# iCN700 Series

## **FCC**

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# Make [Trade name of manufacturer]

Navman NZ Limited

### Product type and general commercial descriptions

Navman's iCN700 Series is a GPS (Global Positioning System) in vehicle road navigation device with 2D and/or 3D (dimensional) map display and turn by turn visual and voice instructions. The iCN700 Series is supplied with windscreen mount hardware and a 12Vdc cigarette lighter plug supply. See Appendix 1 for further variant information..

#### Name and address of manufacturer

Navman NZ Limited, 17 Kawana St, North Shore, Auckland, New Zealand

#### Location and method of affixing the EEC approval mark

The EEC approval mark will be affixed to the main body of the unit

#### Addresses of assembly plants

Group Sense PDA Ltd Cai Wu Industrial Park, Wusha Chang An, Donguan, P.R.C.

Tel: (0769) 554 6828

#### **ESA** comment

The ESA shall be approved as a component.

### Any restrictions of use and conditions of fitting

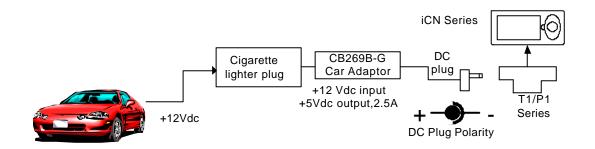
## Appendix 1

### Section A1 ESA types, variants and labeling

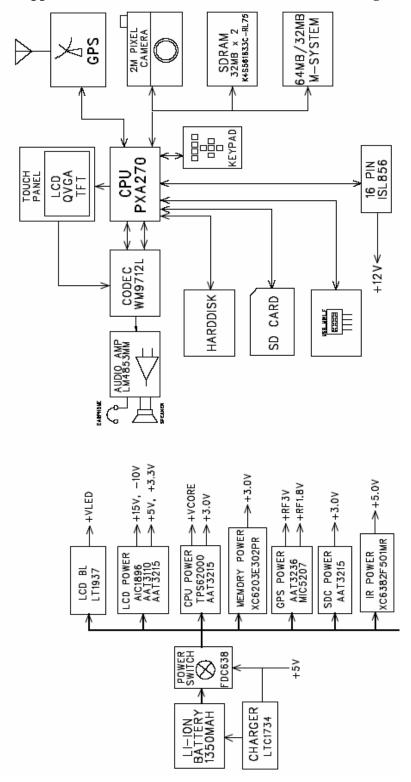
The electronic sub-assemblies for the iCN700 Series product are the following: -

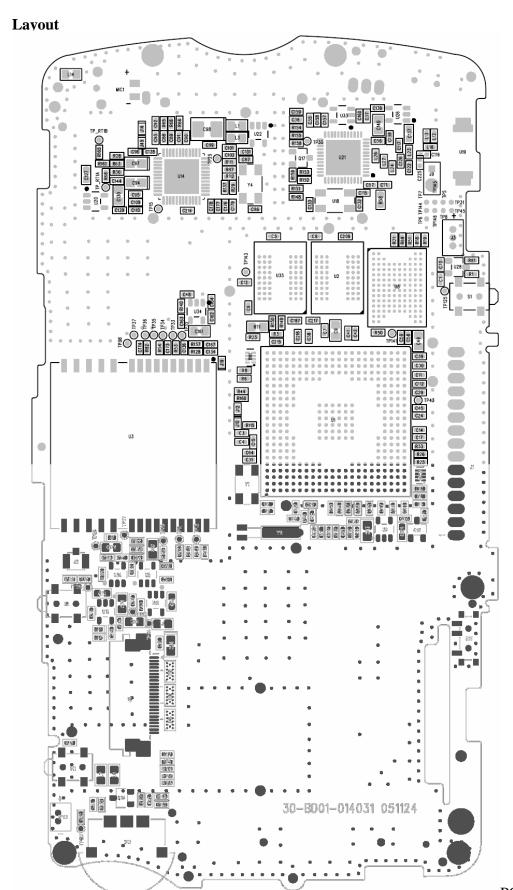
- iCN700 Series System Board
- 1803 GPS Module
- 3.7V 1890mA/hr Li-ion rechargeable battery
- LCD screen Samsung LTP400WQ-F01 4" TFT
- Speaker 4O 1W
- Camera module 1.3Mp
- Seagate Hard Drive 4Gig
- GPS Antenna flag
- iCN700Series will be imprinted on the front panel of all units. The units in this series will be technically and functionally identical although carry differing sub designations iCN7?? (for example iCN720, iCN750) depending on a couple of features that will be listed in a table at the end of this document.

# Section A 2 Rated voltage and grounding/polarity requirements

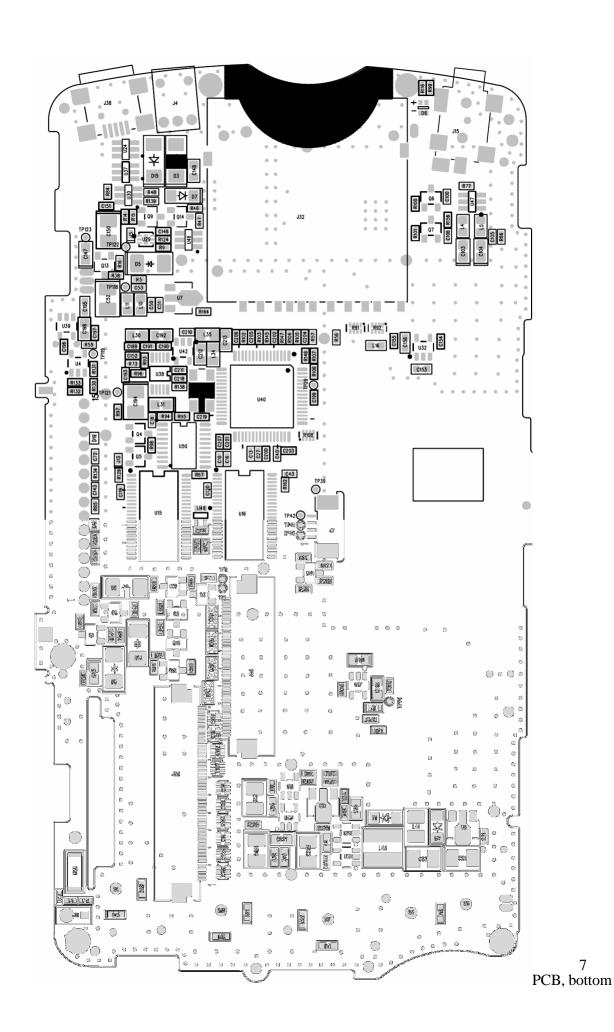


## Appendix 1 [continued] Section A3 Circuit / block diagrams, and PCB layouts





PCB, Topview



Section A4 Casing material and shape

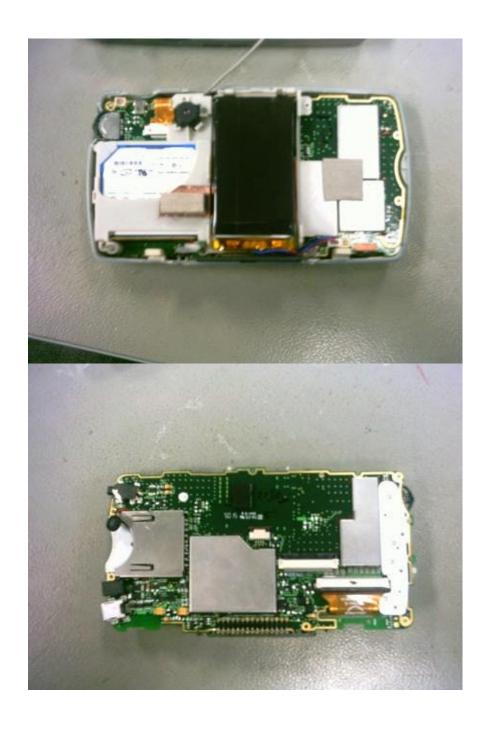


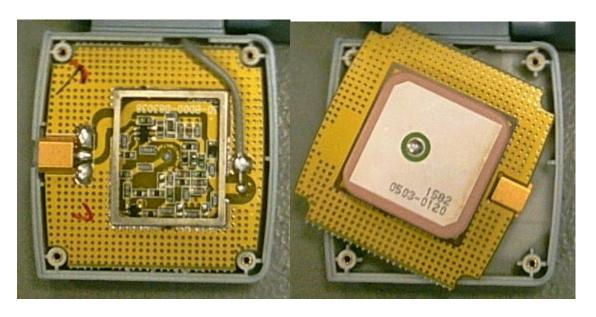
Case Material: Plastic and Metal panels

# $Section\,A5\quad Type\ and\ length\ of\ wiring\ looms$

Not applicable.

# Section A6 Identification of components





**GPS** Antenna



**GPS Receiver Module** 

### Section A7 Details of filters, screening to improve EMC performance

The following circuit design principles and components were used to minimize EMI on the iCN700:-

- Slowest clock rate and risetime for acceptable performance.
- All components used are surface mount components and IC sockets were avoided.
- Multiple RF bypass capacitors were used on all power supply pins.
- Solid power and ground planes were used on the PCB.
- High speed tracks were buried inside the board.
- The address, data and high-speed control lines were implemented as transmission lines and terminated with the characteristics impedance.
- RF beads, low pass filters and overvoltage transient protection components protected external I/O lines.

The length of cables and connectors was minimized.

EMI shielding was achieved in the iCN700 by the following measures: -

- Vias were used to stitch the top and bottom layer ground planes together on PCB.
- Shield cans were used to cover potential EMC producing components.

EMI reduction techniques used in the iCN700 PCB design include: -

- Multi layer PCB used.
- Multiple power supply bypass capacitors.

Pre-compliance testing to CE and e-Mark standards performed prior to product qualifications.

## Section A8 Clock frequencies

#### 1803 GPS Module Clocks

TCXO Frequency 24.5535 MHz First LO 1565.97 MHz

Receiver Frequency 1575.42 MHz (commonly referred to as L1)

1st IF 9.45 MHz Real Time Clock crystal 32.768 KHz.

### iCN700 Series System Board Clocks

Microprocessor Frequency
SDRAM Clock Frequency
Base Clock Frequency
Audio Codec
USB Crystal
RTC
DOT\_CLK
312MHz
104MHz
13MHz
24. 576MHz
30MHz
30MHz
32.768KHz

### Section A9 Differences between ICN720 and ICN750

	iCN720	iCN750
Labels	ICN720	ICN750
Mass Storage	CF card	Hard drive
Battery	1350mAh	1890mAh
USB 2.0	No (only USB 1.1)	Yes