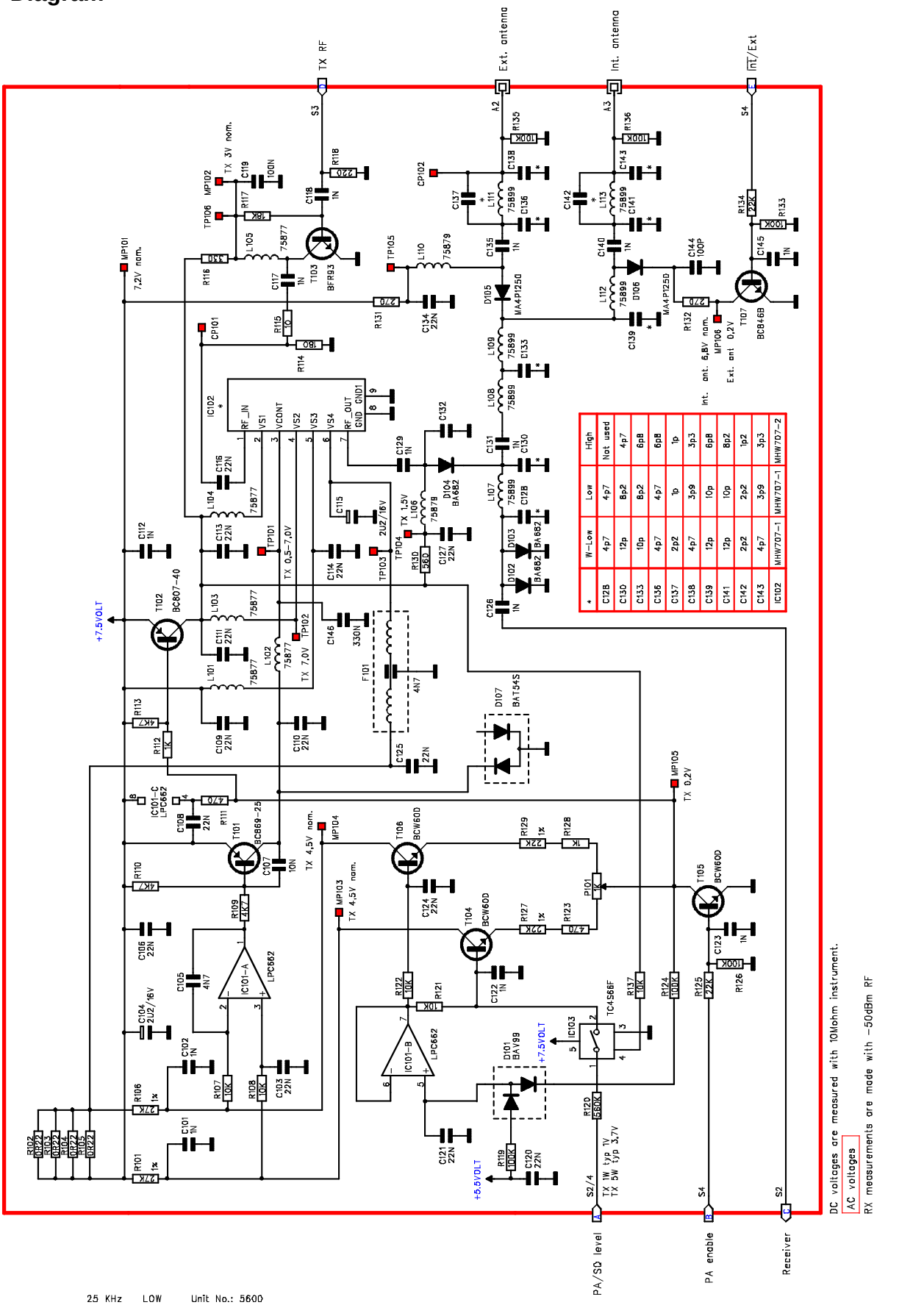
17.1 Blockdiagram



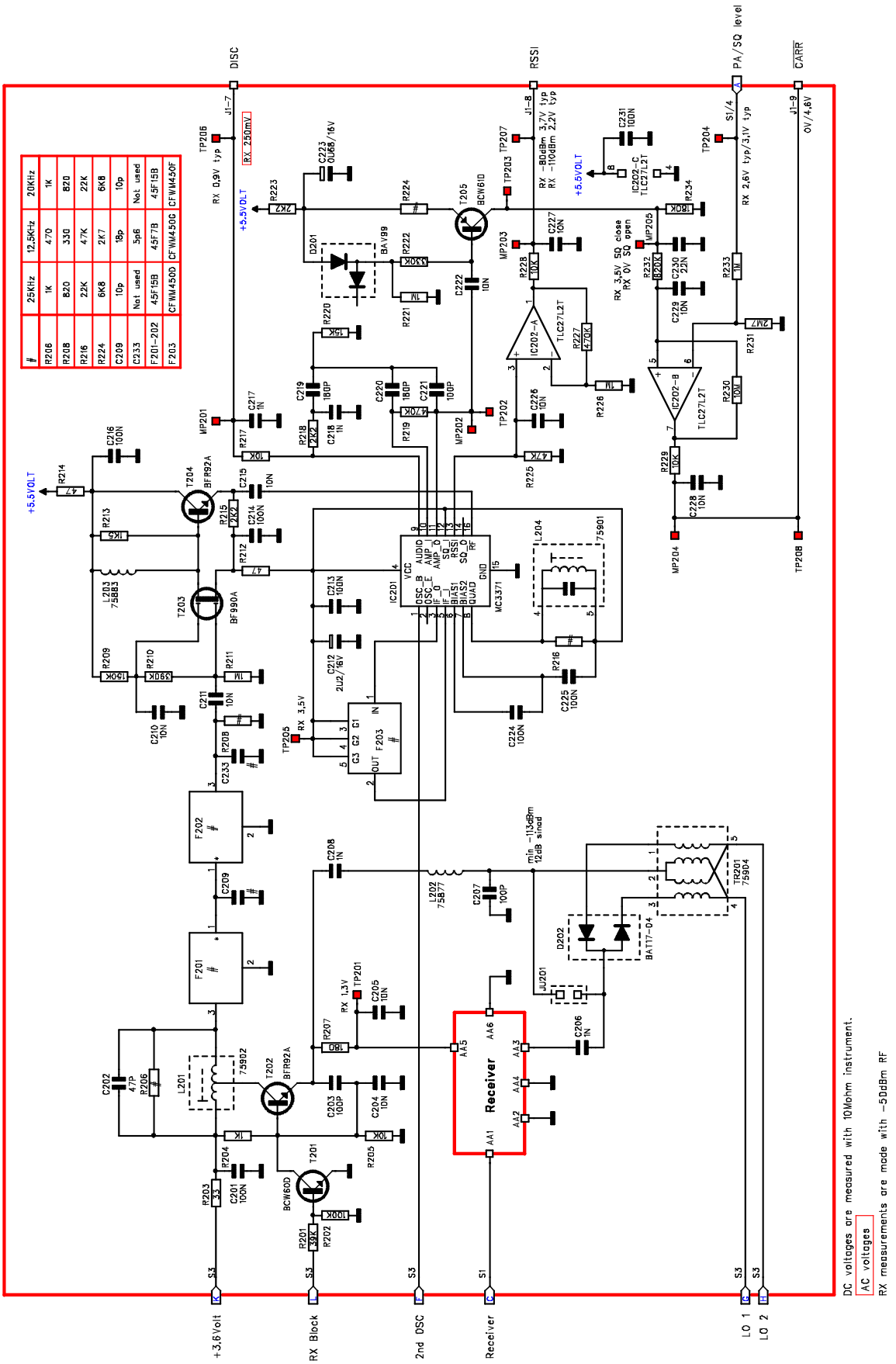
SUBJECT TO CHANGE WITHOUT NOTICE

Date: 30-06-1993 Sign: PH	0	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Block diagram Radioboard TRX1001D	
Date: Sign:				
Drawing No.: 0-9619-03-0		PC. Board No.: 700-X	Unit No.: 5600 ->	

17.2 Diagram



*	W-Low	Low	High
C128	4p7	4p7	Not used
C130	12p	8p2	6p8
C133	10p	8p2	6p8
C136	4p7	4p7	6p8
C137	2p2	1p	1p
C138	4p7	3p9	3p3
C139	12p	10p	6p8
C141	12p	10p	8p2
C142	2p2	2p2	1p2
C143	4p7	3p9	3p3
C102	MHW707-1	MHW707-1	MHW707-2



#	25KHz	12.5KHz	20KHz
R216	1K	470	1K
R218	820	330	820
R216	22K	47K	22K
R224	6K8	2K7	6K8
C209	10p	18p	10p
C233	Not used	5p6	Not used
F201-202	45F15B	45F7B	45F15B
F203	CFWM450D	CFWM450G	CFWM450F

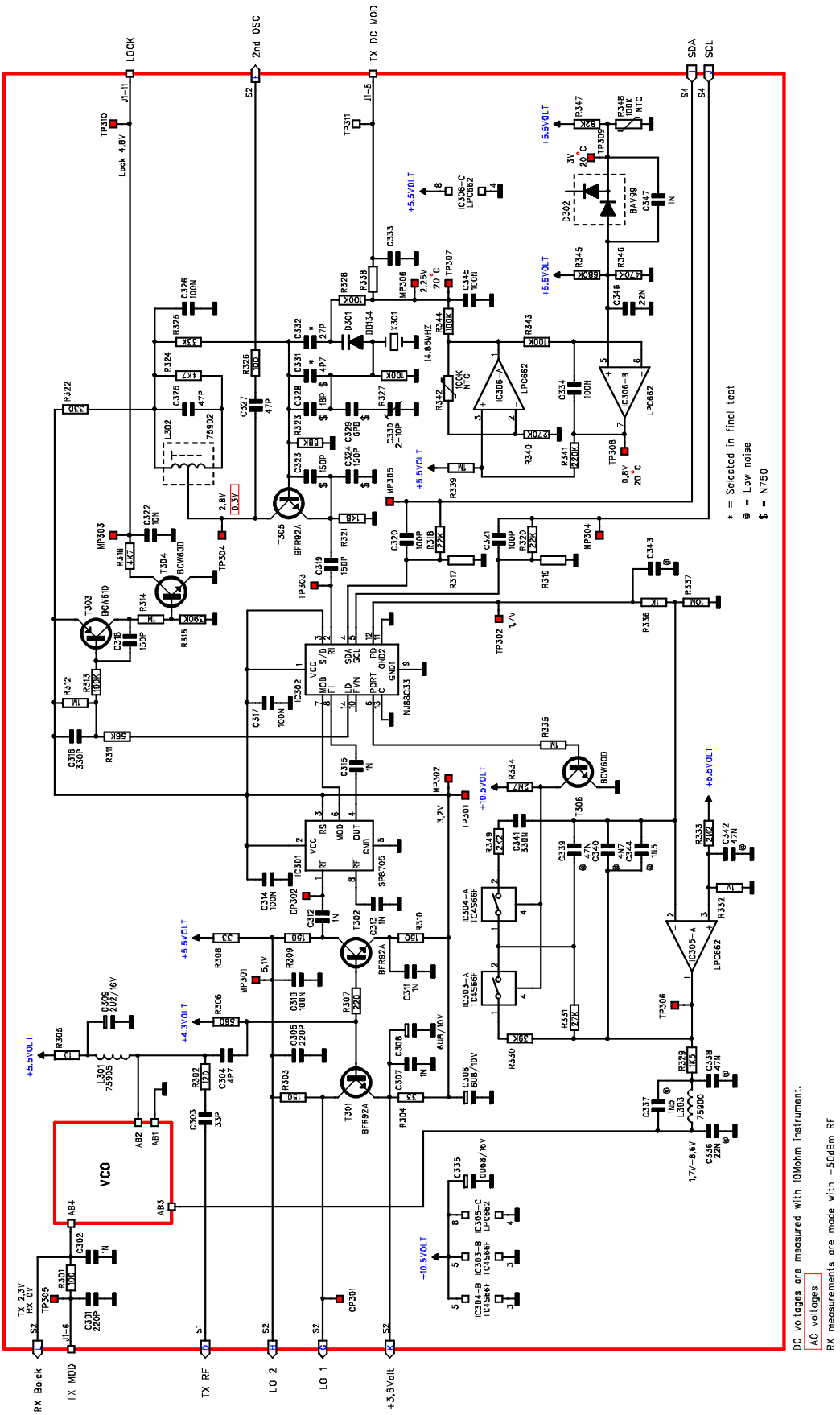
25 KHz LOW Unit No.: 5600
25 KHz HIGH Unit No.: 5601
25 KHz W-LOW Unit No.: 5604
12,5 KHz LOW Unit No.: 5610
12,5 KHz HIGH Unit No.: 5611
20 KHz LOW Unit No.: 5615
20 KHz HIGH Unit No.: 5616

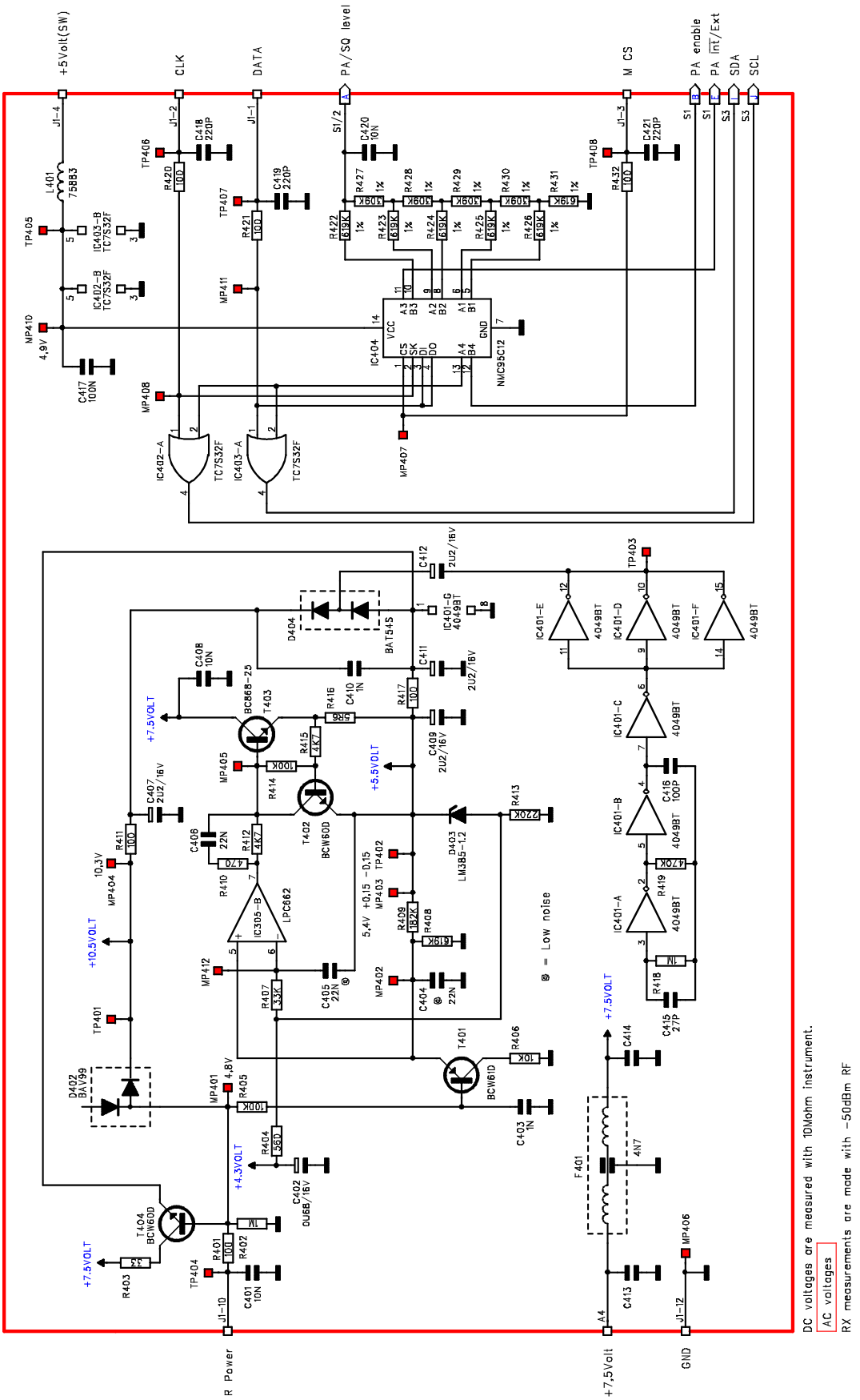
SUBJECT TO CHANGE WITHOUT NOTICE

Date: 05-10-1999 Sign: PH	10	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum
Date: 25-08-2004 Sign: PH	11	
Drawing No.: D-9600-03-11 p 2 of 4		PC. Board No.: 700-6

Radioboard TRX1001D

File/Reference	Prepared	Date	Revised by	Revised date	Revision No.	Approved
Manual for TRX1001	TN	22-12-05	TN	29-08-04	3	PA



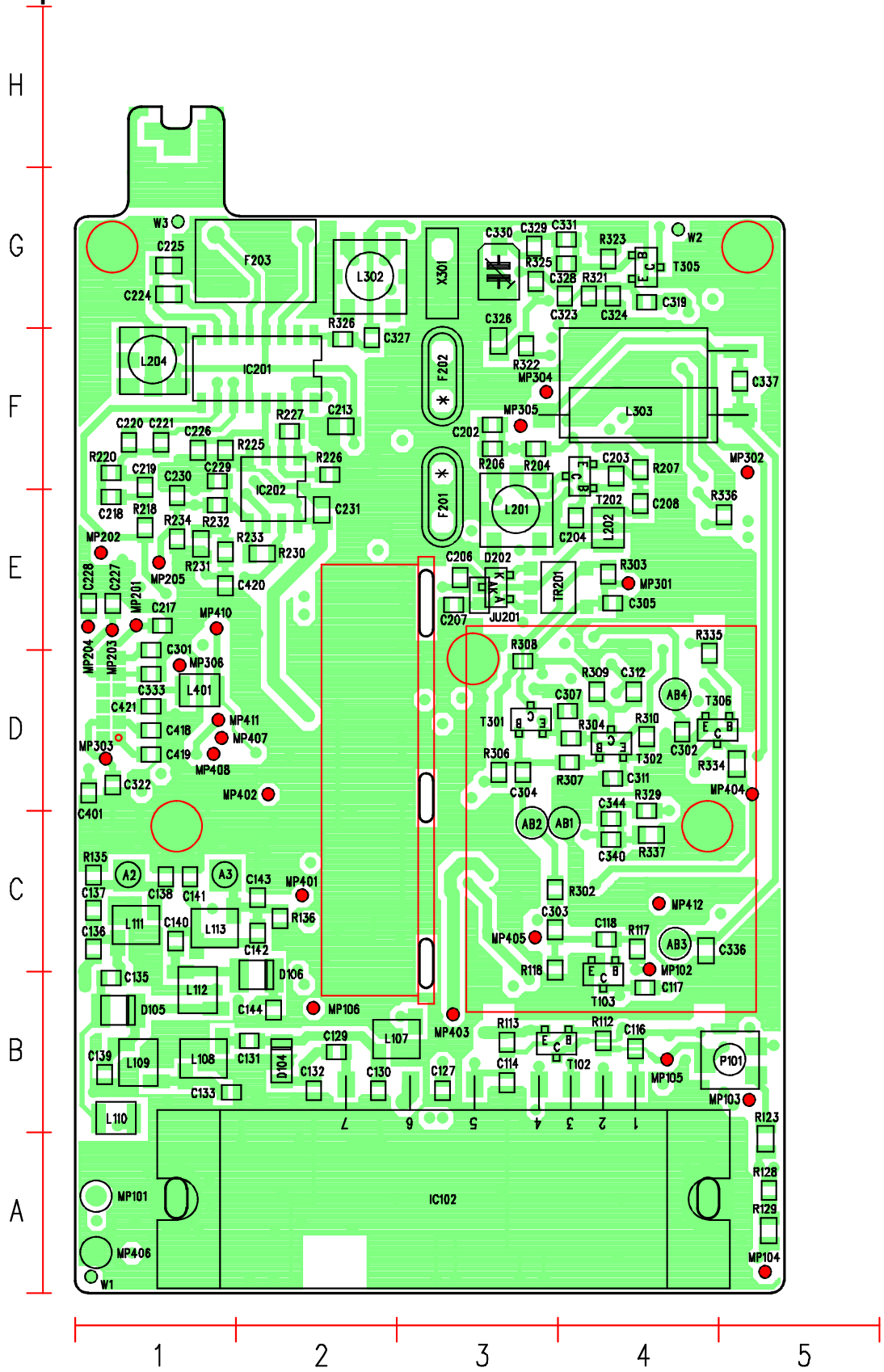


25 KHz	LOW	Unit No.: 5600
25 KHz	HIGH	Unit No.: 5601
25 KHz	W-LOW	Unit No.: 5604
12,5 KHz	LOW	Unit No.: 5610
12,5 KHz	HIGH	Unit No.: 5611
20 KHz	LOW	Unit No.: 5615
20 KHz	HIGH	Unit No.: 5616

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 05-10-1999 Sign: PH 10	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001D
Date: 25-08-2004 Sign: PH 11		
Drawing No.: D-9600-03-11 p 4 of 4	PC. Board No.: 700-6	

17.3 Componentside



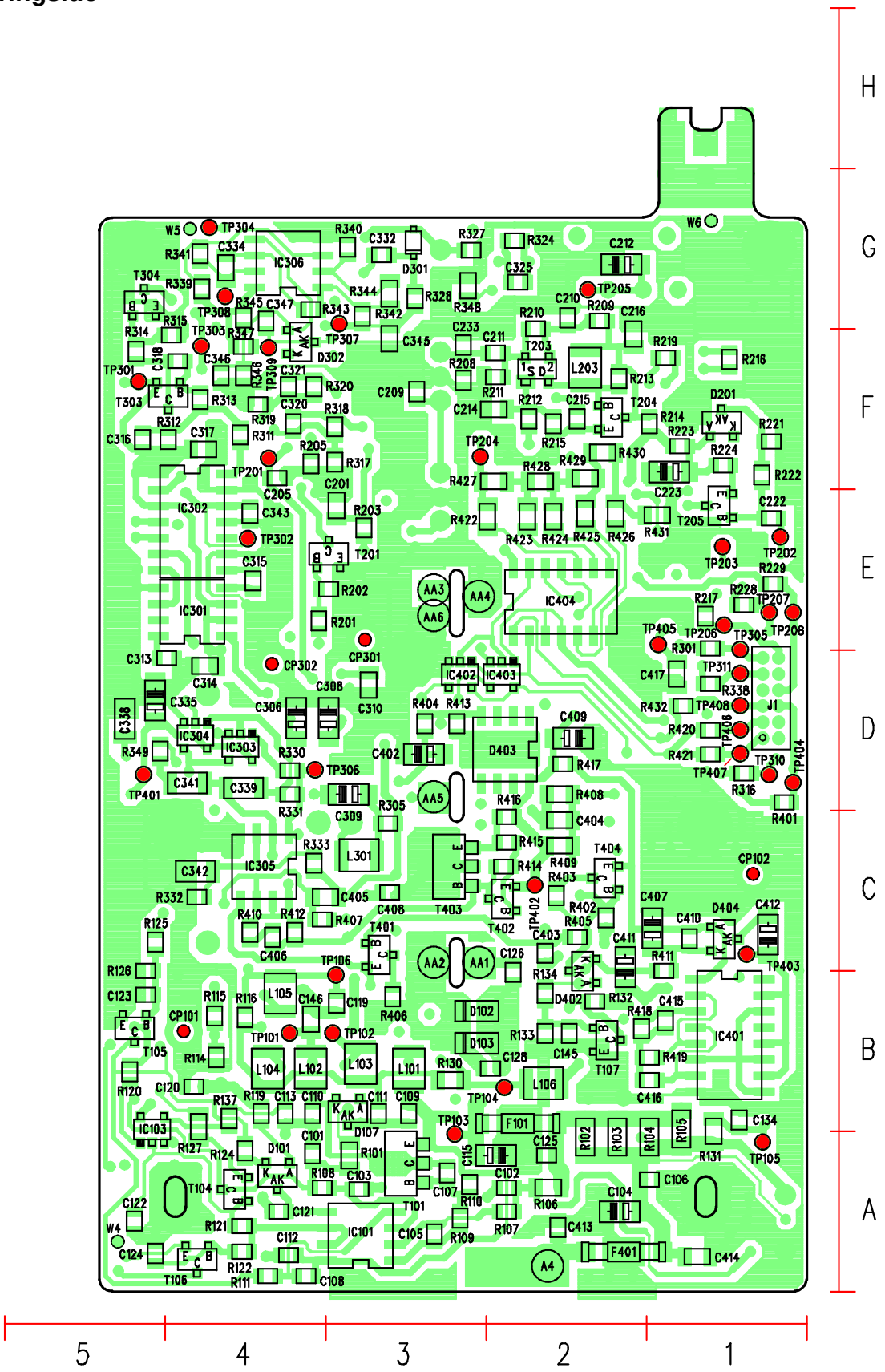
Componentside 700-6

25 KHz	LOW	Unit No.: 5600
25 KHz	HIGH	Unit No.: 5601
25 KHz	W-LOW	Unit No.: 5604
12,5 KHz	LOW	Unit No.: 5610
12,5 KHz	HIGH	Unit No.: 5611
20 KHz	LOW	Unit No.: 5615
20 KHz	HIGH	Unit No.: 5616

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 05-10-1999 Sign: PH	10	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001D
Date: 25-08-2004 Sign: PH	11		
Drawing No.: 0-9600-05-11		PC. Board No.: 700-6	

17.4 Wiringside



Wiringside 700-6

25 KHz	LOW	Unit No.: 5600
25 KHz	HIGH	Unit No.: 5601
25 KHz	W-LOW	Unit No.: 5604
12,5 KHz	LOW	Unit No.: 5610
12,5 KHz	HIGH	Unit No.: 5611
20 KHz	LOW	Unit No.: 5615
20 KHz	HIGH	Unit No.: 5616

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 05-10-1999 Sign: PH	10	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	Radioboard TRX1001D
Date: 25-08-2004 Sign: PH	11		
Drawing No.: 0-9600-04-11		PC. Board No.: 700-6	

17.5 Fieldlist

Name Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Type	Side	Cord	Component	Type	Side	Cord
R101	SMT	BOTTOM	A3	R217	SMT	BOTTOM	E1
R102	SMT	BOTTOM	A2	R218	SMT	TOP	E1
R103	SMT	BOTTOM	A2	R219	SMT	BOTTOM	F1
R104	SMT	BOTTOM	A1	R220	SMT	TOP	F1
R105	SMT	BOTTOM	B1	R221	SMT	BOTTOM	F1
R106	SMT	BOTTOM	A2	R222	SMT	BOTTOM	F1
R107	SMT	BOTTOM	A2	R223	SMT	BOTTOM	F1
R108	SMT	BOTTOM	A4	R224	SMT	BOTTOM	F1
R109	SMT	BOTTOM	A3	R225	SMT	TOP	F1
R110	SMT	BOTTOM	A3	R226	SMT	TOP	F2
R111	SMT	BOTTOM	A4	R227	SMT	TOP	F2
R112	SMT	TOP	B4	R228	SMT	BOTTOM	E1
R113	SMT	TOP	B3	R229	SMT	BOTTOM	E1
R114	SMT	BOTTOM	B4	R230	SMT	TOP	E2
R115	SMT	BOTTOM	B4	R231	SMT	TOP	E1
R116	SMT	BOTTOM	B4	R232	SMT	TOP	E1
R117	SMT	TOP	C4	R233	SMT	TOP	E1
R118	SMT	TOP	C3	R234	SMT	TOP	E1
R119	SMT	BOTTOM	B4	R301	SMT	BOTTOM	E1
R120	SMT	BOTTOM	B5	R302	SMT	TOP	C3
R121	SMT	BOTTOM	A4	R303	SMT	TOP	E4
R122	SMT	BOTTOM	A4	R304	SMT	TOP	D4
R123	SMT	TOP	A5	R305	SMT	BOTTOM	C3
R124	SMT	BOTTOM	A4	R306	SMT	TOP	D3
R125	SMT	BOTTOM	C5	R307	SMT	TOP	D4
R126	SMT	BOTTOM	C5	R308	SMT	TOP	D3
R127	SMT	BOTTOM	B4	R309	SMT	TOP	D4
R128	SMT	TOP	A5	R310	SMT	TOP	D4
R129	SMT	TOP	A5	R311	SMT	BOTTOM	F4
R130	SMT	BOTTOM	B3	R312	SMT	BOTTOM	F4
R131	SMT	BOTTOM	B1	R313	SMT	BOTTOM	F4
R132	SMT	BOTTOM	B2	R314	SMT	BOTTOM	F5
R133	SMT	BOTTOM	B2	R315	SMT	BOTTOM	F4
R134	SMT	BOTTOM	B2	R316	SMT	BOTTOM	D1
R135	SMT	TOP	C1	R317	SMT	BOTTOM	F3
R136	SMT	TOP	C2	R318	SMT	BOTTOM	F3
R137	SMT	BOTTOM	B4	R319	SMT	BOTTOM	F4
R201	SMT	BOTTOM	E4	R320	SMT	BOTTOM	F4
R202	SMT	BOTTOM	E3	R321	SMT	TOP	G4
R203	SMT	BOTTOM	E3	R322	SMT	TOP	F3
R204	SMT	TOP	F3	R323	SMT	TOP	G4
R205	SMT	BOTTOM	F4	R324	SMT	BOTTOM	G2
R206	SMT	TOP	F3	R325	SMT	TOP	G3
R207	SMT	TOP	F4	R326	SMT	TOP	F2
R208	SMT	BOTTOM	F3	R327	SMT	BOTTOM	G3
R209	SMT	BOTTOM	G2	R328	SMT	BOTTOM	G3
R210	SMT	BOTTOM	G2	R329	SMT	TOP	D4
R211	SMT	BOTTOM	F2	R330	SMT	BOTTOM	D4
R212	SMT	BOTTOM	F2	R331	SMT	BOTTOM	D4
R213	SMT	BOTTOM	F2	R332	SMT	BOTTOM	C4
R214	SMT	BOTTOM	F1	R333	SMT	BOTTOM	C4
R215	SMT	BOTTOM	F2	R334	SMT	TOP	D5
R216	SMT	BOTTOM	F1	R335	SMT	TOP	D4

p. 1 of 5 — PC. Board No. 700-6

Name Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Type	Side	Cord	Component	Type	Side	Cord
R336	SMT	TOP	E5	C107	SMT	BOTTOM	A3
R337	SMT	TOP	C4	C108	SMT	BOTTOM	A4
R338	SMT	BOTTOM	D1	C109	SMT	BOTTOM	B3
R339	SMT	BOTTOM	G4	C110	SMT	BOTTOM	B4
R340	SMT	BOTTOM	G3	C111	SMT	BOTTOM	B3
R341	SMT	BOTTOM	G4	C112	SMT	BOTTOM	A4
R342	SMT	BOTTOM	G3	C113	SMT	BOTTOM	B4
R343	SMT	BOTTOM	G4	C114	SMT	TOP	B3
R344	SMT	BOTTOM	G3	C115	SMT	BOTTOM	A2
R345	SMT	BOTTOM	G4	C116	SMT	TOP	B4
R346	SMT	BOTTOM	F4	C117	SMT	TOP	B4
R347	SMT	BOTTOM	F4	C118	SMT	TOP	C4
R348	SMT	BOTTOM	G3	C119	SMT	BOTTOM	B3
R349	SMT	BOTTOM	D5	C120	SMT	BOTTOM	B4
R401	SMT	BOTTOM	D1	C121	SMT	BOTTOM	A4
R402	SMT	BOTTOM	C2	C122	SMT	BOTTOM	A5
R403	SMT	BOTTOM	C2	C123	SMT	BOTTOM	B5
R404	SMT	BOTTOM	D3	C124	SMT	BOTTOM	A5
R405	SMT	BOTTOM	C2	C125	SMT	BOTTOM	A2
R406	SMT	BOTTOM	B3	C126	SMT	BOTTOM	B2
R407	SMT	BOTTOM	C4	C127	SMT	TOP	B3
R408	SMT	BOTTOM	D2	C128	SMT	BOTTOM	B2
R409	SMT	BOTTOM	C2	C129	SMT	TOP	B2
R410	SMT	BOTTOM	C4	C130	SMT	TOP	B2
R411	SMT	BOTTOM	C1	C131	SMT	TOP	B2
R412	SMT	BOTTOM	C4	C132	SMT	TOP	B2
R413	SMT	BOTTOM	D3	C133	SMT	TOP	B1
R414	SMT	BOTTOM	C2	C134	SMT	BOTTOM	B1
R415	SMT	BOTTOM	C2	C135	SMT	TOP	B1
R416	SMT	BOTTOM	C2	C136	SMT	TOP	C1
R417	SMT	BOTTOM	D2	C137	SMT	TOP	C1
R418	SMT	BOTTOM	B2	C138	SMT	TOP	C1
R419	SMT	BOTTOM	B1	C139	SMT	TOP	B1
R420	SMT	BOTTOM	D1	C140	SMT	TOP	C1
R421	SMT	BOTTOM	D1	C141	SMT	TOP	C1
R422	SMT	BOTTOM	E2	C142	SMT	TOP	C2
R423	SMT	BOTTOM	E2	C143	SMT	TOP	C2
R424	SMT	BOTTOM	E2	C144	SMT	TOP	B2
R425	SMT	BOTTOM	E2	C145	SMT	BOTTOM	B2
R426	SMT	BOTTOM	E2	C146	SMT	BOTTOM	B4
R427	SMT	BOTTOM	F2	C201	SMT	BOTTOM	E3
R428	SMT	BOTTOM	F2	C202	SMT	TOP	F3
R429	SMT	BOTTOM	F2	C203	SMT	TOP	F4
R430	SMT	BOTTOM	F2	C204	SMT	TOP	E4
R431	SMT	BOTTOM	E1	C205	SMT	BOTTOM	F4
R432	SMT	BOTTOM	D1	C206	SMT	TOP	E3
P101	SMT	TOP	B5	C207	SMT	TOP	E3
C101	SMT	BOTTOM	A4	C208	SMT	TOP	E4
C102	SMT	BOTTOM	A2	C209	SMT	BOTTOM	F3
C103	SMT	BOTTOM	A3	C210	SMT	BOTTOM	G2
C104	SMT	BOTTOM	A2	C211	SMT	BOTTOM	F2
C105	SMT	BOTTOM	A3	C212	SMT	BOTTOM	G2
C106	SMT	BOTTOM	A1	C213	SMT	TOP	F2

p. 2 of 5 — PC. Board No. 700-6

Name Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Type	Side	Cord	Component	Type	Side	Cord
C214	SMT	BOTTOM	F2	C335	SMT	BOTTOM	D5
C215	SMT	BOTTOM	F2	C336	SMT	TOP	C4
C216	SMT	BOTTOM	F2	C337	SMT	TOP	F5
C217	SMT	TOP	E1	C338	SMT	BOTTOM	D5
C218	SMT	TOP	E1	C339	SMT	BOTTOM	D4
C219	SMT	TOP	F1	C340	SMT	TOP	C4
C220	SMT	TOP	F1	C341	SMT	BOTTOM	D4
C221	SMT	TOP	F1	C342	SMT	BOTTOM	C4
C222	SMT	BOTTOM	E1	C343	SMT	BOTTOM	E4
C223	SMT	BOTTOM	F1	C344	SMT	TOP	C4
C224	SMT	TOP	G1	C345	SMT	BOTTOM	F3
C225	SMT	TOP	G1	C346	SMT	BOTTOM	F4
C226	SMT	TOP	F1	C347	SMT	BOTTOM	G4
C227	SMT	TOP	E1	C401	SMT	TOP	D1
C228	SMT	TOP	E1	C402	SMT	BOTTOM	D3
C229	SMT	TOP	F1	C403	SMT	BOTTOM	C2
C230	SMT	TOP	E1	C404	SMT	BOTTOM	C2
C231	SMT	TOP	E2	C405	SMT	BOTTOM	C4
C233	SMT	BOTTOM	F3	C406	SMT	BOTTOM	C4
C301	SMT	TOP	E1	C407	SMT	BOTTOM	C1
C302	SMT	TOP	D4	C408	SMT	BOTTOM	C3
C303	SMT	TOP	C3	C409	SMT	BOTTOM	D2
C304	SMT	TOP	D3	C410	SMT	BOTTOM	C1
C305	SMT	TOP	E4	C411	SMT	BOTTOM	C2
C306	SMT	BOTTOM	D4	C412	SMT	BOTTOM	C1
C307	SMT	TOP	D4	C413	SMT	BOTTOM	A2
C308	SMT	BOTTOM	D3	C414	SMT	BOTTOM	A1
C309	SMT	BOTTOM	D3	C415	SMT	BOTTOM	B1
C310	SMT	BOTTOM	D3	C416	SMT	BOTTOM	B1
C311	SMT	TOP	D4	C417	SMT	BOTTOM	D1
C312	SMT	TOP	D4	C418	SMT	TOP	D1
C313	SMT	BOTTOM	D4	C419	SMT	TOP	D1
C314	SMT	BOTTOM	D4	C420	SMT	TOP	E1
C315	SMT	BOTTOM	E4	C421	SMT	TOP	D1
C316	SMT	BOTTOM	F5	F101	SMT	BOTTOM	B2
C317	SMT	BOTTOM	F4	F201	LEAD	TOP	E3
C318	SMT	BOTTOM	F4	F202	LEAD	TOP	F3
C319	SMT	TOP	G4	F203	LEAD	TOP	G2
C320	SMT	BOTTOM	F4	F401	SMT	BOTTOM	A2
C321	SMT	BOTTOM	F4	X301	LEAD	TOP	G3
C322	SMT	TOP	D1	T101	SMT	BOTTOM	A3
C323	SMT	TOP	G4	T102	SMT	TOP	B3
C324	SMT	TOP	G4	T103	SMT	TOP	B4
C325	SMT	BOTTOM	G2	T104	SMT	BOTTOM	A4
C326	SMT	TOP	F3	T105	SMT	BOTTOM	B5
C327	SMT	TOP	F2	T106	SMT	BOTTOM	A4
C328	SMT	TOP	G4	T107	SMT	BOTTOM	B2
C329	SMT	TOP	G3	T201	SMT	BOTTOM	E3
C330	SMT	TOP	G3	T202	SMT	TOP	F4
C331	SMT	TOP	G4	T203	SMT	BOTTOM	F2
C332	SMT	BOTTOM	G3	T204	SMT	BOTTOM	F2
C333	SMT	TOP	D1	T205	SMT	BOTTOM	E1
C334	SMT	BOTTOM	G4	T301	SMT	TOP	D3

p. 3 of 5 — PC. Board No. 700-6

Name Radioboard TRX1001D
Drawing No. 0-9600-03-11

Date 26-08-2004
Unit No. 5600

Component	Type	Side	Cord	Component	Type	Side	Cord
T302	SMT	TOP	D4	L202	SMT	TOP	E4
T303	SMT	BOTTOM	F4	L203	SMT	BOTTOM	F2
T304	SMT	BOTTOM	G5	L204	SMT	TOP	F1
T305	SMT	TOP	G4	L301	SMT	BOTTOM	C3
T306	SMT	TOP	D4	L302	SMT	TOP	G2
T401	SMT	BOTTOM	C3	L303	SMT	TOP	F4
T402	SMT	BOTTOM	C2	L401	SMT	TOP	D1
T403	SMT	BOTTOM	C3	TP101	SMT	BOTTOM	B4
T404	SMT	BOTTOM	C2	TP102	SMT	BOTTOM	B3
D101	SMT	BOTTOM	A4	TP103	SMT	BOTTOM	A3
D102	SMT	BOTTOM	B3	TP104	SMT	BOTTOM	B2
D103	SMT	BOTTOM	B3	TP105	SMT	BOTTOM	A1
D104	SMT	TOP	B2	TP106	SMT	BOTTOM	B3
D105	SMT	TOP	B1	TP201	SMT	BOTTOM	F4
D106	SMT	TOP	B2	TP202	SMT	BOTTOM	E1
D107	SMT	BOTTOM	B3	TP203	SMT	BOTTOM	E1
D201	SMT	BOTTOM	F1	TP204	SMT	BOTTOM	F3
D202	SMT	TOP	E3	TP205	SMT	BOTTOM	G2
D301	SMT	BOTTOM	G3	TP206	SMT	BOTTOM	E1
D302	SMT	BOTTOM	F4	TP207	SMT	BOTTOM	E1
D402	SMT	BOTTOM	C2	TP208	SMT	BOTTOM	E1
D403	SMT	BOTTOM	D2	TP301	SMT	BOTTOM	F5
D404	SMT	BOTTOM	C1	TP302	SMT	BOTTOM	E4
IC101	SMT	BOTTOM	A3	TP303	SMT	BOTTOM	F4
IC102	SMT	TOP	A3	TP304	SMT	BOTTOM	G4
IC103	SMT	BOTTOM	B5	TP305	SMT	BOTTOM	E1
IC201	SMT	TOP	F2	TP306	SMT	BOTTOM	D4
IC202	SMT	TOP	F2	TP307	SMT	BOTTOM	G3
IC301	SMT	BOTTOM	E4	TP308	SMT	BOTTOM	G4
IC302	SMT	BOTTOM	E4	TP309	SMT	BOTTOM	F4
IC303	SMT	BOTTOM	D4	TP310	SMT	BOTTOM	D1
IC304	SMT	BOTTOM	D4	TP311	SMT	BOTTOM	D1
IC305	SMT	BOTTOM	C4	TP401	SMT	BOTTOM	D5
IC306	SMT	BOTTOM	G4	TP402	SMT	BOTTOM	C2
IC401	SMT	BOTTOM	B1	TP403	SMT	BOTTOM	C1
IC402	SMT	BOTTOM	D3	TP404	SMT	BOTTOM	D1
IC403	SMT	BOTTOM	D2	TP405	SMT	BOTTOM	E1
IC404	SMT	BOTTOM	E2	TP406	SMT	BOTTOM	D1
TR201	SMT	TOP	E4	TP407	SMT	BOTTOM	D1
L101	SMT	BOTTOM	B3	TP408	SMT	BOTTOM	D1
L102	SMT	BOTTOM	B4	CP101	LEAD	BOTTOM	B4
L103	SMT	BOTTOM	B3	CP102	LEAD	BOTTOM	C1
L104	SMT	BOTTOM	B4	CP301	LEAD	BOTTOM	E3
L105	SMT	BOTTOM	B4	CP302	LEAD	BOTTOM	D4
L106	SMT	BOTTOM	B2	MP101	LEAD	TOP	A1
L107	SMT	TOP	B2	MP102	SMT	TOP	C4
L108	SMT	TOP	B1	MP103	LEAD	TOP	B5
L109	SMT	TOP	B1	MP104	LEAD	TOP	A5
L110	SMT	TOP	B1	MP105	SMT	TOP	B4
L111	SMT	TOP	C1	MP106	LEAD	TOP	B2
L112	SMT	TOP	B1	MP201	SMT	TOP	E1
L113	SMT	TOP	C1	MP202	LEAD	TOP	E1
L201	SMT	TOP	E3	MP203	LEAD	TOP	E1

p. 4 of 5

PC. Board No. 700-6

Name Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Type	Side	Cord	Component	Type	Side	Cord
MP204	LEAD	TOP	E1				
MP205	LEAD	TOP	E1				
MP301	SMT	TOP	E4				
MP302	LEAD	TOP	F5				
MP303	LEAD	TOP	D1				
MP304	LEAD	TOP	F3				
MP305	LEAD	TOP	F3				
MP306	LEAD	TOP	D1				
MP401	LEAD	TOP	C2				
MP402	LEAD	TOP	D2				
MP403	LEAD	TOP	B3				
MP404	LEAD	TOP	D5				
MP405	LEAD	TOP	C3				
MP406	LEAD	TOP	A1				
MP407	LEAD	TOP	D1				
MP408	LEAD	TOP	D1				
MP410	LEAD	TOP	E1				
MP411	LEAD	TOP	D1				
MP412	LEAD	TOP	C4				
JU201	SMT	TOP	E3				
J1	LEAD	BOTTOM	D1				
AA1	SMT	BOTTOM	C3				
AB1	LEAD	TOP	C4				
W1	SMT	TOP	A1				
AA2	SMT	BOTTOM	C3				
AB2	LEAD	TOP	C3				
A2	SMT	TOP	C1				
W2	SMT	TOP	G4				
AA3	SMT	BOTTOM	E3				
AB3	LEAD	TOP	C4				
A3	SMT	TOP	C1				
W3	SMT	TOP	G1				
AA4	SMT	BOTTOM	E3				
AB4	LEAD	TOP	D4				
A4	LEAD	BOTTOM	A2				
W4	SMT	BOTTOM	A5				
AA5	SMT	BOTTOM	D3				
W5	SMT	BOTTOM	G4				
AA6	SMT	BOTTOM	E3				
W6	SMT	BOTTOM	G1				

p. 5 of 5 — PC. Board No. 700-6

17.6 Partlist

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description	Value	Niros No.
	Radioboard TRX1001D Low	25 KHz	5600
	Radioboard TRX1001D High	25 KHz	5601
	Radioboard TRX1001D W-Low	25 KHz	5604
	Radioboard TRX1001D Low	12,5 KHz	5610
	Radioboard TRX1001D High	12,5 KHz	5611
	Radioboard TRX1001D Low	20 KHz	5615
	Radioboard TRX1001D High	20 KHz	5616
R101	Resistor,chip805_1%	27 Kohm	10906
R102	Resistor,melf	0,22 Ohm	10900
R103	Resistor,melf	0,22 Ohm	10900
R104	Resistor,melf	0,22 Ohm	10900
R105	Resistor,melf	0,22 Ohm	10900
R106	Resistor,chip805_1%	27 Kohm	10906
R107	Resistor,chip603	10 Kohm	14103
R108	Resistor,chip603	10 Kohm	14103
R109	Resistor,chip603	4,7 Kohm	14472
R110	Resistor,chip603	4,7 Kohm	14472
R111	Resistor,chip603	470 Ohm	14471
R112	Resistor,chip603	1 Kohm	14102
R113	Resistor,chip603	4,7 Kohm	14472
R114	Resistor,chip603	180 Ohm	14181
R115	Resistor,chip603	10 Ohm	14100
R116	Resistor,chip603	330 Ohm	14331
R117	Resistor,chip603	18 Kohm	14183
R118	Resistor,chip603	220 Ohm	14221
R119	Resistor,chip603	100 Kohm	14104
R120	Resistor,chip603	560 Kohm	14564
R121	Resistor,chip603	10 Kohm	14103
R122	Resistor,chip603	10 Kohm	14103
R123	Resistor,chip805	470 Ohm	13471
R124	Resistor,chip603	100 Kohm	14104
R125	Resistor,chip603	22 Kohm	14223
R126	Resistor,chip603	100 Kohm	14104
R127	Resistor,chip805_1%	22 Kohm	10905
R128	Resistor,chip603	1 Kohm	14102
R129	Resistor,chip805_1%	22 Kohm	10905
R130	Resistor,chip805	560 Ohm	13561
R131	Resistor,chip805	270 Ohm	13271
R132	Resistor,chip603	270 Ohm	14271
R133	Resistor,chip603	100 Kohm	14104
R134	Resistor,chip603	22 Kohm	14223
R135	Resistor,chip603	100 Kohm	14104
R136	Resistor,chip603	100 Kohm	14104
R137	Resistor,chip603	10 Kohm	14103

p. 1 of 12 — PC. Board No. 700-6

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description		Value	Niros No.
R201	Resistor,chip603		39 Kohm	14393
R202	Resistor,chip603		100 Kohm	14104
R203	Resistor,chip603		33 Ohm	14330
R204	Resistor,chip603		1 Kohm	14102
R205	Resistor,chip603		10 Kohm	14103
R206	Resistor,chip603	25L	1 Kohm	14102
	Resistor,chip603	25H	1 Kohm	14102
	Resistor,chip603	25WL	1 Kohm	14102
	Resistor,chip603	125L	470 Ohm	14471
	Resistor,chip603	125H	470 Ohm	14471
	Resistor,chip603	20L	1 Kohm	14102
	Resistor,chip603	20H	1 Kohm	14102
R207	Resistor,chip603		180 Ohm	14181
R208	Resistor,chip603	25L	820 Ohm	14821
	Resistor,chip603	25H	820 Ohm	14821
	Resistor,chip603	25WL	820 Ohm	14821
	Resistor,chip603	125L	330 Ohm	14331
	Resistor,chip603	125H	330 Ohm	14331
	Resistor,chip603	20L	820 Ohm	14821
	Resistor,chip603	20H	820 Ohm	14821
R209	Resistor,chip603		150 Kohm	14154
R210	Resistor,chip603		390 Kohm	14394
R211	Resistor,chip603		1 Mohm	14105
R212	Resistor,chip603		47 Ohm	14470
R213	Resistor,chip603		1,5 Kohm	14152
R214	Resistor,chip603		47 Ohm	14470
R215	Resistor,chip603		2,2 Kohm	14222
R216	Resistor,chip603	25L	22 Kohm	14223
	Resistor,chip603	25H	22 Kohm	14223
	Resistor,chip603	25WL	22 Kohm	14223
	Resistor,chip603	125L	47 Kohm	14473
	Resistor,chip603	125H	47 Kohm	14473
	Resistor,chip603	20L	22 Kohm	14223
	Resistor,chip603	20H	22 Kohm	14223
R217	Resistor,chip603		10 Kohm	14103
R218	Resistor,chip603		2,2 Kohm	14222
R219	Resistor,chip603		470 Kohm	14474
R220	Resistor,chip603		15 Kohm	14153
R221	Resistor,chip603		1 Mohm	14105
R222	Resistor,chip603		330 Kohm	14334
R223	Resistor,chip603		2,2 Kohm	14222
R224	Resistor,chip603	25L	6,8 Kohm	14682
	Resistor,chip603	25H	6,8 Kohm	14682
	Resistor,chip603	25WL	6,8 Kohm	14682
	Resistor,chip603	125L	2,7 Kohm	14272
	Resistor,chip603	125H	2,7 Kohm	14272
	Resistor,chip603	20L	6,8 Kohm	14682

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description	Value	Niros No.
	Resistor,chip603 20H	6,8 Kohm	14682
R225	Resistor,chip603	47 Kohm	14473
R226	Resistor,chip603	1 Mohm	14105
R227	Resistor,chip603	470 Kohm	14474
R228	Resistor,chip603	10 Kohm	14103
R229	Resistor,chip603	10 Kohm	14103
R230	Resistor,chip805	10 Mohm	13106
R231	Resistor,chip805	2,7 Mohm	13275
R232	Resistor,chip603	820 Kohm	14824
R233	Resistor,chip603	1 Mohm	14105
R234	Resistor,chip603	180 Kohm	14184
R301	Resistor,chip603	100 Ohm	14101
R302	Resistor,chip603	120 Ohm	14121
R303	Resistor,chip603	150 Ohm	14151
R304	Resistor,chip603	33 Ohm	14330
R305	Resistor,chip603	10 Ohm	14100
R306	Resistor,chip603	560 Ohm	14561
R307	Resistor,chip603	220 Ohm	14221
R308	Resistor,chip603	33 Ohm	14330
R309	Resistor,chip603	150 Ohm	14151
R310	Resistor,chip603	150 Ohm	14151
R311	Resistor,chip603	56 Kohm	14563
R312	Resistor,chip603	1 Mohm	14105
R313	Resistor,chip603	100 Kohm	14104
R314	Resistor,chip603	1 Mohm	14105
R315	Resistor,chip603	390 Kohm	14394
R316	Resistor,chip603	4,7 Kohm	14472
R317	Resistor,chip603	Not used	
R318	Resistor,chip603	22 Kohm	14223
R319	Resistor,chip603	Not used	
R320	Resistor,chip603	22 Kohm	14223
R321	Resistor,chip603	1,8 Kohm	14182
R322	Resistor,chip603	330 Ohm	14331
R323	Resistor,chip603	68 Kohm	14683
R324	Resistor,chip603	4,7 Kohm	14472
R325	Resistor,chip603	33 Kohm	14333
R326	Resistor,chip603	100 Ohm	14101
R327	Resistor,chip603	100 Kohm	14104
R328	Resistor,chip603	100 Kohm	14104
R329	Resistor,chip603	1,5 Kohm	14152
R330	Resistor,chip603	39 Kohm	14393
R331	Resistor,chip603	27 Kohm	14273
R332	Resistor,chip603	1 Mohm	14105
R333	Resistor,chip603	2,2 Mohm	14225
R334	Resistor,chip805	2,7 Mohm	13275

p. 3 of 12 — PC. Board No. 700-6

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description	Value	Niros No.
R335	Resistor,chip603	1 Mohm	14105
R336	Resistor,chip603	1 Kohm	14102
R337	Resistor,chip805	10 Mohm	13106
R338	Resistor,chip603	Not used	
R339	Resistor,chip603	1 Mohm	14105
R340	Resistor,chip603	270 Kohm	14274
R341	Resistor,chip603	220 Kohm	14224
R342	Resistor,ntc	100 Kohm	11010
R343	Resistor,chip603	100 Kohm	14104
R344	Resistor,chip603	100 Kohm	14104
R345	Resistor,chip603	680 Kohm	14684
R346	Resistor,chip603	470 Kohm	14474
R347	Resistor,chip603	82 Kohm	14823
R348	Resistor,ntc	100 Kohm	11010
R349	Resistor,chip603	2,2 Kohm	14222
R401	Resistor,chip603	100 Ohm	14101
R402	Resistor,chip603	1 Mohm	14105
R403	Resistor,chip603	33 Ohm	14330
R404	Resistor,chip603	560 Ohm	14561
R405	Resistor,chip603	100 Kohm	14104
R406	Resistor,chip603	10 Kohm	14103
R407	Resistor,chip603	33 Kohm	14333
R408	Resistor,chip805_1%	619 Kohm	10903
R409	Resistor,chip805_1%	182 Kohm	10901
R410	Resistor,chip603	470 Ohm	14471
R411	Resistor,chip603	100 Ohm	14101
R412	Resistor,chip603	4,7 Kohm	14472
R413	Resistor,chip603	220 Kohm	14224
R414	Resistor,chip603	100 Kohm	14104
R415	Resistor,chip603	4,7 Kohm	14472
R416	Resistor,chip603	5,6 Ohm	14569
R417	Resistor,chip603	100 Ohm	14101
R418	Resistor,chip603	1 Mohm	14105
R419	Resistor,chip603	470 Kohm	14474
R420	Resistor,chip603	100 Ohm	14101
R421	Resistor,chip603	100 Ohm	14101
R422	Resistor,chip805_1%	619 Kohm	10903
R423	Resistor,chip805_1%	619 Kohm	10903
R424	Resistor,chip805_1%	619 Kohm	10903
R425	Resistor,chip805_1%	619 Kohm	10903
R426	Resistor,chip805_1%	619 Kohm	10903
R427	Resistor,chip805_1%	309 Kohm	10902
R428	Resistor,chip805_1%	309 Kohm	10902
R429	Resistor,chip805_1%	309 Kohm	10902
R430	Resistor,chip805_1%	309 Kohm	10902

p. 4 of 12 — PC. Board No. 700-6

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description	Value	Niros No.
R431	Resistor,chip805_1%	619 Kohm	10903
R432	Resistor,chip603	100 Ohm	14101
P101	Resistor,pre_set	1 Kohm	19034
C101	Capacitor,chip603	1 nF	21102
C102	Capacitor,chip603	1 nF	21102
C103	Capacitor,chip603	22 nF	21223
C104	Capacitor,ctan_a	2,2 uF/16V	25613
C105	Capacitor,chip603_ln	4,7 nF	20803
C106	Capacitor,chip603	22 nF	21223
C107	Capacitor,chip603	10 nF	21103
C108	Capacitor,chip603	22 nF	21223
C109	Capacitor,chip603	22 nF	21223
C110	Capacitor,chip603	22 nF	21223
C111	Capacitor,chip603	22 nF	21223
C112	Capacitor,chip603	1 nF	21102
C113	Capacitor,chip603	22 nF	21223
C114	Capacitor,chip603	22 nF	21223
C115	Capacitor,ctan_a	2,2 uF/16V	25613
C116	Capacitor,chip603	22 nF	21223
C117	Capacitor,chip603	1 nF	21102
C118	Capacitor,chip603	1 nF	21102
C119	Capacitor,chip603	100 nF	21104
C120	Capacitor,chip603	22 nF	21223
C121	Capacitor,chip603	22 nF	21223
C122	Capacitor,chip603	1 nF	21102
C123	Capacitor,chip603	1 nF	21102
C124	Capacitor,chip603	22 nF	21223
C125	Capacitor,chip603	22 nF	21223
C126	Capacitor,chip603	1 nF	21102
C127	Capacitor,chip603	22 nF	21223
C128	Capacitor,chip603 25L	4,7 pF	21479
	Capacitor,chip603 25H	Not used	
	Capacitor,chip603 25WL	4,7 pF	21479
	Capacitor,chip603 125L	4,7 pF	21479
	Capacitor,chip603 125H	Not used	
	Capacitor,chip603 20L	4,7 pF	21479
	Capacitor,chip603 20H	Not used	
C129	Capacitor,chip603	1 nF	21102
C130	Capacitor,chip603 25L	8,2 pF	21829
	Capacitor,chip603 25H	4,7 pF	21479
	Capacitor,chip603 25WL	12 pF	21120
	Capacitor,chip603 125L	8,2 pF	21829
	Capacitor,chip603 125H	4,7 pF	21479

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description		Value	Niros No.
	Capacitor,chip603	20L	8,2 pF	21829
	Capacitor,chip603	20H	4,7 pF	21479
C131	Capacitor,chip603		1 nF	21102
C132	Capacitor,chip603		Not used	
C133	Capacitor,chip603	25L	8,2 pF	21829
	Capacitor,chip603	25H	6,8 pF	21689
	Capacitor,chip603	25WL	10 pF	21100
	Capacitor,chip603	125L	8,2 pF	21829
	Capacitor,chip603	125H	6,8 pF	21689
	Capacitor,chip603	20L	8,2 pF	21829
	Capacitor,chip603	20H	6,8 pF	21689
C134	Capacitor,chip603		22 nF	21223
C135	Capacitor,chip603		1 nF	21102
C136	Capacitor,chip603	25L	4,7 pF	21479
	Capacitor,chip603	25H	6,8 pF	21689
	Capacitor,chip603	25WL	4,7 pF	21479
	Capacitor,chip603	125L	4,7 pF	21479
	Capacitor,chip603	125H	6,8 pF	21689
	Capacitor,chip603	20L	4,7 pF	21479
	Capacitor,chip603	20H	6,8 pF	21689
C137	Capacitor,chip603	25L	1 pF	21109
	Capacitor,chip603	25H	1 pF	21109
	Capacitor,chip603	25WL	2,2 pF	21229
	Capacitor,chip603	125L	1 pF	21109
	Capacitor,chip603	125H	1 pF	21109
	Capacitor,chip603	20L	1 pF	21109
	Capacitor,chip603	20H	1 pF	21109
C138	Capacitor,chip603	25L	3,9 pF	21399
	Capacitor,chip603	25H	3,3 pF	21339
	Capacitor,chip603	25WL	4,7 pF	21479
	Capacitor,chip603	125L	3,9 pF	21399
	Capacitor,chip603	125H	3,3 pF	21339
	Capacitor,chip603	20L	3,9 pF	21399
	Capacitor,chip603	20H	3,3 pF	21339
C139	Capacitor,chip603	25L	10 pF	21100
	Capacitor,chip603	25H	6,8 pF	21689
	Capacitor,chip603	25WL	12 pF	21120
	Capacitor,chip603	125L	10 pF	21100
	Capacitor,chip603	125H	6,8 pF	21689
	Capacitor,chip603	20L	10 pF	21100
	Capacitor,chip603	20H	6,8 pF	21689
C140	Capacitor,chip603		1 nF	21102
C141	Capacitor,chip603	25L	10 pF	21100
	Capacitor,chip603	25H	8,2 pF	21829
	Capacitor,chip603	25WL	12 pF	21120
	Capacitor,chip603	125L	10 pF	21100
	Capacitor,chip603	125H	8,2 pF	21829
	Capacitor,chip603	20L	10 pF	21100

p. 6 of 12 — PC. Board No. 700-6

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description		Value	Niros No.
	Capacitor,chip603	20H	8,2 pF	21829
C142	Capacitor,chip603	25L	2,2 pF	21229
	Capacitor,chip603	25H	1,2 pF	21129
	Capacitor,chip603	25WL	2,2 pF	21229
	Capacitor,chip603	125L	2,2 pF	21229
	Capacitor,chip603	125H	1,2 pF	21129
	Capacitor,chip603	20L	2,2 pF	21229
	Capacitor,chip603	20H	1,2 pF	21129
C143	Capacitor,chip603	25L	3,9 pF	21399
	Capacitor,chip603	25H	3,3 pF	21339
	Capacitor,chip603	25WL	4,7 pF	21479
	Capacitor,chip603	125L	3,9 pF	21399
	Capacitor,chip603	125H	3,3 pF	21339
	Capacitor,chip603	20L	3,9 pF	21399
	Capacitor,chip603	20H	3,3 pF	21339
C144	Capacitor,chip603		100 pF	21101
C145	Capacitor,chip603		1 nF	21102
C146	Capacitor,chip805		330 nF	20662
C201	Capacitor,chip805		100 nF	20654
C202	Capacitor,chip603		47 pF	21470
C203	Capacitor,chip603		100 pF	21101
C204	Capacitor,chip603		10 nF	21103
C205	Capacitor,chip603		10 nF	21103
C206	Capacitor,chip603		1 nF	21102
C207	Capacitor,chip603		100 pF	21101
C208	Capacitor,chip603		1 nF	21102
C209	Capacitor,chip603	25L	10 pF	21100
	Capacitor,chip603	25H	10 pF	21100
	Capacitor,chip603	25WL	10 pF	21100
	Capacitor,chip603	125L	18 pF	21180
	Capacitor,chip603	125H	18 pF	21180
	Capacitor,chip603	20L	10 pF	21100
	Capacitor,chip603	20H	10 pF	21100
C210	Capacitor,chip603		10 nF	21103
C211	Capacitor,chip603		10 nF	21103
C212	Capacitor,ctan_a		2,2 uF/16V	25613
C213	Capacitor,chip805		100 nF	20654
C214	Capacitor,chip805		100 nF	20654
C215	Capacitor,chip603		10 nF	21103
C216	Capacitor,chip805		100 nF	20654
C217	Capacitor,chip603		1 nF	21102
C218	Capacitor,chip603		1 nF	21102
C219	Capacitor,chip603		180 pF	21181
C220	Capacitor,chip603		180 pF	21181
C221	Capacitor,chip603		100 pF	21101
C222	Capacitor,chip603		10 nF	21103

p. 7 of 12 — PC. Board No. 700-6

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description	Value	Niros No.
C223	Capacitor,ctan_a	0,68 uF/16V	25611
C224	Capacitor,chip805	100 nF	20654
C225	Capacitor,chip805	100 nF	20654
C226	Capacitor,chip603	10 nF	21103
C227	Capacitor,chip603	10 nF	21103
C228	Capacitor,chip603	10 nF	21103
C229	Capacitor,chip603	10 nF	21103
C230	Capacitor,chip603	22 nF	21223
C231	Capacitor,chip805	100 nF	20654
C233	Capacitor,chip603 25L	Not used	
	Capacitor,chip603 25H	Not used	
	Capacitor,chip603 25WL	Not used	
	Capacitor,chip603 125L	5,6 pF	21569
	Capacitor,chip603 125H	5,6 pF	21569
	Capacitor,chip603 20L	Not used	
	Capacitor,chip603 20H	Not used	
C301	Capacitor,chip603	220 pF	21221
C302	Capacitor,chip603	1 nF	21102
C303	Capacitor,chip603	33 pF	21330
C304	Capacitor,chip603	4,7 pF	21479
C305	Capacitor,chip603	220 pF	21221
C306	Capacitor,ctan_a	6,8 uF/10V	25619
C307	Capacitor,chip603	1 nF	21102
C308	Capacitor,ctan_a	6,8 uF/10V	25619
C309	Capacitor,ctan_a	2,2 uF/16V	25613
C310	Capacitor,chip805	100 nF	20654
C311	Capacitor,chip603	1 nF	21102
C312	Capacitor,chip603	1 nF	21102
C313	Capacitor,chip603	1 nF	21102
C314	Capacitor,chip805	100 nF	20654
C315	Capacitor,chip603	1 nF	21102
C316	Capacitor,chip603	330 pF	21331
C317	Capacitor,chip805	100 nF	20654
C318	Capacitor,chip603	150 pF	21151
C319	Capacitor,chip603	150 pF	21151
C320	Capacitor,chip603	100 pF	21101
C321	Capacitor,chip603	100 pF	21101
C322	Capacitor,chip603	10 nF	21103
C323	Capacitor,chip603_sp	150 pF	20819
C324	Capacitor,chip603_sp	150 pF	20819
C325	Capacitor,chip603	47 pF	21470
C326	Capacitor,chip805	100 nF	20654
C327	Capacitor,chip603	47 pF	21470
C328	Capacitor,chip603_sp	18 pF	20815
C329	Capacitor,chip603_sp	6,8 pF	20814
C330	Capacitor,var	2-10 pF	25116

p. 8 of 12 — PC. Board No. 700-6

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description	Value	Niros No.
C331	Capacitor,chip603_sp	4,7 pF	20806
C332	Capacitor,chip603	27 pF	21270
C333	Capacitor,chip603	Not used	
C334	Capacitor,chip805	100 nF	20654
C335	Capacitor,ctan_a	0,68 uF/16V	25611
C336	Capacitor,chip805_ln	22 nF	20804
C337	Capacitor,chip603_ln	1,5 nF	20802
C338	Capacitor,chip1206_ln	47 nF	20805
C339	Capacitor,chip1206_ln	47 nF	20805
C340	Capacitor,chip603_ln	4,7 nF	20803
C341	Capacitor,chip1206	330 nF	20652
C342	Capacitor,chip1206_ln	47 nF	20805
C343	Capacitor,chip603_ln	Not used	
C344	Capacitor,chip603_ln	1,5 nF	20802
C345	Capacitor,chip805	100 nF	20654
C346	Capacitor,chip603	22 nF	21223
C347	Capacitor,chip603	1 nF	21102
C401	Capacitor,chip603	10 nF	21103
C402	Capacitor,ctan_a	0,68 uF/16V	25611
C403	Capacitor,chip603	1 nF	21102
C404	Capacitor,chip805_ln	22 nF	20804
C405	Capacitor,chip805_ln	22 nF	20804
C406	Capacitor,chip603	22 nF	21223
C407	Capacitor,ctan_a	2,2 uF/16V	25613
C408	Capacitor,chip603	10 nF	21103
C409	Capacitor,ctan_a	2,2 uF/16V	25613
C410	Capacitor,chip603	1 nF	21102
C411	Capacitor,ctan_a	2,2 uF/16V	25613
C412	Capacitor,ctan_a	2,2 uF/16V	25613
C413	Capacitor,chip805	Not used	
C414	Capacitor,chip805	Not used	
C415	Capacitor,chip603	27 pF	21270
C416	Capacitor,chip603	100 pF	21101
C417	Capacitor,chip805	100 nF	20654
C418	Capacitor,chip603	220 pF	21221
C419	Capacitor,chip603	220 pF	21221
C420	Capacitor,chip603	10 nF	21103
C421	Capacitor,chip603	220 pF	21221
F101	Filter	4N7	75906
F201-202	Crystal-filter 25L	45F15B	30021
	Crystal-filter 25H	45F15B	30021
	Crystal-filter 25WL	45F15B	30021
	Crystal-filter 125L	45F7B	30022
	Crystal-filter 125H	45F7B	30022

p. 9 of 12 — PC. Board No. 700-6

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description		Value	Niros No.
	Crystal-filter	20L	45F15B	30021
	Crystal-filter	20H	45F15B	30021
F203	Ceramic-filter	25L	CFWM450D	30061
	Ceramic-filter	25H	CFWM450D	30061
	Ceramic-filter	25WL	CFWM450D	30061
	Ceramic-filter	125L	CFWM450G	30063
	Ceramic-filter	125H	CFWM450G	30063
	Ceramic-filter	20L	CFWM450F	30064
	Ceramic-filter	20H	CFWM450F	30064
F401	Filter		4N7	75906
X301	Crystal		14.85 MHz	31190
T101	Transistor		BC869-25	40185
T102	Transistor		BC807-40	40186
T103	Transistor		BFR93	40163
T104	Transistor		BCW60D	40156
T105	Transistor		BCW60D	40156
T106	Transistor		BCW60D	40156
T107	Transistor		BC846B	40176
T201	Transistor		BCW60D	40156
T202	Transistor		BFR92A	40150
T203	Transistor		BF990A	40187
T204	Transistor		BFR92A	40150
T205	Transistor		BCW61D	40157
T301	Transistor		BFR92A	40150
T302	Transistor		BFR92A	40150
T303	Transistor		BCW61D	40157
T304	Transistor		BCW60D	40156
T305	Transistor		BFR92A	40150
T306	Transistor		BCW60D	40156
T401	Transistor		BCW61D	40157
T402	Transistor		BCW60D	40156
T403	Transistor		BC868-25	40188
T404	Transistor		BCW60D	40156
D101	Diode		BAV99	45148
D102	Diode		BA682	45152
D103	Diode		BA682	45152
D104	Diode		BA682	45152
D105	Diode		MA4P1250	45171
D106	Diode		MA4P1250	45171
D107	Diode		BAT54S	45173
D201	Diode		BAV99	45148

p. 10 of 12 — PC. Board No. 700-6

Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description	Value	Niros No.
D202	Diode	BAT17-04	45172
D301	Diode,kap	BB134	45196
D302	Diode	BAV99	45148
D402	Diode	BAV99	45148
D403	Diode,zener	LM385-1.2	45166
D404	Diode	BAT54S	45173
IC101	Integrated_circuit	LPC662	46244
IC102	Integrated_circuit 25L	MHW707-1	46245
	Integrated_circuit 25H	MHW707-2	46246
	Integrated_circuit 25WL	MHW707-1	46245
	Integrated_circuit 125L	MHW707-1	46245
	Integrated_circuit 125H	MHW707-2	46246
	Integrated_circuit 20L	MHW707-1	46245
	Integrated_circuit 20H	MHW707-2	46246
IC103	Integrated_circuit	TC4S66F	46250
IC201	Integrated_circuit	MC3371	46247
IC202	Integrated_circuit	TLC27L2T	46222
IC301	Integrated_circuit	SP8705	46248
IC302	Integrated_circuit	NJ88C33	46249
IC303	Integrated_circuit	TC4S66F	46250
IC304	Integrated_circuit	TC4S66F	46250
IC305	Integrated_circuit	LPC662	46244
IC306	Integrated_circuit	LPC662	46244
IC401	Integrated_circuit	4049BT	46251
IC402	Integrated_circuit	TC7S32F	46252
IC403	Integrated_circuit	TC7S32F	46252
IC404	Integrated_circuit	NMC95C12	46253
TR201	Trafo	75904	75904
L101	Coil,chip	75877	75877
L102	Coil,chip	75877	75877
L103	Coil,chip	75877	75877
L104	Coil,chip	75877	75877
L105	Coil,chip	75877	75877
L106	Coil,chip	75879	75879
L107	Coil	75899	75899
L108	Coil	75899	75899
L109	Coil	75899	75899
L110	Coil,chip	75879	75879
L111	Coil	75899	75899
L112	Coil	75899	75899
L113	Coil	75899	75899

p. 11 of 12 — PC. Board No. 700-6

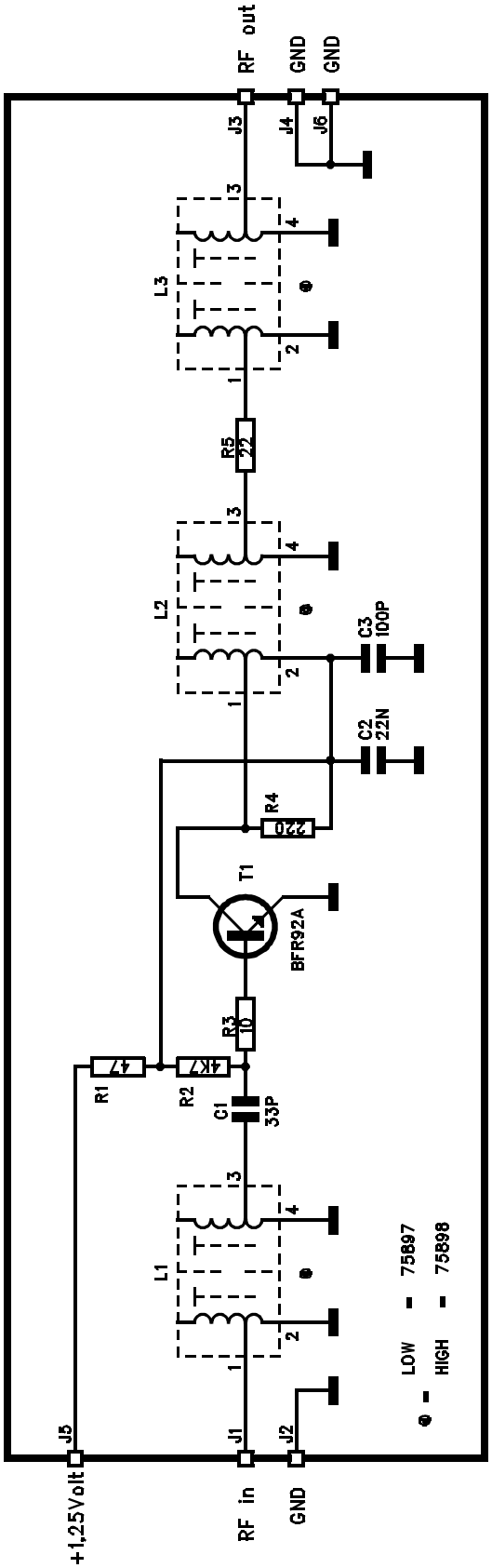
Partlist for Radioboard TRX1001D — Date 26-08-2004
Drawing No. 0-9600-03-11 — Unit No. 5600

Component	Description	Value	Niros No.
L201	Coil	75902	75902
L202	Coil,chip	75877	75877
L203	Coil,chip	75883	75883
L204	Coil	75901	75901
L301	Coil,chip	75905	75905
L302	Coil	75902	75902
L303	Coil	75900	75900
L401	Coil,chip	75883	75883
J1	Connector		83315
AB1	Connector_pin		83245
AB2	Connector_pin		83245
AB3	Connector_pin		83245
AB4	Connector_pin		83245
A4	Power_input_terminal		97530
	Acryl_tape	1 pcs	85240
	Washer CW1,6	2 pcs	92024
	Screw M1,6X6	2 pcs	92027
	Screw M1,6X4	1 pcs	92022
	Washer 1,7	2 pcs	93203
	Pc._board_no. 700-6	1 pcs	95700
	Antenna_center_connector	1 pcs	97521
	Antenna_gnd_conector	1 pcs	97522
	Heat_sink PA	2 pcs	97524
	Spring_for PA	1 pcs	97576
	Magnetic_shield	2 pcs	97577
	Receiver_gnd_spring	1 pcs	98022
	Coax_cable	1 pcs	182524

p. 12 of 12 — PC. Board No. 700-6

18. Receiver TRX1001D

18.1 Diagram

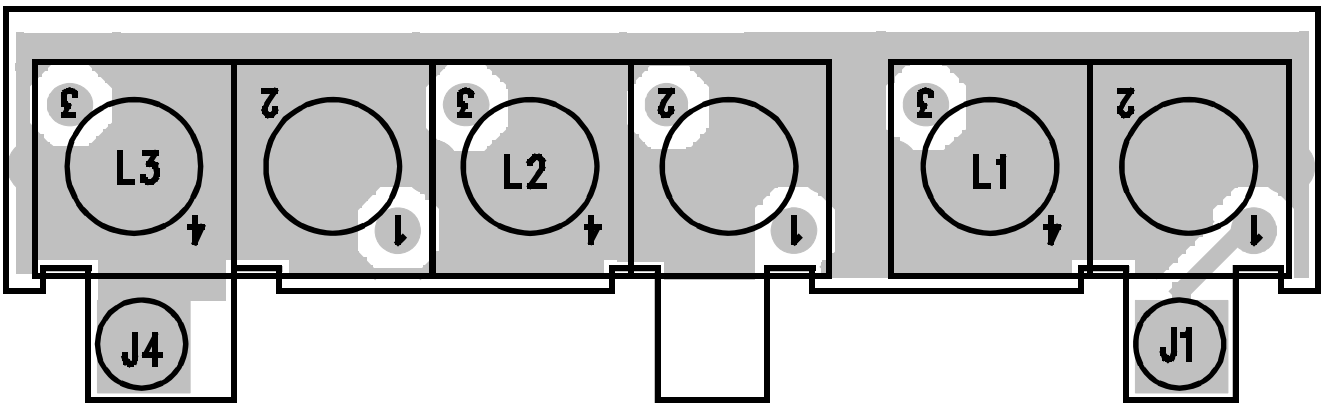


SUBJECT TO CHANGE WITHOUT NOTICE

LOW UNIT NO: 5820
HIGH UNIT NO: 5821

DATE: 9-4-92	SIGN: PH	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 21-5-92	SIGN: PH	1	
DATE: 17-2-93	SIGN: PH	1	
DATE: 2-12-96	SIGN: PH	1	Receiver TRX1001D/TRX1012D
DATE:	SIGN:		
DATE:	SIGN:		
DRAWING NO: D-9602-03-1			PCB NO: 702-2

18.2 Componentside



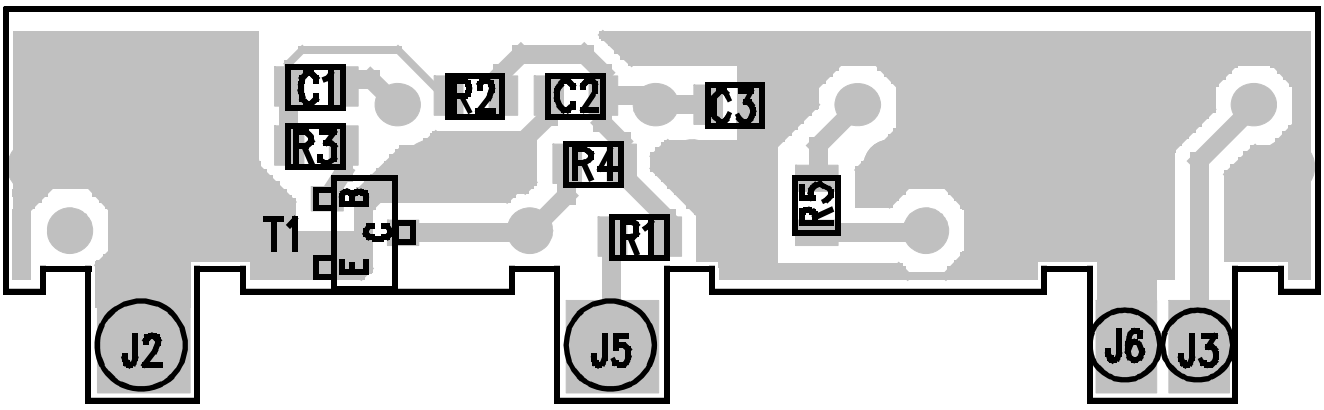
Componentside 702-2

LOW UNIT NO: 5820
HIGH UNIT NO: 5821

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 9-4-92 SIGN: PH	0	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 21-5-92 SIGN: PH	1	
DATE: 17-2-93 SIGN: PH	1	
DATE: 2-12-96 SIGN: PH	1	Receiver TRX1001D/TRX1012D
DATE: SIGN:		
DATE: SIGN:		
DRAWING NO: D-9602-05-1		PCB NO: 702-2

18.3 Wiringside



Wiringside 702-2

LOW UNIT NO: 5620
HIGH UNIT NO: 5621

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 9-4-92 SIGN: PH	D	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 21-5-92 SIGN: PH	1	
DATE: 17-2-93 SIGN: PH	1	
DATE: 2-12-96 SIGN: PH	1	Receiver TRX1001D/TRX1012D
DATE: SIGN:		
DATE: SIGN:		
DRAWING NO: 0-9602-04-1		PCB NO: 702-2

18.4 Partlist

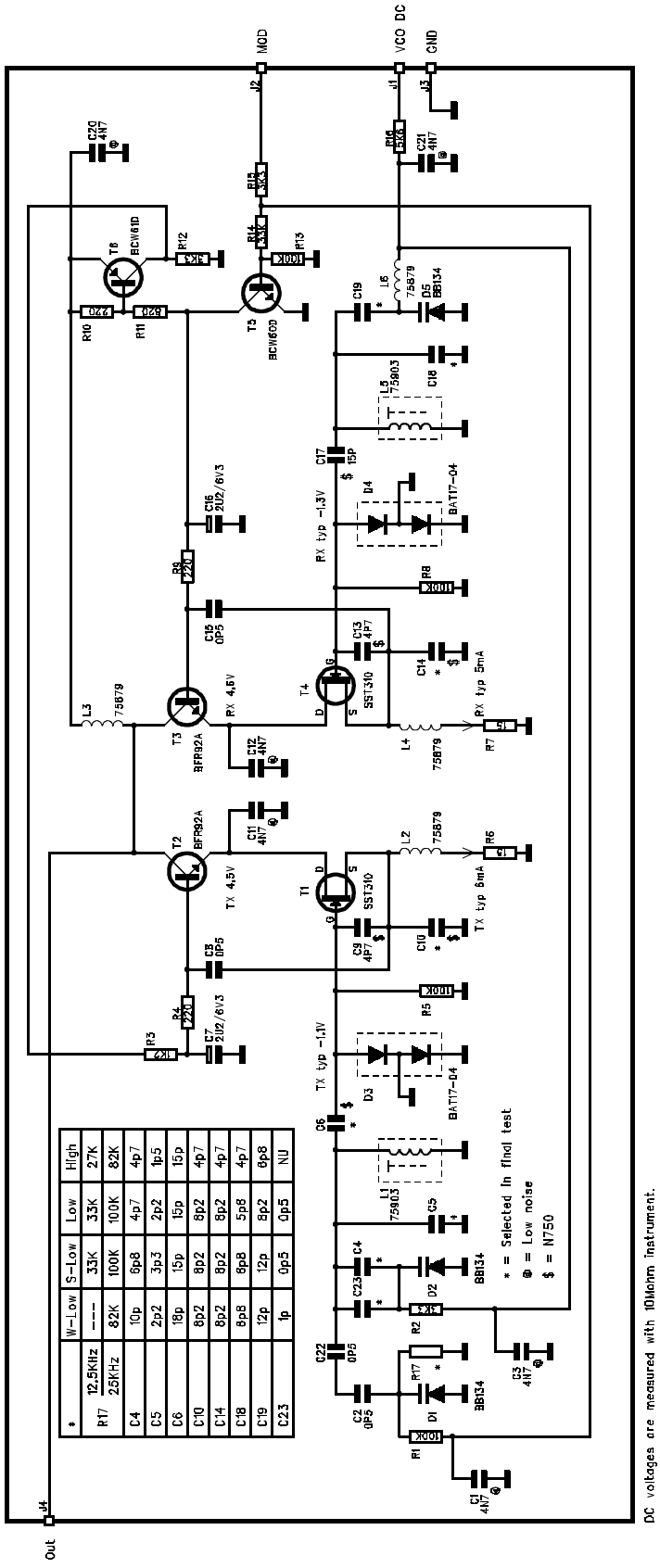
PARTLIST FOR Receiver board TRX1001D/TRX1012D DATE 28-11-96
DRAWING NO. 0-9602-03-1 UNIT NO. 5620

Component	Description		Value	Niros No.
	Receiver TRX1001D/1012D		Low	5620
	Receiver TRX1001D/1012D		High	5621
R1	Resistor,chip603		47 Ohm	14470
R2	Resistor,chip603		4,7 Kohm	14472
R3	Resistor,chip603		10 Ohm	14100
R4	Resistor,chip603		220 Ohm	14221
R5	Resistor,chip603		22 Ohm	14220
C1	Capacitor,chip603		33 pF	21330
C2	Capacitor,chip603		22 nF	21223
C3	Capacitor,chip603		100 pF	21101
T1	Transistor		BFR92A	40150
L1	Coil	low	75897	75897
	Coil	high	75898	75898
L2	Coil	low	75897	75897
	Coil	high	75898	75898
L3	Coil	low	75897	75897
	Coil	high	75898	75898

p. 1 of 1 PC. Board No. 702-2

19. VCO-board TRX1001D

19.1 Diagram



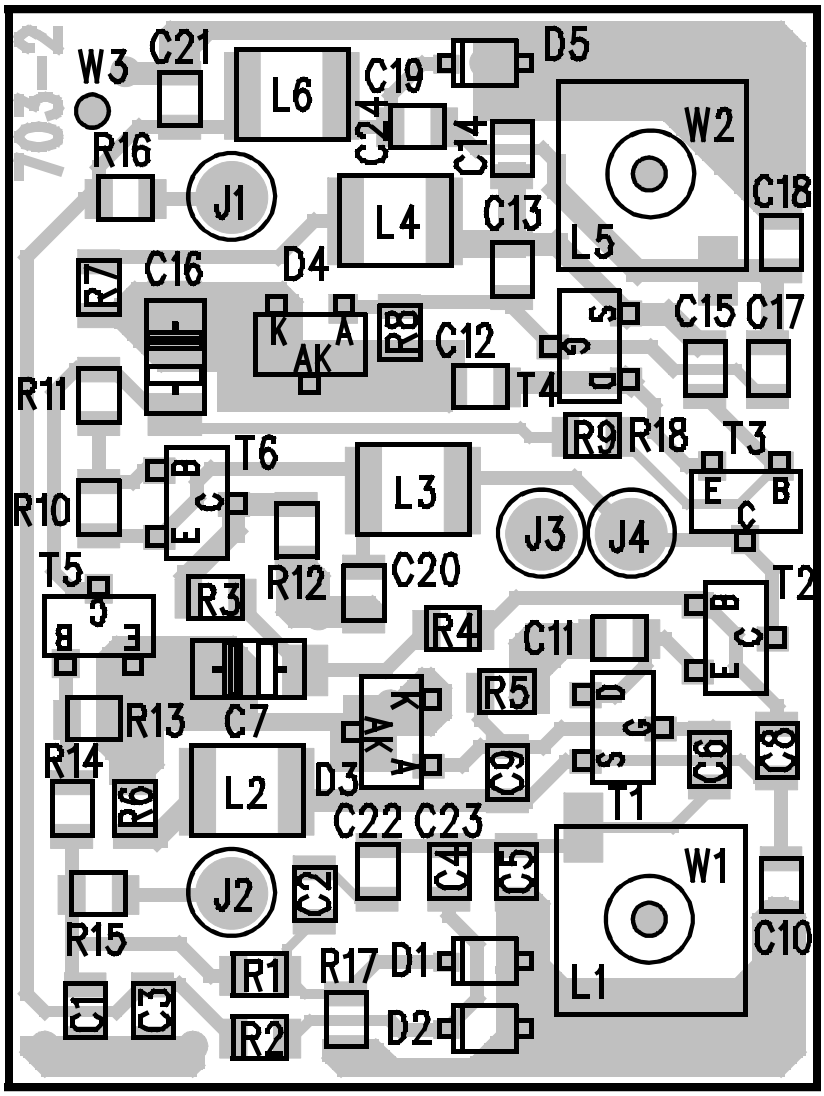
*		W-Low	S-Low	Low	High
R17	12,5KHz	---	33K	33K	27K
	25KHz	82K	100K	100K	82K
C4		10p	6p8	4p7	4p7
C5		2p2	3p3	2p2	1p5
C6		18p	15p	15p	15p
C10		8p2	8p2	8p2	4p7
C14		8p2	8p2	9p2	4p7
C18		8p8	8p8	5p8	4p7
C19		12p	12p	8p2	8p8
C23		1p	0p5	0p5	NU

25KHz	W-LOW	UNIT NO: 5638
25KHz	S-LOW	UNIT NO: 5639
25KHz	LOW	UNIT NO: 5640
25KHz	HIGH	UNIT NO: 5641
12,5KHz	S-LOW	UNIT NO: 5649
12,5KHz	LOW	UNIT NO: 5650
12,5KHz	HIGH	UNIT NO: 5651

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 21-5-92	SIGN: PH	2	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 21-7-92	SIGN: PH	3	
DATE: 23-11-92	SIGN: PH	4	
DATE: 2-8-93	SIGN: PH	5	VCO-board TRX1001D/TRX1012D
DATE: 7-9-99	SIGN: PH	6	
DATE: 4-10-99	SIGN: PH	7	
DRAWING NO: 0-9603-03-7			PCB NO: 703-2

19.2 Componentside



Componentside 703-2

25KHz W-LOW UNIT NO: 5638
25KHz S-LOW UNIT NO: 5639
25KHz LOW UNIT NO: 5640
25KHz HIGH UNIT NO: 5641
12,5KHz S-LOW UNIT NO: 5649
12,5KHz LOW UNIT NO: 5650
12,5KHz HIGH UNIT NO: 5651

SUBJECT TO CHANGE WITHOUT NOTICE

DATE: 21-5-92 SIGN: PH	2	NIROS TELECOMMUNICATION A/S HIRSEMARKEN 5, 3520 FARUM
DATE: 21-7-92 SIGN: PH	3	
DATE: 23-11-92 SIGN: PH	4	
DATE: 2-8-93 SIGN: PH	5	VCO-board TRX1001D/TRX1012D
DATE: 7-9-98 SIGN: PH	6	
DATE: 4-10-99 SIGN: PH	7	
DRAWING NO: 0-9803-05-7		PCB NO: 703-2

19.3 Partlist

PARTLIST FOR VCO-board TRX1001D/TRX1012D DATE 4-10-99
DRAWING NO. 0-9603-03-7 UNIT NO. 5640

Component	Description	Value	Niros No.
	VCO-board 25KHz	W-Low	5638
	VCO-board 25KHz	S-Low	5639
	VCO-board 25KHz	Low	5640
	VCO-board 25KHz	High	5641
	VCO-board 12,5KHz	S-Low	5649
	VCO-board 12,5KHz	Low	5650
	VCO-Board 12,5KHz	High	5651
R1	Resistor,chip603	100 Kohm	14104
R2	Resistor,chip603	3,3 Kohm	14332
R3	Resistor,chip603	1,2 Kohm	14122
R4	Resistor,chip603	220 Ohm	14221
R5	Resistor,chip603	100 Kohm	14104
R6	Resistor,chip603	15 Ohm	14150
R7	Resistor,chip603	15 Ohm	14150
R8	Resistor,chip603	100 Kohm	14104
R9	Resistor,chip603	220 Ohm	14221
R10	Resistor,chip603	220 Ohm	14221
R11	Resistor,chip603	820 Ohm	14821
R12	Resistor,chip603	3,3 Kohm	14332
R13	Resistor,chip603	100 Kohm	14104
R14	Resistor,chip603	33 Kohm	14333
R15	Resistor,chip603	3,3 Kohm	14332
R16	Resistor,chip603	5,6 Kohm	14562
R17	Resistor,chip603 25WL	82 Kohm	14823
	Resistor,chip603 25SL	100 Kohm	14104
	Resistor,chip603 25L	100 Kohm	14104
	Resistor,chip603 25H	82 Kohm	14823
	Resistor,chip603 125SL	33 Kohm	14333
	Resistor,chip603 125L	33 Kohm	14333
	Resistor,chip603 125H	27 Kohm	14273
C1	Capacitor,chip603_ln	4,7 nF	20803
C2	Capacitor,chip603	0,5 pF	21508
C3	Capacitor,chip603_ln	4,7 nF	20803
C4	Capacitor,chip603 25WL	10 pF	21100
	Capacitor,chip603 25SL	6,8 pF	21689
	Capacitor,chip603 25L	4,7 pF	21479
	Capacitor,chip603 25H	4,7 pF	21479
	Capacitor,chip603 125SL	6,8 pF	21689
	Capacitor,chip603 125L	4,7 pF	21479
	Capacitor,chip603 125H	4,7 pF	21479
C5	Capacitor,chip603 25WL	2,2 pF	21229
	Capacitor,chip603 25SL	3,3 pF	21339
	Capacitor,chip603 25L	2,2 pF	21229
	Capacitor,chip603 25H	1,5 pF	21159
	Capacitor,chip603 125SL	3,3 pF	21339

p. 1 of 3 PC. Board No. 703-2

PARTLIST FOR VCO-board TRX1001D/TRX1012D DATE 4-10-99
DRAWING NO. 0-9603-03-7 UNIT NO. 5640

Component	Description	Value	Niros No.
	Capacitor,chip603 125L	2,2 pF	21229
	Capacitor,chip603 125H	1,5 pF	21159
C6	Capacitor,c603_n750 25WL	18 pF	20815
	Capacitor,c603_n750 25SL	15 pF	20808
	Capacitor,c603_n750 25L	15 pF	20808
	Capacitor,c603_n750 25H	15 pF	20808
	Capacitor,c603_n750 125SL	15 pF	20808
	Capacitor,c603_n750 125L	15 pF	20808
	Capacitor,c603_n750 125H	15 pF	20808
C7	Capacitor,ctan_a	2,2 uF/6V3	25602
C8	Capacitor,chip603	0,5 pF	21508
C9	Capacitor,chip603_n750	4,7 pF	20806
C10	Capacitor,c603_n750 25WL	8,2 pF	20807
	Capacitor,c603_n750 25SL	8,2 pF	20807
	Capacitor,c603_n750 25L	8,2 pF	20807
	Capacitor,c603_n750 25H	4,7 pF	20806
	Capacitor,c603_n750 125SL	8,2 pF	20807
	Capacitor,c603_n750 125L	8,2 pF	20807
	Capacitor,c603_n750 125H	4,7 pF	20806
C11	Capacitor,chip603_ln	4,7 nF	20803
C12	Capacitor,chip603_ln	4,7 nF	20803
C13	Capacitor,chip603_n750	4,7 pF	20806
C14	Capacitor,c603_n750 25WL	8,2 pF	20807
	Capacitor,c603_n750 25SL	8,2 pF	20807
	Capacitor,c603_n750 25L	8,2 pF	20807
	Capacitor,c603_n750 25H	4,7 pF	20806
	Capacitor,c603_n750 125SL	8,2 pF	20807
	Capacitor,c603_n750 125L	8,2 pF	20807
	Capacitor,c603_n750 125H	4,7 pF	20806
C15	Capacitor,chip603	0,5 pF	21508
C16	Capacitor,ctan_a	2,2 uF/6V3	25602
C17	Capacitor,chip603_n750	15 pF	20808
C18	Capacitor,chip603 25WL	6,8 pF	21689
	Capacitor,chip603 25SL	6,8 pF	21689
	Capacitor,chip603 25L	5,6 pF	21569
	Capacitor,chip603 25H	4,7 pF	21479
	Capacitor,chip603 125SL	6,8 pF	21689
	Capacitor,chip603 125L	5,6 pF	21569
	Capacitor,chip603 125H	4,7 pF	21479
C19	Capacitor,chip603 25WL	12 pF	21120
	Capacitor,chip603 25SL	12 pF	21120
	Capacitor,chip603 25L	8,2 pF	21829
	Capacitor,chip603 25H	6,8 pF	21689
	Capacitor,chip603 125SL	12 pF	21120
	Capacitor,chip603 125L	8,2 pF	21829
	Capacitor,chip603 125H	6,8 pF	21689
C20	Capacitor,chip603_ln	4,7 nF	20803
C21	Capacitor,chip603_ln	4,7 nF	20803

p. 2 of 3 PC. Board No. 703-2

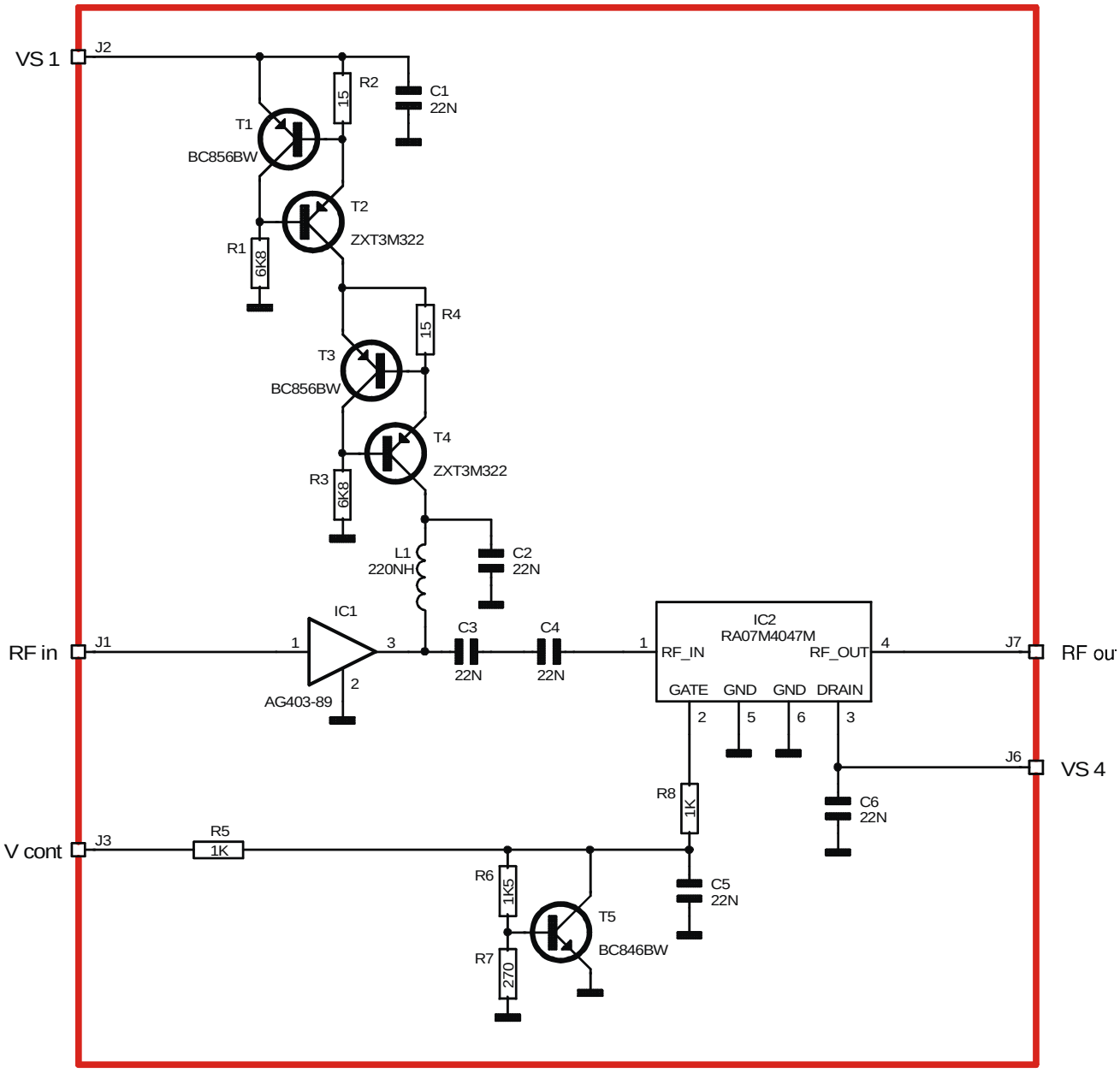
PARTLIST FOR VCO-board TRX1001D/TRX1012D DATE 4-10-99
DRAWING NO. 0-9603-03-7 UNIT NO. 5640

Component	Description	Value	Niros No.
C22	Capacitor,chip603	0,5 pF	21508
C23	Capacitor,chip603 25WL	1 pF	21109
	Capacitor,chip603 25SL	0,5 pF	21508
	Capacitor,chip603 25L	0,5 pF	21508
	Capacitor,chip603 25H	Not used	
	Capacitor,chip603 125SL	0,5 pF	21508
	Capacitor,chip603 125L	0,5 pF	21508
	Capacitor,chip603 125H	Not used	
T1	Transistor	SST310	40175
T2	Transistor	BFR92A	40150
T3	Transistor	BFR92A	40150
T4	Transistor	SST310	40175
T5	Transistor	BCW60D	40156
T6	Transistor	BCW61D	40157
D1	Diode,kap	BB134	45196
D2	Diode,kap	BB134	45196
D3	Diode	BAT17-04	45172
D4	Diode	BAT17-04	45172
D5	Diode,kap	BB134	45196
L1	Coil	75903	75903
L2	Coil,chip	75879	75879
L3	Coil,chip	75879	75879
L4	Coil,chip	75879	75879
L5	Coil	75903	75903
L6	Coil,chip	75879	75879
J1	Connector_pin		83251
J2	Connector_pin		83251
J3	Connector_pin		83251
J4	Connector_pin		83251
	Mylar_for_shield	1 pcs	85415
	Pc._board_no: 703-2	1 pcs	95703
	Shield	1 pcs	97523

p. 3 of 3 PC. Board No. 703-2

20. PA-modul TRX1001D

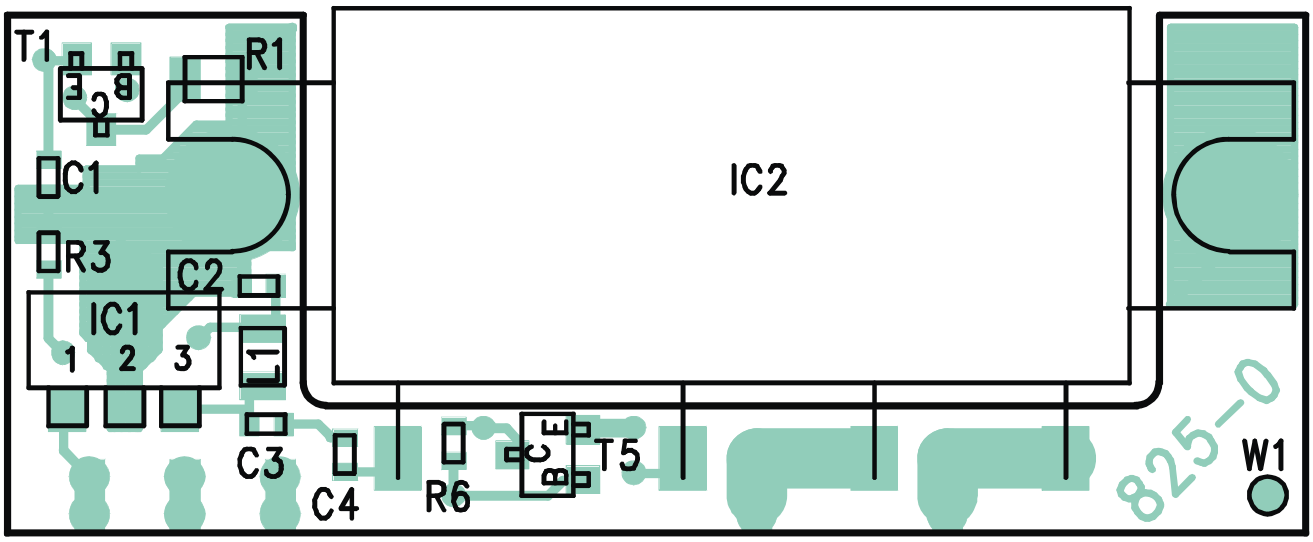
20.1 Diagram



SUBJECT TO CHANGE WITHOUT NOTICE

Date: 11-05-2005 Sign: PH 0 Date: Sign:	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	PA-modul TRX1001D/TRX1012D	
Drawing No.: 0-9650-03-0	PC. Board No.: 825-0	Unit No.: 5980	

20.2 Componentside

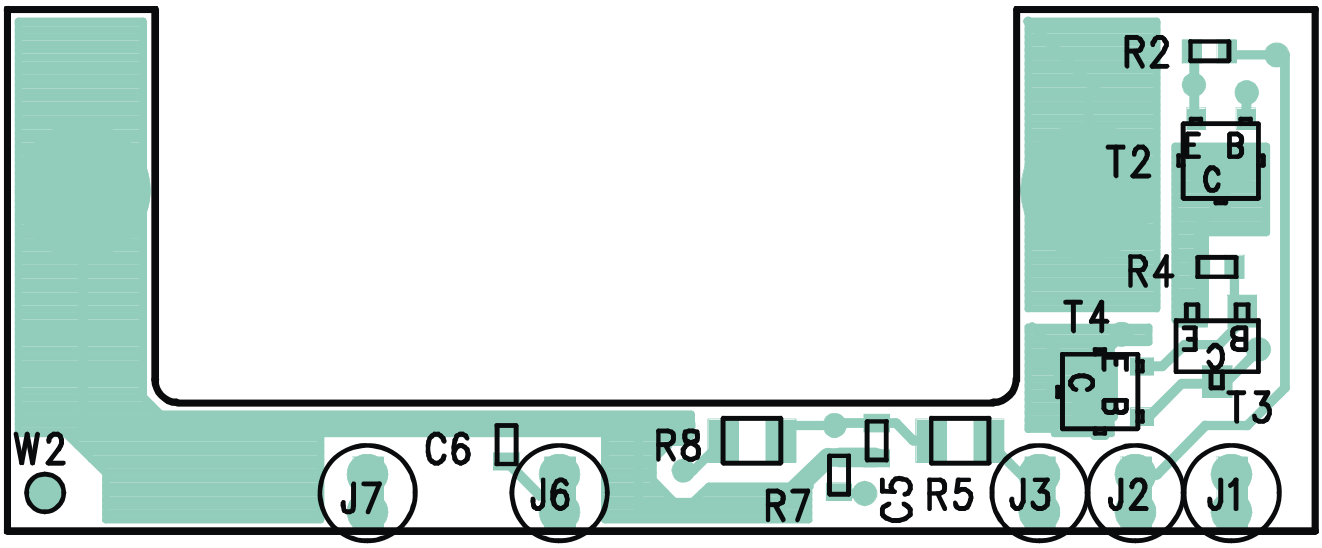


Componentside (825-0)

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 11-05-2005 Sign: PH	0	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	PA-modul TRX1001D/TRX1012D	
Date: Sign:				
Drawing No.: 0-9650-05-0		PC. Board No.: 825-0	Unit No.: 5980	

20.3 Wiringside



Wiringside (825-0)

SUBJECT TO CHANGE WITHOUT NOTICE

Date: 11-05-2005 Sign: PH		0	NIROS COMMUNICATIONS A/S Hirsemarken 5, 3520 Farum	PA-modul TRX1001D/TRX1012D
Date: Sign:				
Drawing No.: 0-9650-04-0			PC. Board No.: 825-0	Unit No.: 5980

20.4 Partlist

Partlist for PA-modul TRX1001D/TRX1012D — Date 21-06-2005
Drawing No. 0-9650-03-0 — Unit No. 5980

Component	Description	Value	Niros No.
R1	Resistor,chip603	6,8 Kohm	14682
R2	Resistor,chip402	15 Ohm	111509
R3	Resistor,chip402	6,8 Kohm	116801
R4	Resistor,chip402	15 Ohm	111509
R5	Resistor,chip603_0,1w	1 Kohm	10915
R6	Resistor,chip402	1,5 Kohm	111501
R7	Resistor,chip402	270 Ohm	112700
R8	Resistor,chip603_0,1w	1 Kohm	10915
C1	Capacitor,chip402	22 nF	23223
C2	Capacitor,chip402	22 nF	23223
C3	Capacitor,chip402	22 nF	23223
C4	Capacitor,chip402	22 nF	23223
C5	Capacitor,chip402	22 nF	23223
C6	Capacitor,chip402	22 nF	23223
T1	Transistor	BC856BW	40228
T2	Transistor	ZXT3M322	40232
T3	Transistor	BC856BW	40228
T4	Transistor	ZXT3M322	40232
T5	Transistor	BC846BW	40226
IC1	Integrated_circuit	AG403-89	46634
IC2	Integrated_circuit	RA07M4047M	46633
L1	Coil,chip603	220 nH	76013
J1	Wire		94020
J2	Wire		94020
J3	Wire		94020
J6	Wire		94020
J7	Wire		94020
	Insulation	2 pcs	85290
	Nut M1,6	2 pcs	92023
	Screw M1,6X5	2 pcs	92038
	Pc._board_no.: 825-0	1 pcs	95825
	Pa_base_plate	1 pcs	98338

p. 1 of 1 — PC. Board No. 825-0