

ID: 1938520113

Unipolar

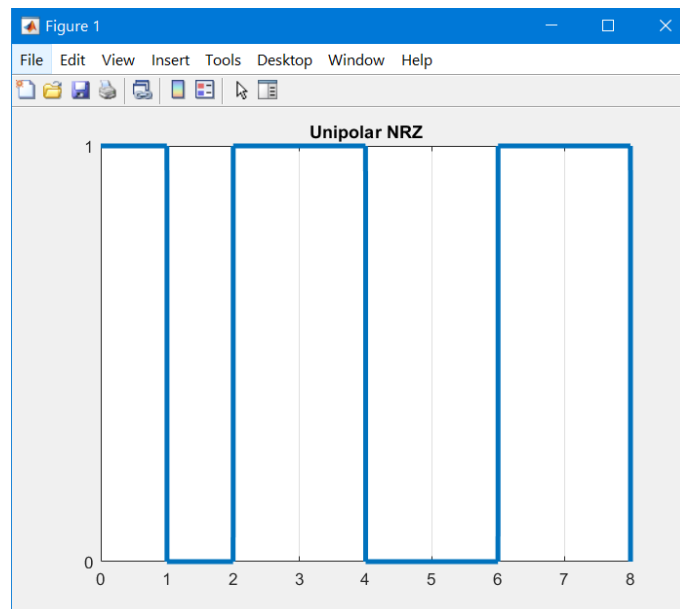
1 = positive voltage, 0 = no voltage

Code:

```
bits = input('Enter input sequence');
bitrate = 1;
n = 1000;
T = length(bits)/bitrate;
N = n*length(bits);
dt = T/N;
t = 0:dt:T;
x = zeros(1,length(t));
```

```
for i=1:length(bits)
    if bits(i)==1
        x((i-1)*n+1:i*n) = 1;
    end
end
plot(t, x, 'Linewidth', 3);
xticks(0:len)
yticks(0: 1)
grid on
```

```
Command Window
>> unipolar
Enter input sequence:[1 0 1 1 0 0 1 1]
fx>>
```

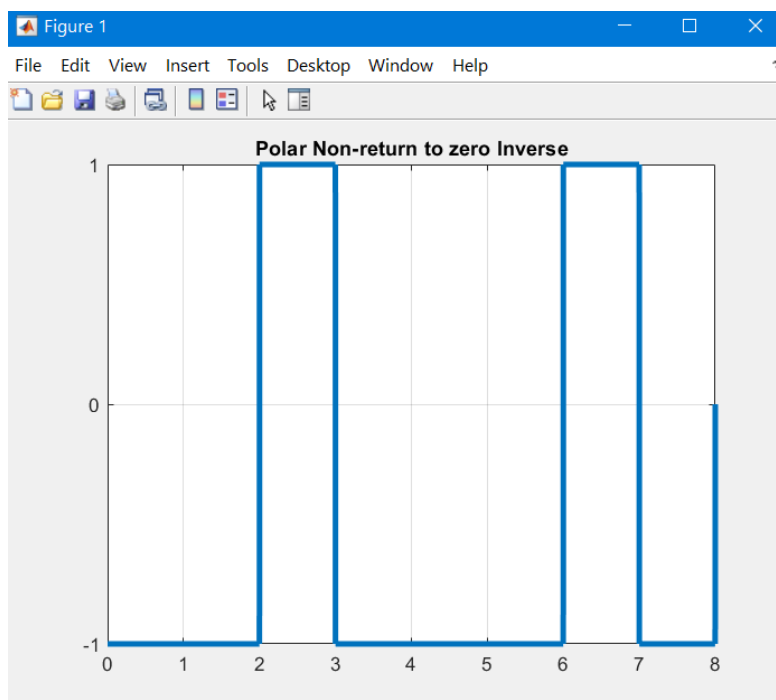


2. Polar NRZI - 1: Transition 0: No transition (assume the last non-zero level positive)

Code:

```
bits = input('Enter the bit stream');
bitrate = 1;
n = 1000;
T = length(bits)/bitrate;
len = length(bits);
N = n*len;
dt = T/N;
t = 0:dt:T;
x = zeros(1,length(t));
lastbit = 1;
for i=1:len
    if bits(i)==1
        x((i-1)*n+1:i*n) = -lastbit;
        lastbit = -lastbit;
    else x((i-1)*n+1:i*n) = lastbit;
    end
end
plot(t, x, 'Linewidth', 3);
xticks(0:len)
yticks(-1: 1)
grid on
title('Polar Non-return to zero Inverse');
```

```
>> nrzi
Enter the bit stream[1 0 1 1 0 0 1 1]
fx>> |
```



3. Polar NRZL 1: negative voltage 0: positive voltage

```
bits = input('Enter the bit stream');
bitrate = 1;
n = 1000;
T = length(bits)/bitrate;
N = n*length(bits);
dt = T/N;
t = 0:dt:T;
x = zeros(1,length(t));
for i=1:length(bits)
    if bits(i)==1
        x((i-1)*n+1:i*n) = -1;
    else x((i-1)*n+1:i*n) = 1;
    end
end
plot(t, x, 'Linewidth', 3);

xticks(0:len)
yticks(-1: 1)
grid on
title('Polar Non-return to zero Level (nrzl)');
```

Command Window

```
>> nrzl
Enter the bit stream[1 0 1 1 0 0 1 1]
```

fx >>

