

## Quick Specs

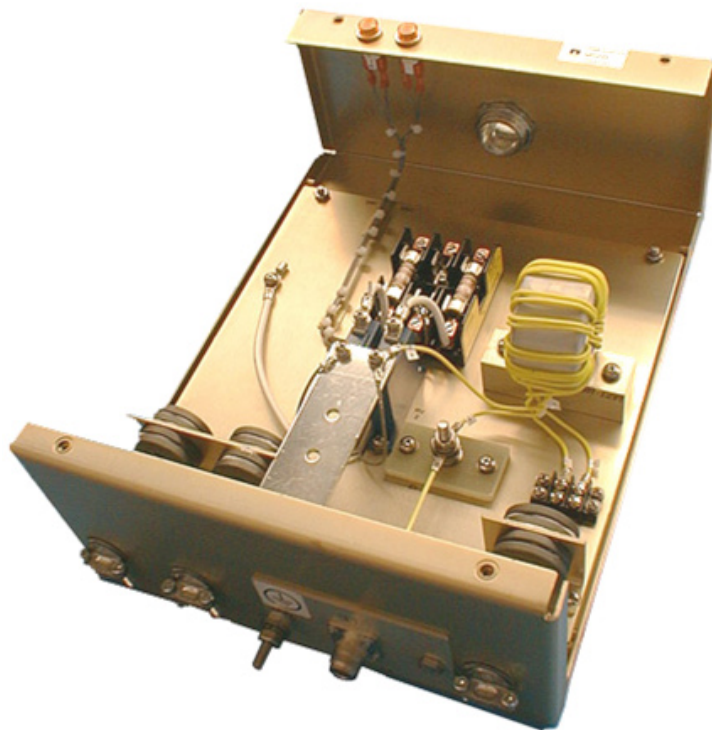
- Operating Voltage:  
115 V ac/ 230 V ac, 50/60 Hz, single phase
- Response Time:  
Less than 25 nanoseconds
- Storage Temperature Range:  
-40°C to +110°C
- Operating Temperature Range:  
-40°C to +80°C
- Relative Humidity:  
0 to 95%
- Excellent clamping characteristics
- Neon lamps that indicate integrity of the protection devices
- Reduction of EMP/RFI interference
- High transient current capacity
- Thirty times more effective than silicon carbide devices
- No extinguishing or follow-on limitations

## Introduction

This unit has been developed to protect Nautel transmitters from lightning induced transients. It is designed for transmitters with power ratings up to 1000 watts and configured to operate from 115 V ac/230 V ac (50/60 Hz) single phase. It may also be used with the combination of a main/standby pair of transmitters.

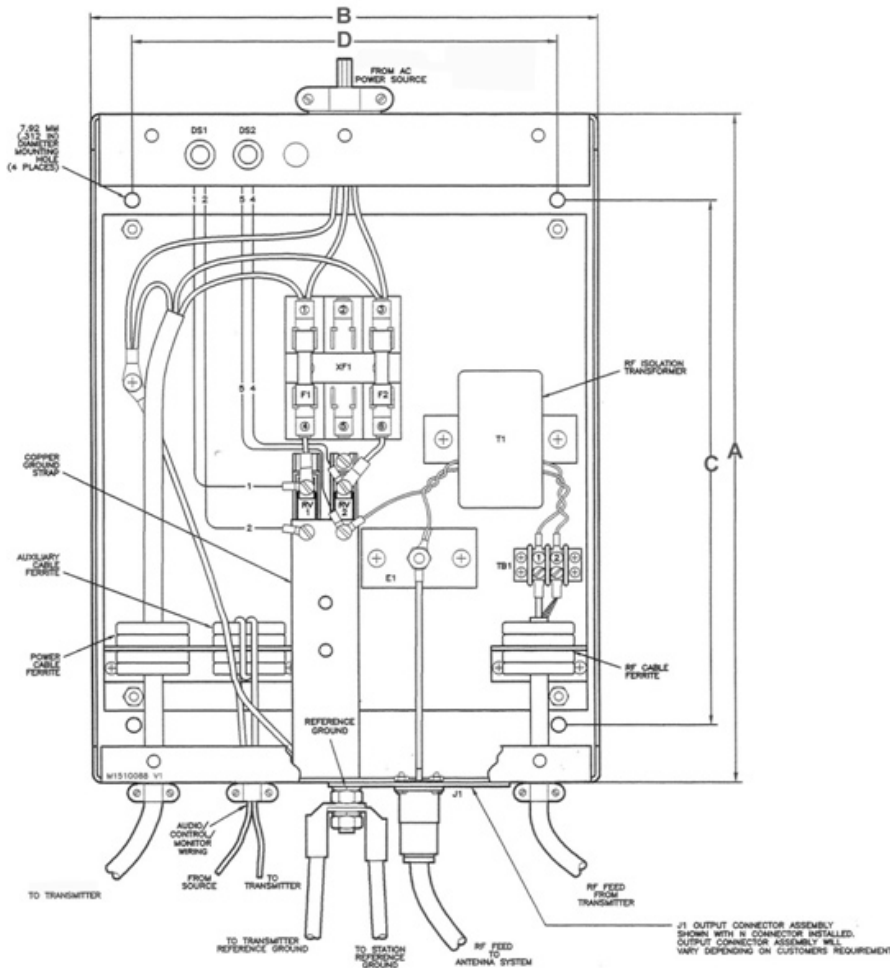
Low power level transmitters have a higher incidence of lightning damage than higher power transmitters. It is believed the cause is primarily due to the degree of diligence that low power stations apply to the implementation of lightning protection precautions.

The design of the interface/protection unit recognizes this reality and provides lightning protection for the transmitter it interfaces, with no regard for other equipment in the transmitter building.



SPU1  
Dedicated lightning protection for a transmitter





## Dimensions

### Height (A)

355.60 mm (14.0 inches)

### Width (B)

266.70 mm (10.5 inches)

### Depth

129.54 mm (5.1 inches)

### Vertical Mounting (C)

279.40 mm (11.0 inches)

### Horizontal Mounting (D)

223.52 mm (8.8 inches)

The interface/protection unit prevents lightning induced voltage/current transients from flowing through the transmitter. This is achieved by effectively interconnecting it to the transmitter with a lightning protected group of umbilical cables. Isolation of the transmitter and the desired lightning protection is accomplished by:

- Inserting a 1:1 isolation transformer in the RF feed cable. This ensures there is no dc connection between the transmitter's RF output and the antenna system.
- Connecting suitably rated varistors between the ac line and the station reference ground.
- Passing all wires and their shields, through ferrite toroids. The ferrite forms an inductance which is transparent to normal signals/voltages but presents an impedance to lightning induced transients.
- Connecting the shield of the coaxial cable from the antenna/phaser directly to the reference ground.

