Dual-frequency Mobile Antenna for the 160 and 450 MHz Bands



DESCRIPTION

- New whip design for optimum wind noise reduction.
- This antenna makes it possible to:
  – operate 160 MHz and 450 MHz transceivers alternately on the same antenna
  – operate two transceivers (160 and 450 MHz) at the same time on one antenna using a diplexer (type DIPX 225/330 – to be ordered separately).
- Only a single hole has to be drilled instead of two.
- Car appearance is not destroyed by an “antenna farm”.
- Ideal for covert services.
- Stainless steel X-mount with M6-thread whip-fastening system.
- Simple mounting exclusively with access from the outside.
- Models available with X-mount (oblong) and CX-mount (circular).
- Choice between two connection principles:
  - X-mount: FME-connection (supplied without cable).
  - XP4-mount: Permanently attached 4 m cable terminated with FME-connector.

SPECIFICATIONS

Electrical	
Model	DFA 2/70-X/...
Frequency	160 MHz-band freq. to be stated within : 144-175 MHz 450 MHz-band freq. to be stated within : 380-470 MHz
Antenna Type	Dual-frequency mobile antenna
Max. Input Power	30 W
Polarisation	Vertical
Impedance	50 Ω
VSWR	≤ 1.5.1 @ f.res.
Bandwidth	160 MHz : 8 MHz @ VSWR = 2.0 450 MHz : 15 MHz @ VSWR = 2.0
Gain (EIA RS-329-1)	0 - 2 dB

Mechanical	
Materials	Whip : Conical glass fiber Black chromed brass Mount : Black chromed brass weather- and shockproof plastics Stainless steel
Installation Torque	4 ± 1 Nm
Colour	Black
Height	Approx. 500 mm / 19.69 in.
Weight	X-version : Approx. 160 g XP4-version : Approx. 310 g
Mounting	18 mm dia. hole

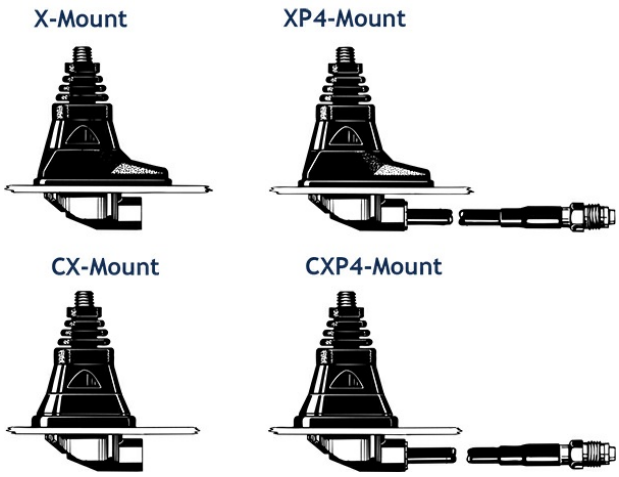
ORDERING

Model	Product No.	Description
DFA 2/70-X/...	130000688	X-mount with FME-system
DFA 2/70-XP4/...	130000684	XP4-mount with 4 m cable and FME-connector

ORDERING NOTES

The antenna is delivered factory-tuned to two single frequencies, one frequency in each band. These two frequencies (stated in MHz) must be specified when ordering as can be seen from the ordering examples below. In case of duplex operation, only the Tx frequency should be stated.

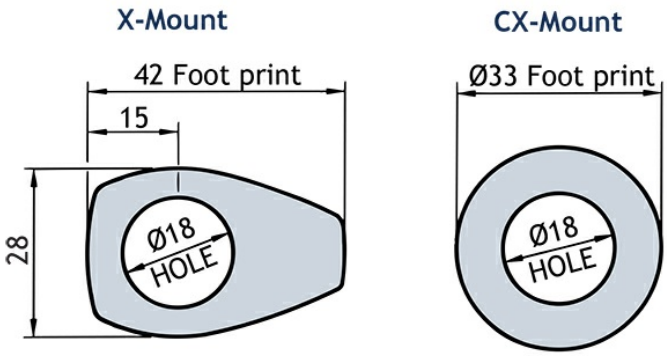
THE WHIP IS COMPATIBLE WITH ALL BELOW MOUNTS



INSTALLATION

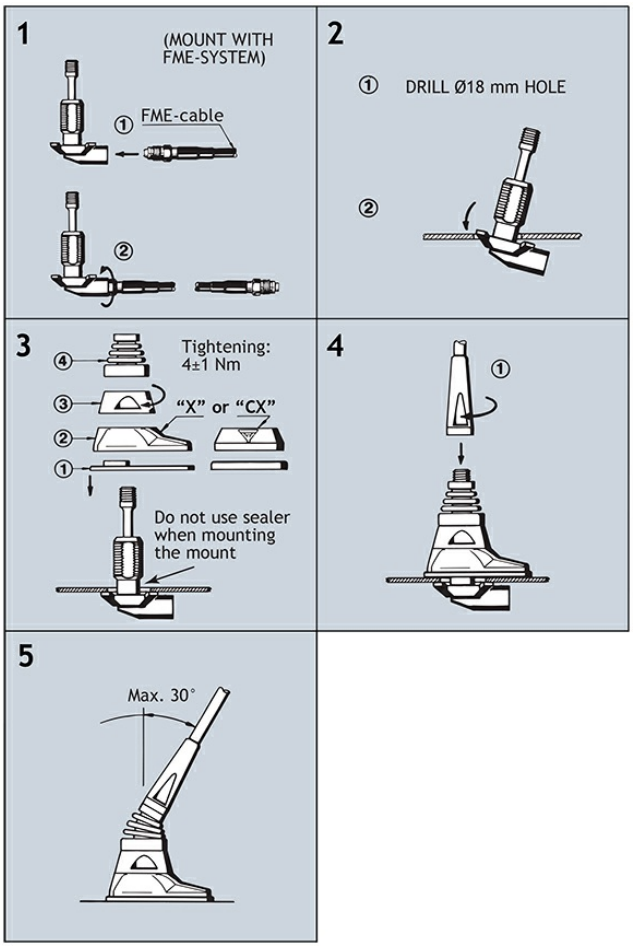
This antenna should be mounted on the car roof to ensure best omnidirectional coverage.Mounting can take place exclusively with access from the outside when drilling an 18 mm dia. hole. Mounting can take place from the inside by drilling a 14 mm dia. hole. When mounting in a 14 mm dia. hole, remove the bottom plastic ring of the packing gasket with a sharp cutter.When cleaning the car in car-washing machines, remove the whip using a spanner, size 9 mm. After wash, refit the whip and tighten it lightly with the spanner.

1. INSTALLATION DIMENSIONS



Build-in depth: 11 mm

2. INSTALLATION STEPS



Do not use sealer on rubber gasket or other places.

3. OPERATION USING A DIPLEXER

Several advantages are gained by using only one antenna. Only one single hole has to be drilled into the car body, only one cable installation has to be run, the car appearance is not destroyed by carrying several whips and also, it may be a particular demand that it should not be too obvious to see that the car is equipped with transceiving equipment.

In case of operating two transceivers on one antenna at the same time, a diplexer, type DIPX 225/330 is necessary to complete the system. (See the coupling diagram below). The tasks of the diplexer are to protect the two receiver inputs from being destroyed by the transmitter in the contrary band, and to ensure a low-loss path between the transceiver and the antenna, which is not loaded by the other branch. For further details please see the separate data sheet on the DIPX 225/330.

The diplexer fully covers both bands and, consequently, tuning to specific frequencies is not required.

CONNECTION DIAGRAM

