

**Programmes After Market Services (P.A.M.S.)
Technical Documentation
NME-2A Series Transceivers**

Chapter 1

Technical Specifications

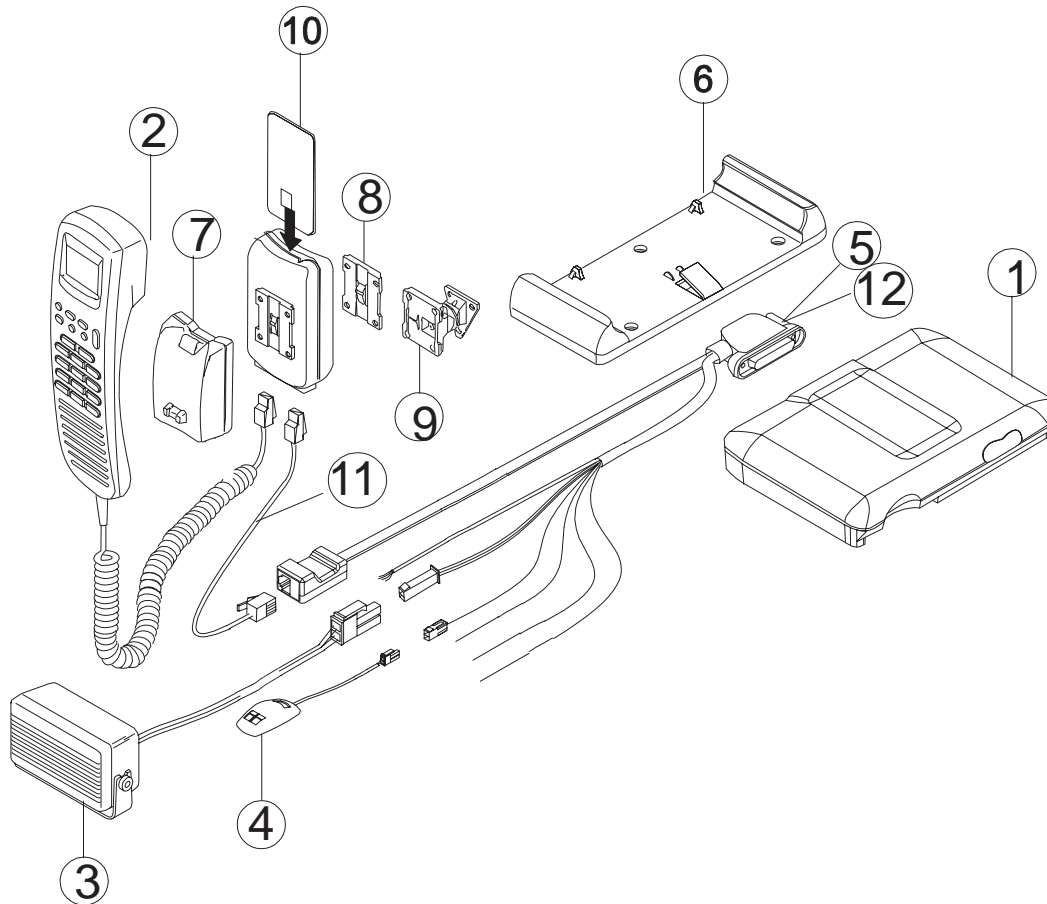
CHAPTER 2 TECHNICAL SPECIFICATIONS**CONTENTS**

	Page No
Product Selection	2 – 3
Mobile installation	2 – 3
Product and Module List	2 – 4
Technical Specifications	2 – 5
General Specifications of Transceiver NME-2A	2 – 5
Electrical Specifications	2 – 6
Transceiver General Features	2 – 6
Receiver Branch	2 – 6
Transmitter Branch	2 – 7
VCTCXO	2 – 7
UHF Synthesizer	2 – 7

Product Selection

Mobile installation

The NME-2A is a mobile cellular phone for pan-European GSM network system. The transceiver package contains the following products, where the external SIM card reader CAE-2 and the long system cable SCM-3 are optional:



Item/name:	Type:	Product code:
1.	Transceiver	NME-2A 0600088
2.	Handset	HSE-6XA0640096
3.	Handsfree speaker	HFS-10 0692006
4.	Handsfree microphone	HFM-14 0690014
5.	System cable	SCM-1 0730066
6.	Mounting bracket	MBE-2 9450589
7.	Handset cradle	CRE-1 0650001
8.	Mounting plate	MKE-1 0650007
9.	Swivel mounting plate	HHS-1 0650006
	Vehicle inst cable	DKS-3 0730079
10	External Sim card reader	CAE-2 0630098
11	Extension cable SIM card	XCM-2 4624000
12	System Cable (long)	SCM-3 0730107

Technical Specifications

Technical Documentation

Product and Module List

Unit/type	Prod.code	Mod.code
Transceiver NME-2A (see Variant Appendixes)	0600088	
• system module GM8		0201102
• mechanics MNME2A		0261399
Handset HSE-6XA	0640096	
• handset module EH9		0200905
• mechanics MHSE6XA		0261348
Handsfree speaker HFS-10	0692006	
Handsfree microphone HFM-14	0690014	
System cable SCM-1	0730066	
System cable SCM-3	0730107	
Vehicle Inst cable DKS-3	0730079	
Mounting bracket MBE-2	9450589	
Handset cradle CRE-1	0650001	
Mounting plate MKE-1	0650007	
Swivel mounting plate HHS-1	0650006	
Extension Cable XCM-2	4624000	
External SIM Card Reader CAE-2	0630098	
• GM8S PCB Module		0201013
• mechanics MCAE2		0261347
Data cable, DKH-4 (short)	0730037	
Data cable, DKH-4R (long, no M-BUS interface)	0730063	
Digital PCMCIA card, DTP-2	0750029	

Technical Specifications

General Specifications of Transceiver NME-2A

Cellular system:	<i>GSM phase 1</i>
Transceiver type:	<i>Class 2 mobile (8 W)</i>
System cable interface:	<i>25 pole sub D connector (according to VDA)</i>
Data transmission interface:	<i>16 pole Hirose connector (as in NHE-1/NHK-1)</i>
Installation:	<i>Trunk, cabin in DIN slot dependent on bracket</i>
SIM card:	<i>ISO 7816 IC SIM located in front plate of transceiver.</i>
Operation temperature:	<i>-20° C to +55° C</i>
Supply Voltage	<i>10.8...15.6 V d.c.</i>
Current consumption (AVG)	
• off state:	<i>< 1 mA</i>
• standby mode: (no light)	<i>< 170 mA</i>
• transmit at max power:	<i>< 1.5 A</i>
TX output power:	<i>8 W</i>
AF output power (handsfree): (nominal 13.2V)	<i>2.5 W into 4 Ω</i>
Dimensions (h x w x d):	<i>25 x 170 x 115 mm</i>
Volume:	<i>489 ccm</i>
Weight:	<i><450 g</i>

Electrical Specifications

Transceiver General Features

Modulation type:	<i>GMSK</i>
Number of RF channels:	<i>124</i>
Number of time domain channels:	<i>8/RF channel</i>
Duplex spacing:	<i>45 MHz</i>
Channel spacing:	<i>200 kHz</i>

Receiver Branch

Receive frequency band:	<i>935.2...959.8 MHz</i>
Type	<i>linear, double IF, I/Q</i>
IF	<i>71 and 13 MHz</i>
3 dB bandwidth in i/Q	<i>150 kHz</i>
Reference noise bandwidth:	<i>180 kHz</i>
Sensitivity:	<i>-104 dBm I/Q S/N ratio > 8 dB (<0.5 % BER)</i>
AGC dynamic range:	<i>93 dB</i>
AGC step size:	<i>3 dB</i>
Receiver gain:	<i>93 dB</i>
Front end AGC:	<i>-35 dB</i>
1. IF AGC:	<i>-57 dB</i>
Input dynamic range:	<i>-108...+5 dBm</i>
I/Q output(13 MHz):	<i>20 mV_{PP}</i>

Transmitter Branch

Transmit frequency band:	<i>890.2...914.8 MHz</i>
Local oscillator frequency:	<i>1006...1031 MHz</i>
Offset oscillator frequency:	<i>116 MHz</i>
Modulator type:	<i>I/Q modulator</i>
3 dB bandwidth in I/Q:	<i>17 – 250000 Hz</i>
Power class:	<i>2</i>
Output power:	<i>20 mW...8 W</i>
Power levels:	<i>14</i>
Power level step size:	<i>2 dB ± 1.5 dB</i>
Tolerance at 8W power:	<i><± 2 dB (ext. temp. ± 2.5 dB)</i>
Tolerance at other levels:	<i>± 3 dB (ext. temp. ± 4 dB)</i>
Frequency error:	<i>± 0.1 ppm</i>
RMS phase error:	<i><5.0°</i>
Peak phase error:	<i><20°</i>

VCTCXO

Centre frequency output:	<i>26 MHz</i>
Frequency control range:	<i>± 600 Hz</i>
Control voltage range:	<i>0.5...4.3 V</i>
Max sensitivity:	<i>< 12 ppm/V</i>
Voltage/frequency settling time:	<i>< 0.5 ms (within ± 50 Hz)</i>

UHF Synthesizer

Receiver injection (1. LO):	<i>1006...1031 MHz</i>
Up converter injection:	<i>116 MHz (offset oscillator)</i>
Settling time to any channel:	<i>< 800 μs</i>

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