

# Programmes After Market Services NHM-2/5nx,ny/6/9 Series Transceivers

## General Information

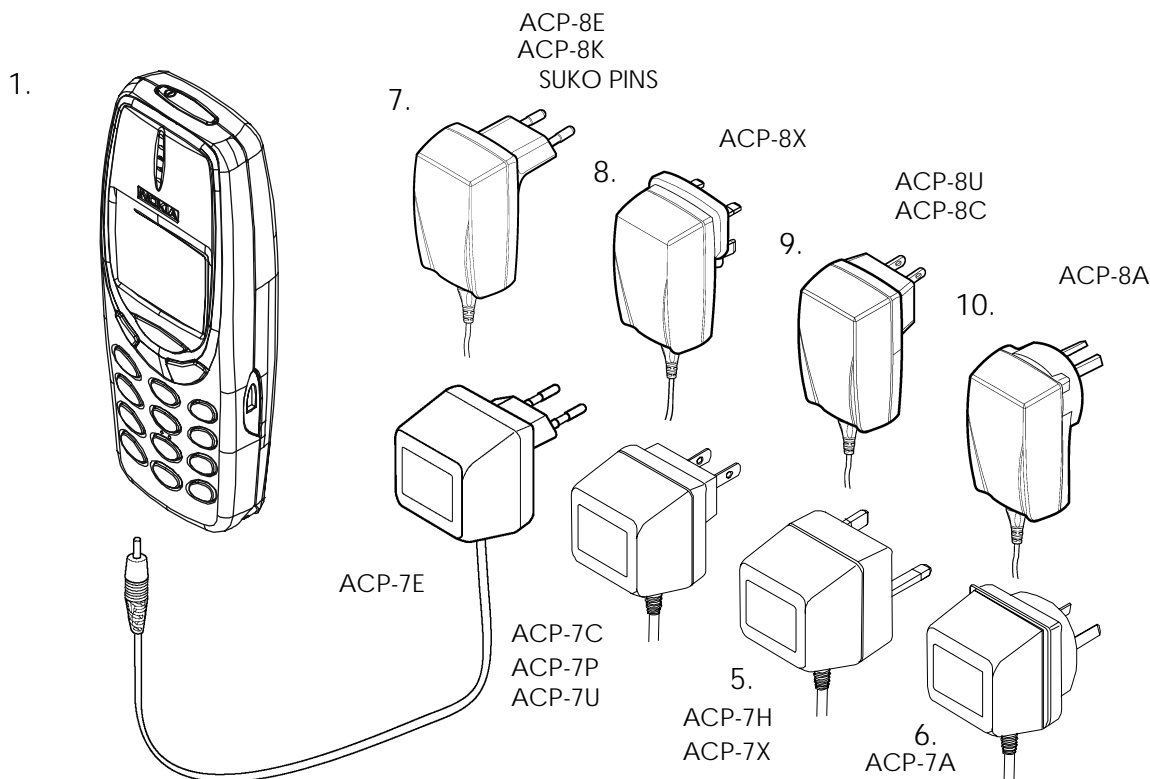
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## Product Selection

### Handportables

The NHM-2 / -5nx, ny / -6 / -9 are dual band handportable mobile telephones for the E-GSM900 and 1800 Networks

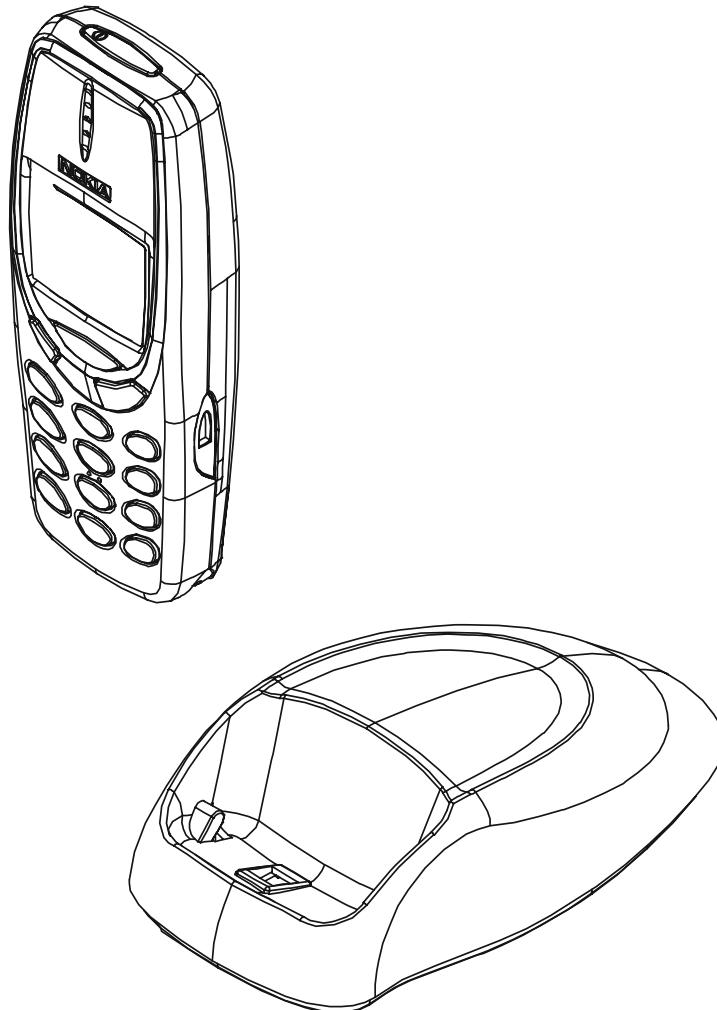


| Item | Name:                                     | Type code:           | Material code: |
|------|---|----------------------|----------------|
| 1.   | Transceiver                               | See Product Variants |                |
| 2.   | Standard battery (Li-ion 650 mAh)         | BLB-2                | 0670246        |
| 3.   | AC Travel Charger (Europlug) 207-253 Vac  | ACP-7E               | 0675144        |
| 4.   | AC Travel Charger (USplug) 108-132 Vac    | ACP-7U               | 0675143        |
|      | AC Travel Charger (USplug) 207-253 Vac    | ACP-7P               | 0675147        |
|      | AC Travel Charger (USplug) 198-242 Vac    | ACP-7C               | 0675158        |
| 5.   | AC Travel Charger (UKplug) 207-253 Vac    | ACP-7X               | 0675145        |
|      | AC Travel Charger (UKplug) 180-220 Vac    | ACP-7H               | 0675146        |
| 6.   | AC Travel Charger (Australia) 216-264 Vac | ACP-7A               | 0675148        |

|     |  |        |         |
|-----|--|--------|---------|
| 7.  | Performance Travel Charger Euro plug 90-264 Vac      | ACP-8E | 0675195 |
|     | Performance Travel Charger Korea plug 90-264 Vac     | ACP-8K | 0675199 |
| 8.  | Performance Travel Charger UK plug 90-264 Vac        | ACP-8X | 0675197 |
| 9.  | Performance Travel Charger US plug 90-264 Vac        | ACP-8U | 0675196 |
|     | Performance Travel Charger China plug 90-264 Vac     | ACP-8C | 0675211 |
| 10. | Performance Travel Charger Australia plug 90-264 Vac | ACP-8A | 0675214 |

### Desktop Option

The desktop option allows the user to charge the phone from the mains supply.



| Item | Name:  | Type code:                 | Material code: |
|------|--|----------------------------|----------------|
| 1.   | Transceiver  | See Product Variants Table |                |
| 2.   | Desk Stand   | DCV-10                     | 0675203        |
| 3.   | AC Travel Charger ( Europlug) 207-253 Vac              | ACP-7E                     | 0675144        |
| 4.   | AC Travel Charger ( USplug) 108-132 Vac                | ACP-7U                     | 0675143        |
|      | AC Travel Charger USplug) 207-253 Vac                  | ACP-7P                     | 0675147        |
|      | AC Travel Charger (USplug) 198-242 Vac                 | ACP-7C                     | 0675158        |
| 5.   | AC Travel Charger (UKplug) 207-253 Vac                 | ACP-7X                     | 0675145        |
|      | AC Travel Charger UKplug) 180-220 Vac                  | ACP-7H                     | 0675146        |
| 6.   | AC Travel Charger (Australia) 216-264 Vac              | ACP-7A                     | 0675148        |
| 7.   | Performance Travel Charger (Euro plug) 90-264 Vac      | ACP-8E                     | 0675195        |
|      | Performance Travel Charger (Korea plug) 90-264 Vac     | ACP-8K                     | 0675199        |
| 8.   | Performance Travel Charger (UK plug) 90-264 Vac        | ACP-8X                     | 0675197        |
| 9.   | Performance Travel Charger (US plug) 90-264 Vac        | ACP-8U                     | 0675196        |
|      | Performance Travel Charger (China plug) 90-264 Vac     | ACP-8C                     | 0675211        |
| 10.  | Performance Travel Charger (Australia plug) 90-264 Vac | ACP-8A                     | 0675214        |

## Accessories List

| Unit/type:   | Product code: |
|--|---------------|
| Battery BLC-1 825 mAh Li-ion                             |               |
| Battery BLC-2 850 mAh Li-ion                             | 0670279       |
| Battery BMC-2 700mAH NiMH                                |               |
| Battery BMC-3 900mAH NiMH                                | 0620285       |
| AC Travel Charger ACP-7E (EUR) 207-253 Vac               | 0675144       |
| AC Travel Charger ACP-7U (US) 108-132 Vac                | 0675143       |
| AC Travel Charger ACP-7P (US) 207-253 Vac                | 0675147       |
| AC Travel Charger ACP-7C (US) 198-242 Vac                | 0675158       |
| AC Travel Charger ACP-7X (UK) 207-253 Vac                | 0675145       |
| AC Travel Charger ACP-7H (UK) 180-220 Vac                | 0675146       |
| AC Travel Charger ACP-7A (AUS) 216-264 Vac               | 0675148       |
| Performance Travel Charger ACP-8E (EUR) 90-264 Vac       | 0675195       |
| Performance Travel Charger ACP-8K (Korea) 90-264 Vac     | 0675199       |
| Performance Travel Charger ACP-8X (UK) 90-264 Vac        | 0675197       |
| Performance Travel Charger ACP-8U (US) 90-264 Vac        | 0675196       |
| Performance Travel Charger ACP-8C (China) 90-264 Vac     | 0675211       |
| Performance Travel Charger ACP-8A (Australia) 90-264 Vac | 0675214       |
| Headset HDC-5  | 0694059       |
| Headset HDE-2  |               |
| Mobile Inductive Loopset LPS-3                           |               |
| Holster HHC-4  | 0720190       |
| Battery Charging Stand DDC-1                             |               |
| Desk Stand DCV-10  |               |
| HF Microphone HFM-8                                      | 0690016       |
| Plug & Play HF Cigarette Lighter Charger PPH-1           | 0675182       |
| Cigarette Lighter Charger LCH-8                          | 0675231       |
| Cigarette Lighter Charger LCH-9                          | 0675120       |
| Mobile Holder MBC-6                                      |               |
| Full Car Kit CARK128                                     |               |
| Complete Basic Car Kit CARK125                           |               |
| Music Player HDR-1                                       |               |

## Product Variants

| Product Modules | Manufacturer   | Code Number | NHM |
|-----------------|----------------|-------------|-----|
| UP4             | Hitachi (EUR)  | 0201477     | 5   |
| UP4 II          | Hitachi (APAC) | 0201695     | 5   |
| UP4 III         | Hitachi        | 0201702     | 5   |
| UP4 IV          | Hitachi        | 0201741     | 5/6 |
| UD4             | Philips        | 0201476     | 5/9 |
| UP4             | Philips        | 0201677     | 5/9 |
| UW4 I           |                | 0201729     | 6/9 |
| UW4 II          |                | 0201776     | 6/9 |
| UW5             |                | 0201852     | 2   |
| UW4 III         |                | 0201880     | 9   |
| UX4             |                | 0201745     | 6/9 |

## HW Configurations

| Product  | 3310 / 3315  |                      |                      | 3330   |                      |                      | 3350                     | 3410                 |  |
|--|--|----------------------|----------------------|--|----------------------|----------------------|--------------------------|----------------------|--|
|  | 3310   | 3310                 | Both                 |  |                      |                      |                          |                      |  |
| <b>Cust. Trx</b><br><i>(Note 1)</i>  | 0504812<br>0505517   | 0504811              | 0505516 /<br>0506874 | 0505400  | 0505401              | 0505902              | 0506110                  | 0506864              |  |
| <b>Basic Trx</b><br><i>(Manaus)</i>  | 0505515<br>0507661   | 0504171              | 0504619              | 0503090  | 0505890              | 0505577              | 0506094                  | 0506862              |  |
| <b>Module</b>  | UP4IV  | UD4                  | UG4                  | UW4  | UW4II                | UX4                  | UW4III                   | UW5                  |  |
| <b>Code</b>  | 0201741  | 0201476              | 0201677              | 0201729  | 0201776              | 0201745              | 0201880                  | 0201852              |  |
| <b>PA Module</b><br><i>(N502) Note 2</i>   | Hitachi<br>(4350259)   | Philips<br>(4350269) | RFMD<br>(4350277)    | Hitachi<br>(4350259)   | Hitachi<br>(4350259) | Philips<br>(4350269) | Hitachi<br>(4350259)     | Hitachi<br>(4350259) |  |
| <b>RxTx Sw.</b><br><i>(Z502) Note 2</i>  | (4550131)  | (4550201)            | (4550201)            | (4550131)  | (4550131)            | (4550131)            | (4550131)                | (4550131)            |  |
| <b>VCO</b><br><i>(G500)</i>  | (4350249)  | (4350273)            | (4350273)            | (4350249)  | (4350273)            | (4350273)            | (4350249)                | (4350249)            |  |
| <b>VCTCXO</b><br><i>(G502)</i>   | (4510297)  | (4510297)            | (4510275)            | (4510275)  | (4510297)            | (4510297)            | (4510275)                | (4510297)            |  |
| <b>RX SAW</b><br><i>(Z500, Z501)</i>   | (4511193; Common code)   |                      |                      |  |                      |                      |                          |                      |  |
| <b>TX SAW</b><br><i>(Z503)</i>   | (4511183) / (4511191)  |                      |                      |  |                      |                      |                          |                      |  |
| <b>Flash</b><br><i>(D301)</i>  | ST 16Mb (0.18u) (4340987)<br>Intel + ST 16Mb (0.25u) (4340911)<br>Intel 16Mb (0.25u) (4340585) |                      |                      | Intel 32Mb<br>(4340997)  |                      |                      |                          |                      |  |
| <b>SRAM</b><br><i>(D302)</i>   | Samsung 1Mb (0.15u) (4341239)<br>Samsung 1Mb (0.18u) (4340903)                                 |                      |                      | Samsung 2Mb (0.15u) (4341615)<br>Samsung 2Mb (0.18u) (4340899) |                      |                      | Samsung 4Mb<br>(4341613) |                      |  |
| <b>Cobba</b><br><i>(N100)</i>  | ST shr<br>(4370793)  | TI<br>(4370753)      | ST shr<br>(4370793)  | ST shr<br>(4370793)  | TI<br>(4370753)      | TI<br>(4370753)      | ST shr<br>(4370793)      | TI shr<br>(4370753)  |  |
| <b>RF Discrete Comp.</b> <i>Note 6</i>   | As UW4x  | Unique for UD4       | Unique for UG4       | As UP4IV & UW4II   | As UP4IV & UW4       | Unique for UX4       | As UW4x                  | As UP4IV & UW4       |  |
| <p>Note 1 Only the 'main' Customer Transceiver is listed (to show the structure).</p> <p>Note 2 PA module and RxTx Switch are closely linked and can not be combined freely.</p> |  |                      |                      |  |                      |                      |                          |                      |  |

## Released PCB's

| PCB UB4 | Released | First time in prod. | Main drivers for iteration   |
|---------|----------|---------------------|--|
| v08     | N/A      | N/A                 | PCB released for initial RU.   |
| v09     | w37/00   | w48/00              | One coil changed (1206 => 0805). Sourcing  |
| v10     | w47/00   | w07/01              | RF TX support of Philips & RFMD PA.<br>RF RX change of PCN LNA.<br>Support of 4Mb SRAM (optional).                 |
| v11     | w16/01   | w20/01              | Improved SIM interface ('Insert SIM').<br>Dual Key-pad layout (Simplex & Jack).<br>Split LED (separate LCD & LED). |
| v12     | w49/01   | w07/02              | Inverter for 32Mb Flash (NHM-2).   |

## Technical Specifications

### General Specifications of Transceivers

| Parameter                       | Unit  |
|---------------------------------|---|
| Cellular system                 | EGSM900 and GSM1800   |
| RX frequency band               | EGSM: 925 ... 960 MHz<br>GSM900 935 ... 960 MHz<br>GSM1805 ... 1880 MHz           |
| TX frequency band               | EGSM 880 ... 890 MHz<br>GSM900 890 ... 915 MHz<br>GSM1800 1710 ... 1785 MHz       |
| Output power                    | GSM900 * +5 ...+33 dBm / 3.2 mW ... 2 W<br>GSM1800 +0 ...+30 dBm / 1.0 mW ... 1 W |
| Duplex spacing                  | GSM900 * 45 MHz GSM1800 95 MHz  |
| Number of RF channels           | EGSM 50<br>GSM900 174<br>GSM1800 374  |
| Channel spacing                 | 200 kHz   |
| Number of TX power levels       | GSM900 * 15 GSM1800 16  |
| Sensitivity, static channel     | GSM900: -102 dBm<br>GSM1800: -102 dBm   |
| Frequency error, static channel | < 0.1 ppm   |
| RMS phase error                 | < 5.0 °   |
| Peak phase error                | < 20.0 °  |