

# No. 52 Power Supply to Radio Equipment required by SOLAS Chapter IV, and Electrical/Electronic Navigation Equipment required by SOLAS regulation V/19

(May 1998)  
(Rev.1  
Sept 2005)  
(Rev.2  
Feb 2021)

## 1. Scope

1.1 This recommendation is applicable to radio equipment required by SOLAS Chapter IV as amended by IMO resolutions up to MSC.436(99) (hereinafter referred to “the radio equipment”) and electrical/electronic navigation equipment required by Regulation 19 of SOLAS Chapter V as amended by IMO resolutions up to MSC.350(92) (hereinafter referred to “the navigation equipment”), and whose power are also to be supplied from the emergency source of electrical power by Regulation 42 or 43 of SOLAS Chapter II-1 as amended by IMO resolutions up to MSC.436(99).

## 2. Power supply for equipment operated by AC (see Examples 1,2 and 3)

2.1 Power to navigation equipment should be supplied by two circuits, one fed directly from the main source of electrical power, and one fed directly from the emergency source of power. Power to radio equipment should also be supplied by two circuits as described above and is additionally to be supplied by a reserve source of energy.

2.2 The distribution of supplies to navigation equipment should be independent of those for radio equipment. The circuits from the two power sources should be terminated either in one or two distribution panels. When one distribution panel is used, the two circuits supplying power to the panel should be provided with split feeds into two separate bus bars, one for the radio equipment and one for the navigation equipment. The panel(s) should be sited on the navigation bridge or other suitable position on the bridge deck.

2.3 The circuits supplying the board(s) should, as far as practicable, be separated from each other throughout their length. Facilities should be provided in each distribution board for changing over between the main source of power and the emergency source of power. It is preferable that change over be initiated automatically. When a single distribution board is used for both radio and navigation equipment, separate change over switches should be provided for each service.

2.4 Where radio equipment requires an uninterrupted input of information from the ship’s navigational equipment or other equipment, it will be necessary for the equipment providing the data to be supplied from the same distribution board bus serving the radio equipment rather than the bus bar serving the navigation equipment.

2.5 Failure of any power supply to the panel should initiate an audible and visual alarm at the navigation bridge.

2.6 Each consumer should be individually connected to the distribution panel bus bar and individually provided with short circuit protection.

2.7 An indicator should be mounted in a suitable place to indicate when batteries of the reserve source of energy are being discharged.

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**3. Power supply for equipment operated by DC (see Examples 4,5 and 6)**

3.1 The requirements in 2. should be complied with.

3.2 Where the equipment is fed via converters, separate converters should be provided and these should be located on the supply side of changeover facility.

3.3 The radio equipment and the navigation equipment should be provided with separate converters.

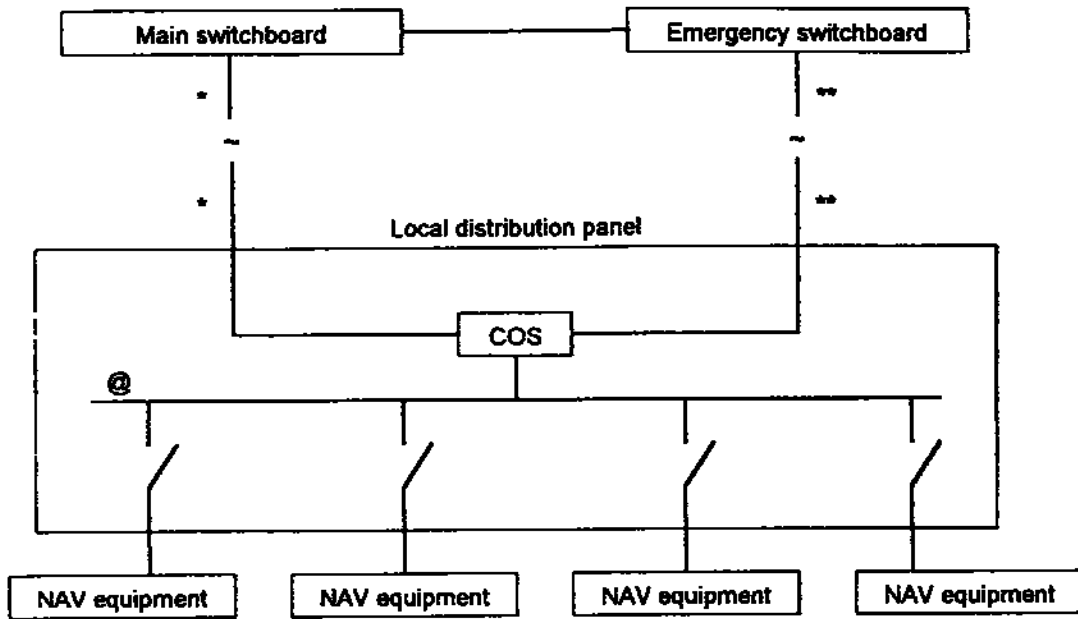
**4. Power supply for equipment operated by either AC or DC (see Examples 7,8 and 9)**

4.1 Each consumer should be individually connected to the main source of electrical power and to a distribution bus bar of the panel which is fed from the emergency source of electrical power and also, in case of the radio equipment, from the reserve source of energy (radio batteries). These two circuits should be separated throughout their length as far as practicable.

4.2 The radio equipment and the navigation equipment should be provided with separate converters.

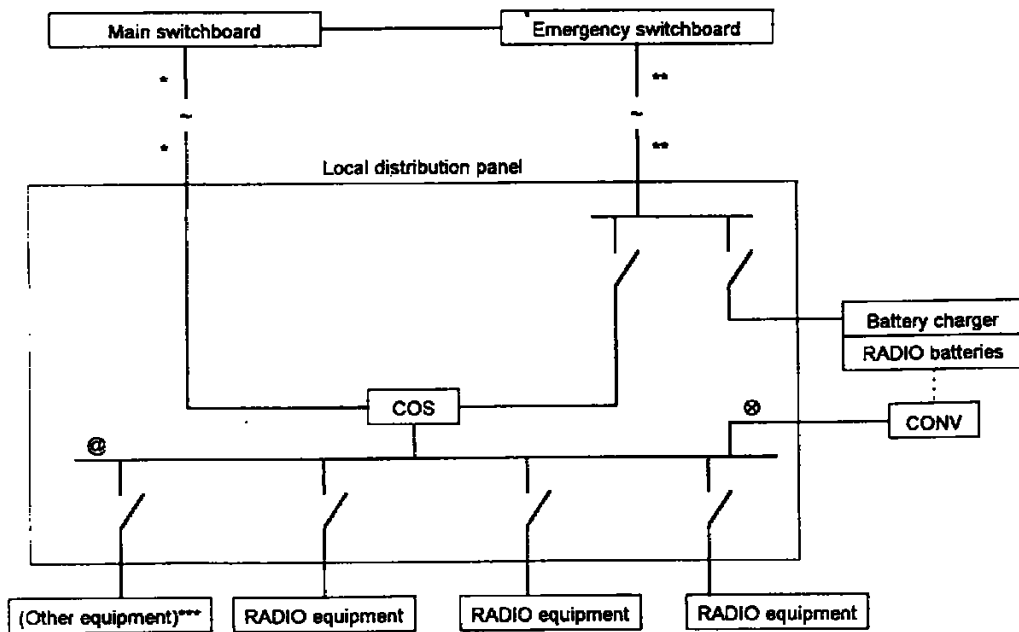
4.3 An indicator should be mounted in a suitable place to indicate when batteries of the reserve source of energy are being discharged visible for responsible member of the crew.

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\* and \*\*: should be separated as far as practicable  
@ : source failure alarm

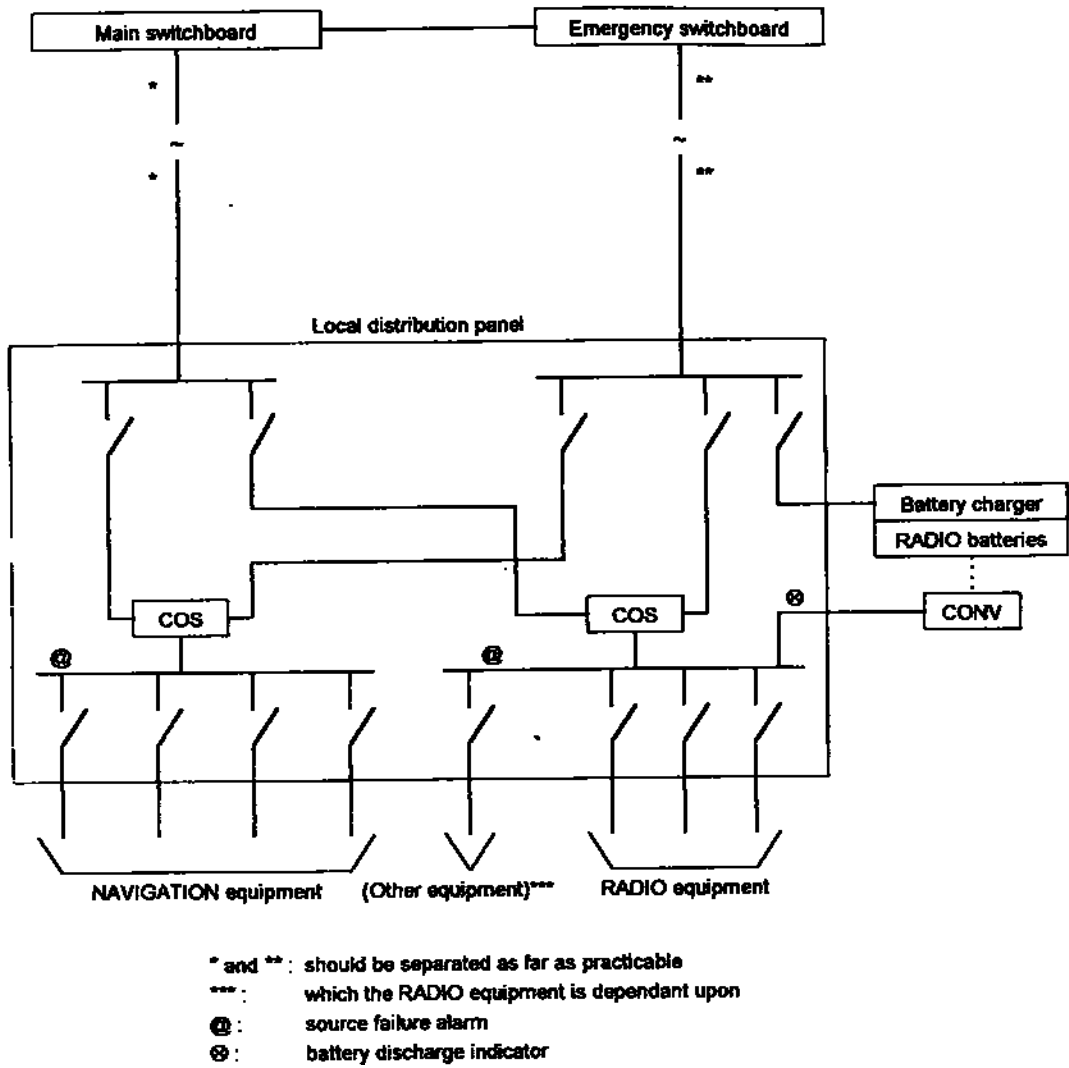
Example 1: Power supply for NAVIGATION equipment operated by AC



\* and \*\*: should be separated as far as practicable  
\*\*\*: which the RADIO equipment is dependant upon  
@ source failure alarm  
⊗ battery discharge indicator

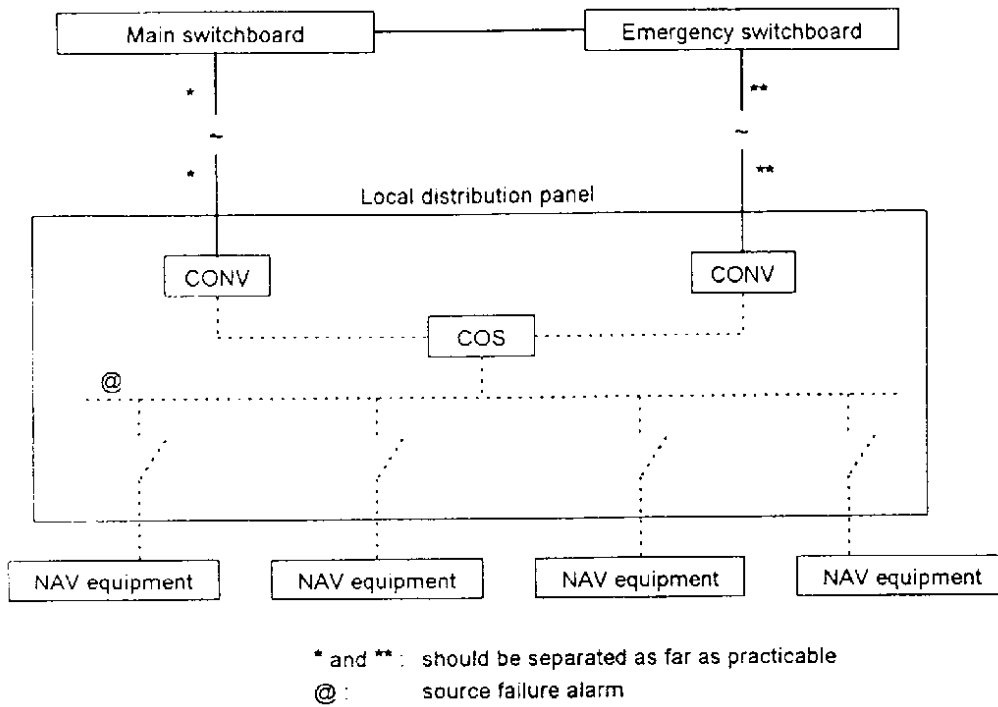
Example 2: Power supply for RADIO equipment operated by AC

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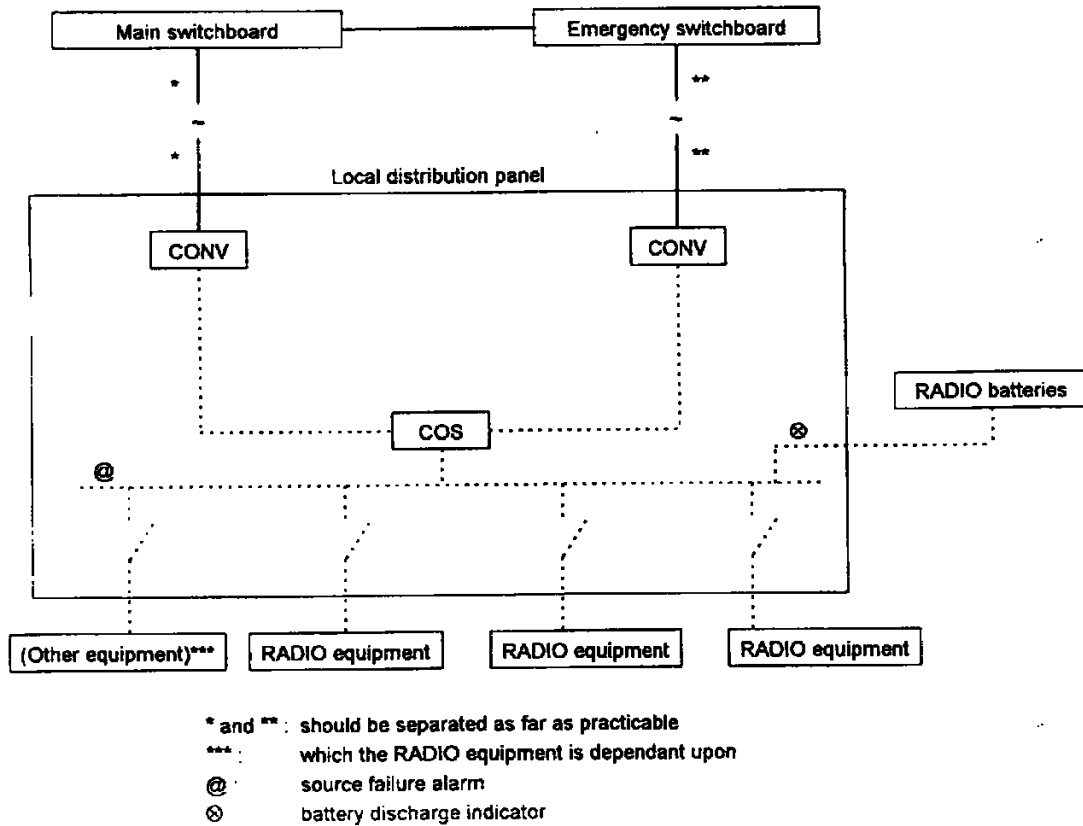


Example 3: Power supply for NAVIGATION and RADIO equipment operated by AC

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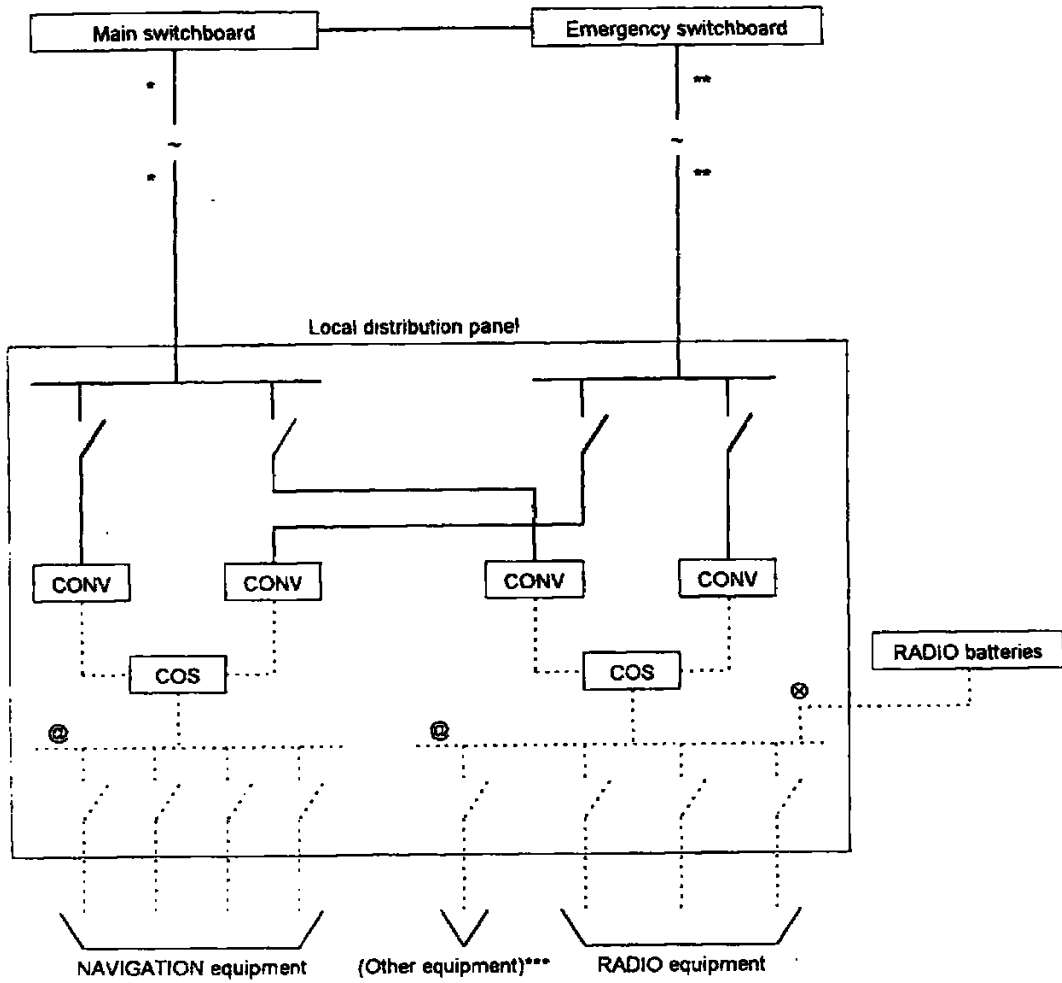


Example 4: Power supply for NAVIGATION equipment operated by DC



Example 5: Power supply for RADIO equipment operated by DC

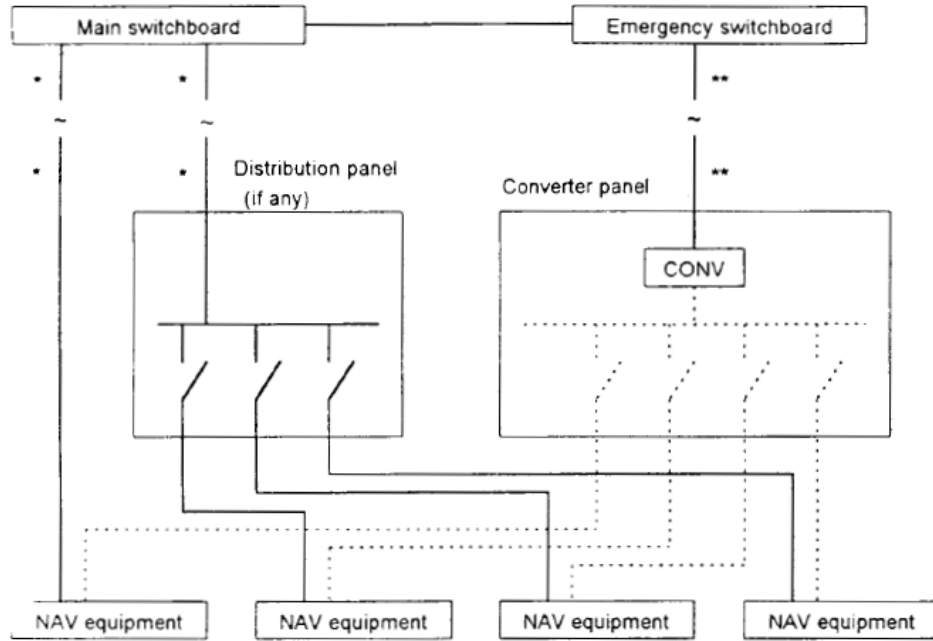
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- \* and \*\*: should be separated as far as practicable
- \*\*\*: which the RADIO equipment is dependant upon
- ⊕: source failure alarm
- ⊗: battery discharge indicator

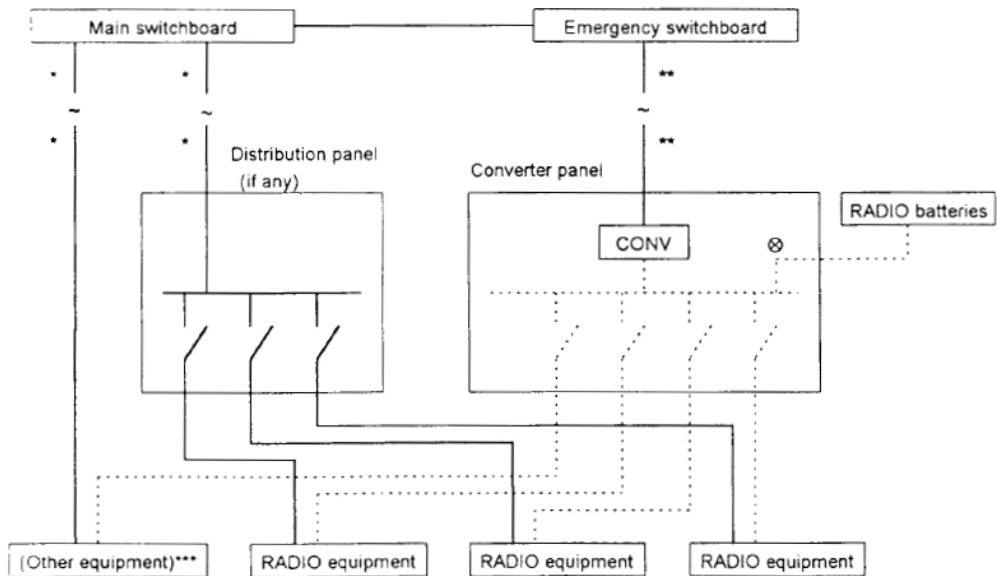
Example 6: Power supply for NAVIGATION and RADIO equipment operated by DC

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\* and \*\* : should be separated as far as practicable

Example 7: Power supply for NAVIGATION equipment operated by either AC or DC

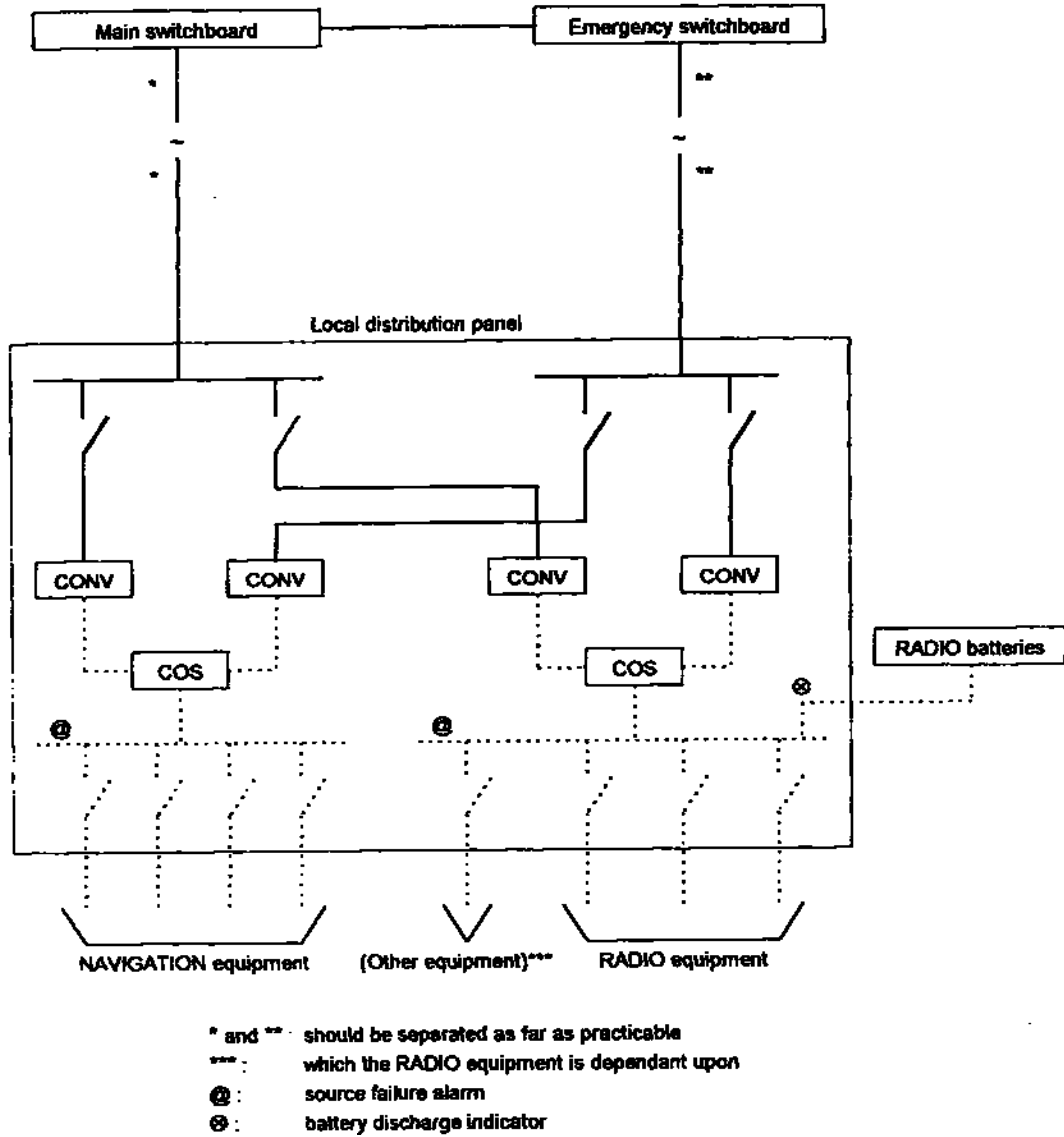


\* and \*\* : should be separated as far as practicable

⊗ battery discharge indicator

Example 8: Power supply for RADIO equipment operated by either AC or DC

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Example 9: Power supply for NAVIGATION and RADIO equipment operated by either AC or DC

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