| Field | RAWX Key | Description |
|---|---|---|
| VM | vm | Bus voltage magnitude; entered in pu.<br><br>VM = 1.0 by default |
| VA | va | Bus voltage phase angle; entered in degrees.<br><br>VA = 0.0 by default |
| NVHI | nvhi | Normal voltage magnitude high limit; entered in pu.<br><br>NVHI = 1.1 by default |
| NVLO | nvlo | Normal voltage magnitude low limit, entered in pu.<br><br>NVLO = 0.9 by default |
| EVHI | evhi | Emergency voltage magnitude high limit; entered in pu.<br><br>EVHI = 1.1 by default |
| EVLO | evlo | Emergency voltage magnitude low limit; entered in pu.<br><br>EVLO = 0.9 by default |

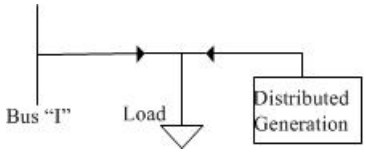
Bus data input in the RAW file is terminated with a record specifying a bus number of zero.

### 1.7.1. Bus Data Notes

VM and VA need to be set to their actual solved case values only when the network, as entered into the working case via activity READ, is to be considered solved as read in. Otherwise, unless some better estimate of the solved voltage and/or phase angle is available, VM and VA may be omitted (and therefore set to their default values; see Default Values).

## 1.8. Load Data

Each network bus at which load is to be represented must be specified in at least one load data record. Multiple loads may be represented at a bus by specifying more than one load data record for the bus, each with a different load identifier.




Each load at a bus can be a mixture of loads with three different characteristics: the Constant Power Load Characteristic, the Constant Current Load Characteristic, and the constant admittance load characteristic. For additional information on load characteristic modeling, refer to Load, activities CONL and RCNL, Modeling Load Characteristics and Basic Load Characteristics.

RAW Record Format (on single line)

```
I, ID, STATUS, AREA, ZONE, PL, QL, IP, IQ, YP, YQ, OWNER, SCALE, INTRPT,
DGENP, DGENQ, DGENM, LOADTYPE
```

RAWX Data Table Format

```
"load":{
    "fields":["ibus", "loadid", "stat", "area", "zone", "pl", "ql",
              "ip", "iq", "yp", "yq", "owner", "scale", "intrpt",
              "dgenp", "dgenq", "dgenm", "loadtype"],
    "data":[
        [152, "1", 1, 1, 1, 1200.0, 360.0, 868.3, 360.5, 837.8, -351.3,
         1, 1, 0, 0.0, 0.0, 0, ""],
        ...
        [3010, "1", 1, 5, 4, 12.0, 5.0, 0.0, 0.0, 0.0, 0.0, 5,
         1, 0, 0.0, 0.0, 0, ""]
    ]
}
```

| Field | RAWX Key | Description |
|---|---|---|
| I | ibus | Bus number, or extended bus name enclosed in single quotes (refer to Extended Bus Names).<br><br>No default allowed. |
| ID | loadid | One or two-character uppercase non-blank alphanumeric load identifier used to distinguish among multiple loads at bus I. It is recommended that, at buses for which a single load is present, the load be designated as having the load identifier '1'.<br><br>ID = '1' by default |
| STATUS | stat | Load status of one for in-service and zero for out-of-service.<br><br>STATUS = 1 by default |
| AREA | area | Area to which the load is assigned (1 through 9999). By default, AREA is the area to which bus I is assigned (refer to Bus Data). |
| ZONE | zone | Zone to which the load is assigned (1 through 9999). By default, ZONE is the zone to which bus I is assigned (refer to Bus Data). |
| PL | pl | Active power component of constant MVA load; entered in MW.<br><br>PL = 0.0 by default |
| QL | ql | Reactive power component of constant MVA load; entered in Mvar.<br><br>QL = 0.0 by default |
| IP | ip | Active power component of constant current load; entered in MW at one per unit voltage.<br><br>IP = 0.0 by default |
| IQ | iq | Reactive power component of constant current load; entered in Mvar at one per unit voltage.<br><br>IQ = 0.0 by default |

| Field | RAWX Key | Description |
|---|---|---|
| YP | yp | Active power component of constant admittance load; entered in MW at one per unit voltage.<br><br>YP = 0.0 by default |
| YQ | yq | Reactive power component of constant admittance load; entered in Mvar at one per unit voltage. YQ is a negative quantity for an inductive load and positive for a capacitive load.<br><br>YQ = 0.0 by default |
| OWNER | owner | Owner to which the load is assigned (1 through 9999). By default, OWNER is the owner to which bus I is assigned (refer to Bus Data). |
| SCALE | scale | Load scaling flag of one for a scalable load and zero for a fixed load (refer to SCAL).<br><br>SCALE = 1 by default |
| INTRPT | intrpt | Interruptible load flag of one for an interruptible load for zero for a non interruptible load.<br><br>INTRPT = 0 by default |
| DGENP | dgenp | Distributed Generation active power component; entered in units of MW.<br><br>DGENP = 0.0 by default |
| DGENQ | dgenq | Distributed Generation reactive power component; entered in units of MVAR.<br><br>DGENQ = 0.0 by default |
| DGENM | dgenm | Distributed Generation operation mode; 0 = distributed generation on feeder is OFF, 1 = distributed generation on feeder is ON.<br><br>DGENM = 0 by default |
| LOADTYPE | loadtype | Alphanumeric load type descriptor of up to twelve characters used to distinguish among different types of load.<br><br>LOADTYPE is blanks by default |

Load data input is terminated with a record specifying a bus number of zero.

## 1.8.1. Load Data Notes

The area, zone, and owner assignments of loads are used for area, zone, and owner totaling purposes (e.g., in activities AREA, OWNR, and ZONE) and for load scaling and conversion purposes. They may differ from those of the bus to which they are connected. The area and zone assignments of loads may optionally be used during area and zone interchange calculations (refer to Area Interchange Control and activities AREA, ZONE, TIES, TIEZ, INTA, and INTZ).

## 1.8.2. Constant Power Load Characteristic

The constant power characteristic holds the load power values, and also, the distributed generation power values, constant as long as the bus voltage exceeds a value specified by the solution parameter PQBRAK. The constant power characteristic assumes an elliptical current-voltage characteristic of the corresponding load current for voltages below this threshold. Figure 1-2 depicts this characteristic for PQBRAK values of 0.6, 0.7,