

General Information

The AWOS 760 is a 760-channel communication transmitter designed to provide one way communication within the frequency range of 118.000 MHz to 136.975 MHz in 25 kHz increments.

The AWOS 760-communication transmitter was designed to conform to FAA Advisory Circular 150/5220-16B for use as a ground based VHF transmitter for Automated Weather Observing Systems (AWOS).

The AWOS 760 communication transmitter has Federal Communications Commission (FCC) type acceptance filed under FCC ID: EZN5PRCOM760

The AWOS 760 consists of two major sections: Main Board and Transmitter Board.

Specifications

Physical Dimensions:	Width: 6.00 inches (15.24 cm) Height: 1.9 inches (4.83 cm) Length: 11.0 inches (27.94 cm)
Weight	5.0 Lbs. (2.27 kg)
Voltage:	12.0 Vdc
Current:	Standby 200 mA; Transmit 1.5 A
Frequency Range:	118.000 to 136.975 MHz
Channel Spacing	25 kHz
Frequency Stability:	.001%
Spurious Emissions	Greater Than 80 dB down from carrier
Modulation	Adjustable (70 to 90% Typical)
Temperature Range	-30 to +60 Degrees Celsius
Transmit Power:	2.5 watts
Emission	6K00A3E
Duty Cycle	100%
Design	All Solid State. Printed Circuit Board & Point to Point Wiring.
Mounting	Rigid Mounting, No Shock Mounting Required.
FCC ID	EZN5PRAWOS760
Unit Part Number	803000

Operation

CONTROLS:

ON/OFF SWITCH turns on and off the main power to the unit.

INDICATOR LIGHT Illuminates when the unit is powered up.

DB-9 CONNECTOR connections for power, ground, mic audio, and transmit key are made at this connector..

ANTENNA JACK connects to a broad band VHF 50 Ohm loaded antenna

FREQUENCY CALIBRATION capacitor C427 can be adjusted to center the output frequency.

MODULATION ADJUST potentiometer R423 can be adjusted to vary the modulation level.

POWER ADJUST potentiometer R419 can be adjusted to vary the output power.

DIPSWITHCES M0-M4 selects the whole MHz frequency (see table, Chapter 5)

DIPSWITCHES K2-K5 selects the tenth MHz frequency (see table, Chapter 5)

DIPSWITCHES K0-K1 selects the 25 kHz spacing (see table, Chapter 5)

Installation

This section contains suggestions and factors to consider before installing the AWOS 760 transmitter. Close adherence to these suggestions will assure more satisfactory performance from the equipment.

Unpack the equipment and inspect each item for evidence of damage incurred during shipment. If a damage claim must be filed, save the shipping container and all packing materials to substantiate your claim. The claim should be filed with the Transportation Company as soon as possible. The shipping container and packing material should be saved in any case in the event that storage or reshipment of the equipment is necessary.

The AWOS 760 installation will conform to standards designated by the customer, installing agency, and existing conditions as to the unit location and type of installation. The installing agency will supply and fabricate all external cables for interface to their system as appropriate. VAL Avionics, Ltd will supply the connectors required.

The most important contribution to improved reliability of this equipment is to limit the maximum operating temperature. While modern designs consume less total energy, the heat dissipated per unit volume (Watts/cubic inch) remains much the same due to contemporary high density packaging techniques. While each individual unit may or may not require forced air cooling, the combined heat generated by several various units within a typical AWOS cabinet assembly can significantly degrade the reliability of the AWOS 760 transmitter if provisions for adequate cooling are not incorporated in the particular installation.

NOTE: The AWOS 760 vhf transmitter must be mounted in the AWOS system cabinet in a lengthwise vertical position, cooling fins facing out, parallel into the convective airflow provided by an air intake vent at the bottom of the cabinet and air exhaust vent on the upper side designed into the AWOS cabinet.

FAILURE TO PROVIDE THIS TYPE OF INSTALLATION ENVIRONMENT WILL VOID MANUFACTURERS WARRANTY!

Before the AWOS 760 transmitter can be operated, the customer must obtain a Radio Station License from the Federal Communications Commission (FCC). This license can be obtained by filing the appropriate form obtained from the local FCC Field Office.

NOTE: THE VHF TRANSMITTER IN THE AWOS 760 IS GUARANTEED TO MEET FEDERAL COMMUNICATIONS COMMISSION ACCEPTANCE OVER THE OPERATING TEMPERATURE RANGE ONLY WHEN A VAL AVIONICS LIMITED CRYSTAL IS USED IN THE STABILIZED MASTER OSCILLATOR. USE OF OTHER THAN A VAL AVIONICS LIMITED CRYSTAL IS CONSIDERED AN UNAUTHORIZED MODIFICATION AND MAY VOID THE WARRANTY.

The pin assignment and function for P401/J401 are as follows:

PIN TERMINAL	FUNCTION
1	12.0 VDC UNIT POWER INPUT
2	TRANSMITTER KEY
3	NO CONNECTION (FOR FUTURE USE)
4	NO CONNECTION (FOR FUTURE USE)
5	TRANSMITTER AUDIO INPUT
6	NO CONNECTION (FOR FUTURE USE)
7	NO CONNECTION (FOR FUTURE USE)
8	NO CONNECTION (FOR FUTURE USE)
9	UNIT GROUND

INTENTIONALLY LEFT

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