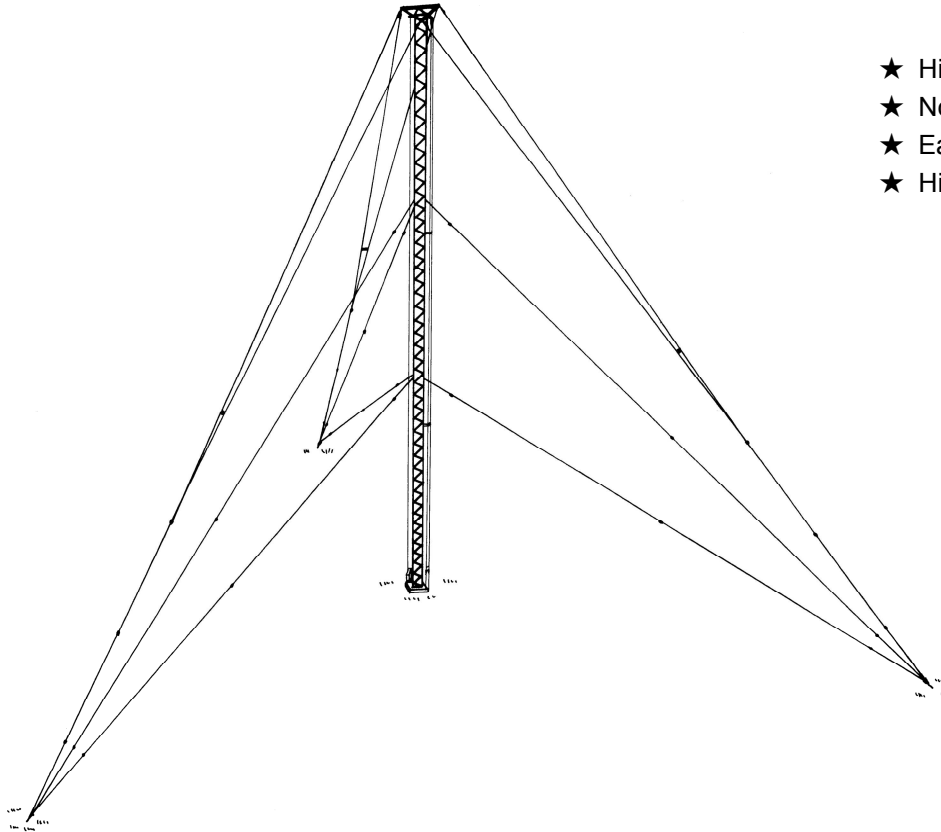




Umbrella-Loading Folded Monopole

518kHz
NAVTEX Frequency

CV-051



- ★ High Efficiency
- ★ No Special Network needed
- ★ Easy to Install
- ★ High Power Capability

The CD model CV-051 is reduced scale omnidirectional 518kHz vertically polarized vertical antenna designed to provide a high efficiency and high power radiation capability for fixed transmitting and receiving sites. The antenna have a low angle radiation pattern and provide both short and long range MF communications by ground wave and sky wave respectively. The radiation pattern in the azimuth plane is essentially, omnidirectional.

The CV-051 is shortened its height to 28% against full size antenna (140m) by combining a characteristics of a special type of vertical radiator in which the upper part of the aerial has a capacitance loading elements and low-loss type of linear loading circuit. Therefore the overall height of this antenna is extremely low compared with mono-pole antenna. No other special matching circuit is not necessary as the matching network is used in order to ensure maximum transfer of RF energy on 50 ohm impedance. VSWR meter is also included in this matching net work. And supporting tower itself is constructionally grounded therefore expensive Austin transformer is not required for install the obstruction light.

There are 36 ground radials are included in this antenna. 15 man-days required for the installation of CV-051, excluding the time required for pouring and curing of concrete foundations and ground screen installation.

SPECIFICATIONS

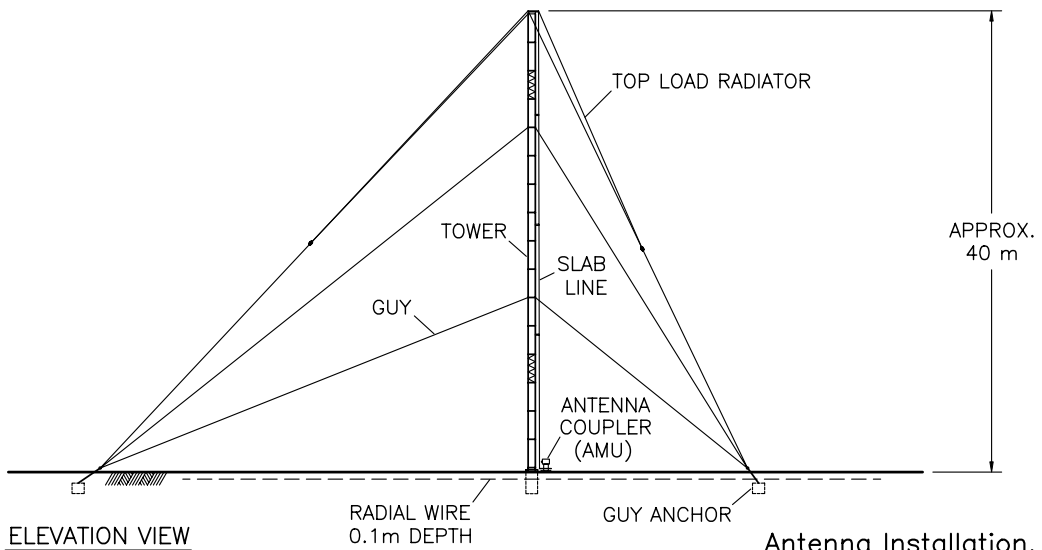
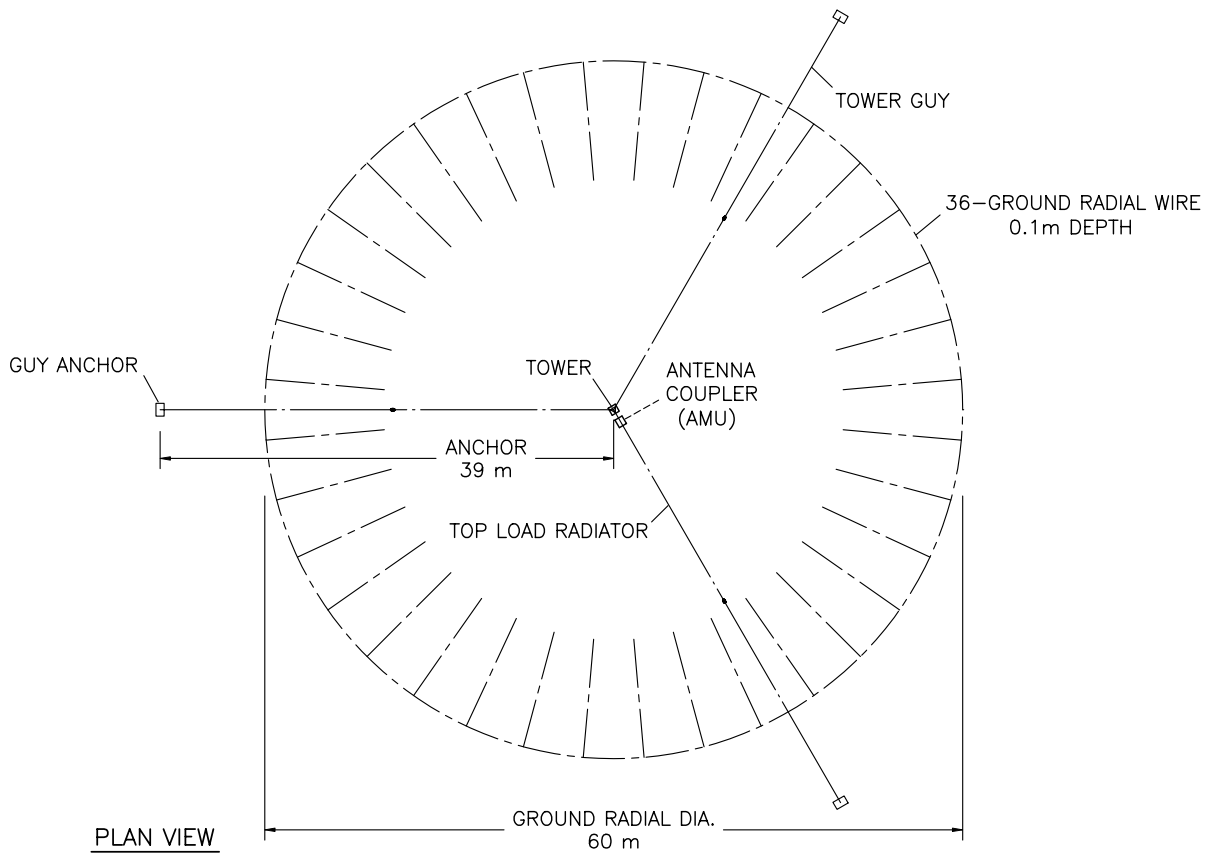
| | |
|-------------------------------|-------------------|
| Polarization | Vertical |
| Recommended Frequency | 480 to 518 kHz |
| Gain. Over Average Soil | 1.5 dBi |
| VSWR | Less than 1.5 : 1 |
| RF Power Capability | 10 kW |
| Antenna Height | 40 m |
| Guy Radius | 39 m |
| Ground Screen Radius | 30 m |
| Wind Loading Capability | 45 m/s |
| System Net Weight | 850 kg |

Optional Antenna Coupler Model CM-051-x for CV-051

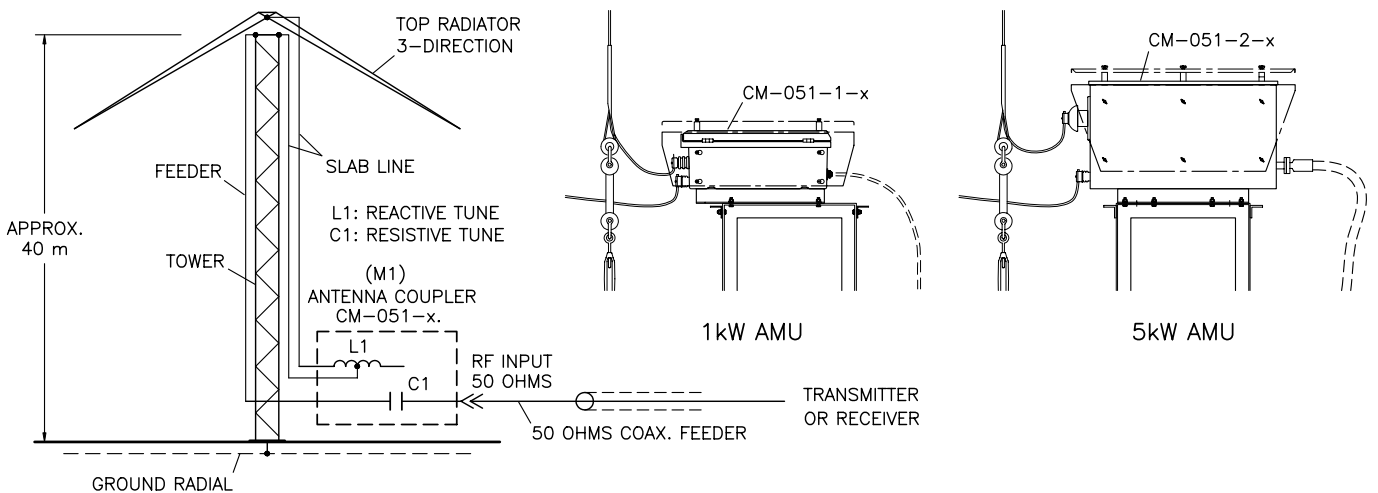
| | |
|----------------------|--|
| Frequency Range: | 480~518kHz, Standard |
| Frequency Channels: | CM-051-x-1 1-Channel CM-051-x-2 2-Channel |
| RF Power Capability: | Average/PEP |
| | CM-051-1-x 1kW/ 2kW |
| | CM-051-2-x 5kW/10kW |
| | CM-051-3-x 10kW/20kW |

Requirements for 2-Channel Type

| | |
|---------------------------------|--|
| Power and Remote Control Cable: | 4-Wire |
| Power Requirement: | |
| | PRI. 90~260VAC 50~60Hz, Single Phase 50VA. |
| Selecting: | 20m/second |
| Input Impedance: | 50 Ohms |



Antenna Installation, CV-051.
DWGT.106D



Antenna Simplified Circuits, CV-051.

SPECIFICATIONS

ANTENNA COUPLER CM-051-x. For NAVTEX Band

1. GENERAL PURPOSE

This CM-051-x is an antenna coupler of low-loss type for CD omni-directional MF vertical antenna CV-051-x. The operational frequency of this CM-051-x is made for which the customer requires. The applicable frequency range are either 1 single channel or multiple channels within the range from 480kHz Band - 518kHz.

The contractual specification is shown in paragraph 2.

2. SPECIFICATIONS

Standard specifications of CM-051-x is as follows:

| | |
|-----------------------------|--|
| Applicable Frequency Range: | 518kHz, 480kHz Band |
| Impedance: | 50 ohms |
| VSWR: | Less Than 1.5:1 |
| Applicable Impedance: | CV-051-x, 40mh |
| Environment Required: | Outdoor, -25~+55 °C, Temperature. Humidity 90% |
| Case Material: | Aluminum |

RF Power Capability and Input Connector:

| RF Power/Connector | Type |
|------------------------------|------------|
| 1/ 2kW PEP/ NJ | CM-051-1-x |
| 5/10kW PEP/ 7/8" EIA. Female | CM-051-2-x |

Frequency Channel

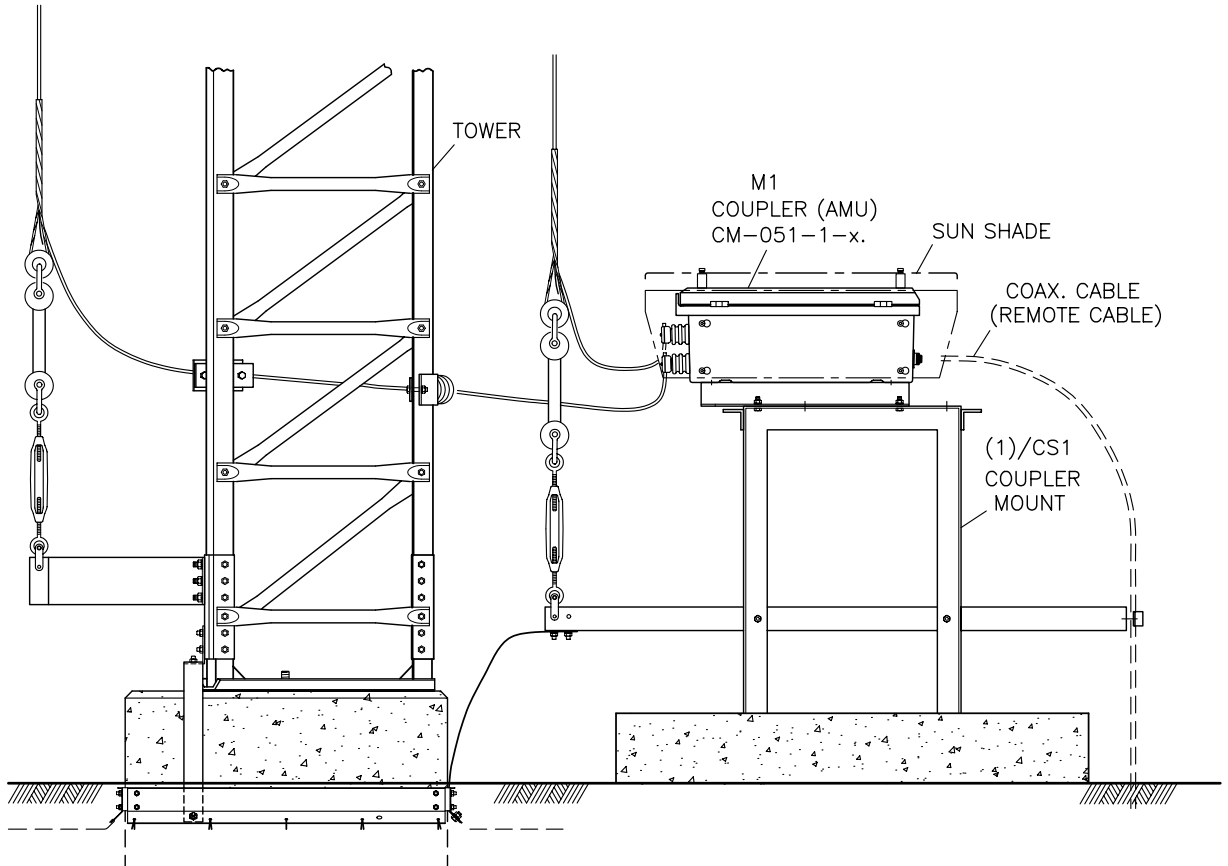
| Number of Channel | Type |
|------------------------------------|------------|
| 1-Channel 518kHz | CM-051-x-1 |
| 2-Channel 518kHz, 480kHz Band | CM-051-x-2 |

Functional Features

| | |
|-------------------|---|
| CH Control: | 518kHz When Opened, 480kHz Band When Grounded |
| Operation Switch: | TX KEY, MEASURE, HV-INTLK. |
| VSWR Meter: | VSWR Direct-Read Type Cross-meter |
| Protector: | Control Line ZNR, Discharge Ball Gap |

Requirements For 2-Channel Type

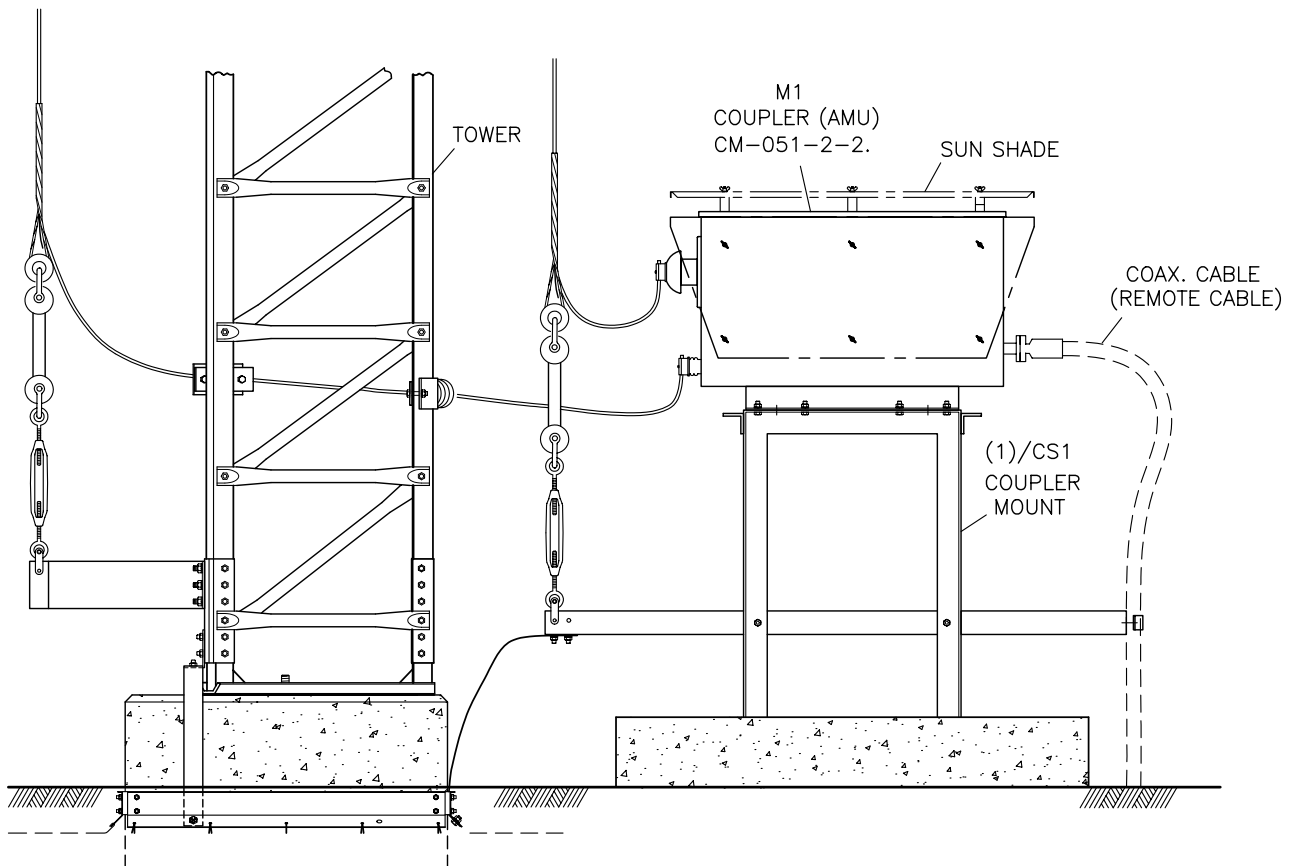
| | |
|---------------------------------|--|
| Power and Remote Control Cable: | 4-Wire |
| Power Requirement: | PRI. 90~260VAC 50~60Hz, Single Phase 50VA. |



ELEVATION

1kW

Feed Section Installation, CV-051-1-x



ELEVATION

5kW

Feed Section Installation, CV-051-2-x