

## 757-DEFINE\_MUTUALLY\_EXCLUSIVE and Variables

### Symptoms

If you have a set of variables that are mutually exclusive and you set one of the variables to a non-zero value by assignment, e.g. `Var1 = 1` or the Studio Debug window, then the other variables in the set stay “on” i.e. non-zero.

```
DEFINE_VARIABLE
```

```
INTEGER var[4]
```

```
INTEGER x
```

```
DEFINE_MUTUALLY_EXCLUSIVE
```

```
(var[1],var[2],var[3],var[4])
```

```
DEFINE_PROGRAM
```

```
WAIT 20
```

```
{
```

```
x++; IF (x > 4) x = 1;
```

```
var[x] = x // This will not invoke the mutually exclusive magic
```

```
}
```

In the NetLinX code example above, all elements of `var` will eventually be non-zero.

Note: Axxess does not support making elements of an `INTEGER` array mutually exclusive.

### Cause

This has always worked this way, even in Axxess.

### Resolution

Use `ON` to set variables if they are members of a mutually exclusive set:

```
DEFINE_VARIABLE
```

```
INTEGER var[4]
```

```
INTEGER x
```

```
DEFINE_MUTUALLY_EXCLUSIVE
```

```
(var[1],var[2],var[3],var[4])
```

```
DEFINE_PROGRAM
```

```
WAIT 20
```

```
{
```

```
x++; IF (x > 4) x = 1;
```

```
ON[var[x]] // This will work as expected – only one element of var will have a value of 1 at any time
```

```
}
```

This issue does not occur with DEVCHAN's. Using ON or assigning them a non-zero value will work as expected:

```
DEFINE_DEVICE
```

```
dvRelay = 305:1:0
```

```
DEFINE_VARIABLE
```

```
INTEGER x
```

```
DEFINE_MUTUALLY_EXCLUSIVE
```

```
([dvRelay,1]..[dvRelay,4])
```

```
([dvRelay,5]..[dvRelay,8])
```

```
DEFINE_PROGRAM
```

```
WAIT 20
```

```
{
```

```
x++; IF (x > 4) x = 1;
```

```
ON[dvRelay,x] // This works as expected: only 1 relay of relays 1 to 4 will be on at a time
```

```
[dvRelay,x + 4] = x // This works as expected: only 1 relay of relays 5 to 8 will be on at a time
```

```
}
```

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