

## ZNR Application Note

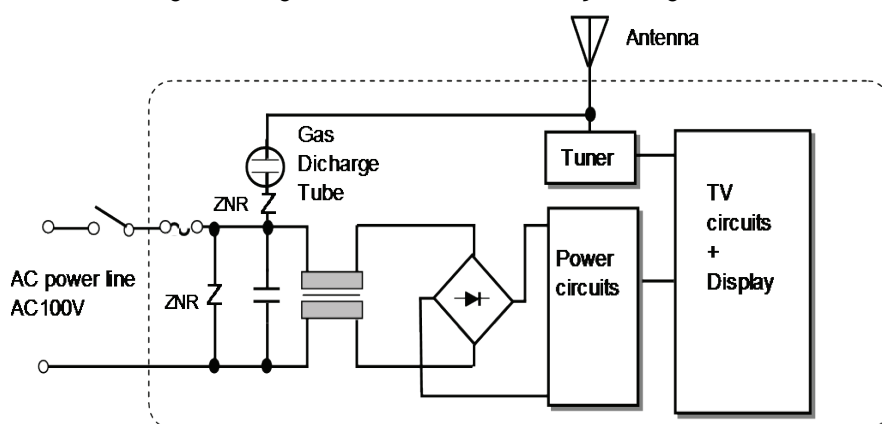
## TV & Video Equipment

### 1. Industry Segments:

Field of Industry: Audio Visual Equipment

Product: TV equipment, Video recorders with HDD, disc or tape

### 2. Transient Surge Voltage and its Protection by Using ZNR:



#### Aim of ZNR Application:

Protection of AC power management circuits and a radio frequency circuit(Tuner block) against lightning surges

#### Problems with Surge Voltage:

Kind of surge voltage: Induced lightning surge voltage

Path of surge voltage: AC power line and antenna circuit

Failed parts or circuits: Damage of power circuits and RF circuits of TV

#### How to Apply ZNR to Circuit: (Blue Part Numbers Indicate NEW “E-Series”)

Connection: AC power line(line-line), ZNR and GDT connected in series for antenna circuit(antenna-AC line bypass circuit)

ZNR part number selection (representative):

For AC100/200V systems and for antenna circuit : [ERZE08A471](#) ~ [ERZE08A621](#)

Precaution in surge protection designing (Parameters to be considered for ZNR selection):

Transient surge test in safety standards for TV: IEC60065 and JISC6065

ZNR should be selected from the parts recognized by safety standards.

### 3. Relevant Technical Information and References:

JISC6065, IEC60065 Audio, video and similar electronic apparatus-Safety requirements

### 4. More Information:

Home page for up-to-date information: <http://na.industrial.panasonic.com/products/circuit-thermal-protection/circuit-protection/znr-transientsurge-absorbers>