```matlab
% Parameters
Fc = 4000; % Carrier frequency in Hz
Fs = 40000; % Sampling frequency in Hz
t = 0:1/Fs:0.05; % Time vector

% Message Signal (modulating signal)
Fm = 100; % Message frequency in Hz
Am = 1; % Amplitude of message signal
m = Am*cos(2*pi*Fm*t); % Message signal

% Carrier Signal
Ac = 1; % Carrier amplitude
c = Ac*cos(2*pi*Fc*t); % Carrier signal

% Amplitude Modulation
y = ammod(m, Fc, Fs);


% Amplitude Demodulation
m_demod = amdemod(y, Fc, Fs);

% Plotting
figure;

subplot(4,1,1);
plot(t, m);
title('Message Signal');
xlabel('Time (s)');
ylabel('Amplitude');

subplot(4,1,2);
plot(t, y);
title('AM Modulated Signal');
xlabel('Time (s)');
ylabel('Amplitude');


subplot(4,1,3);
plot(t, m_demod);
title('Demodulated Signal');
xlabel('Time (s)');
ylabel('Amplitude');
```
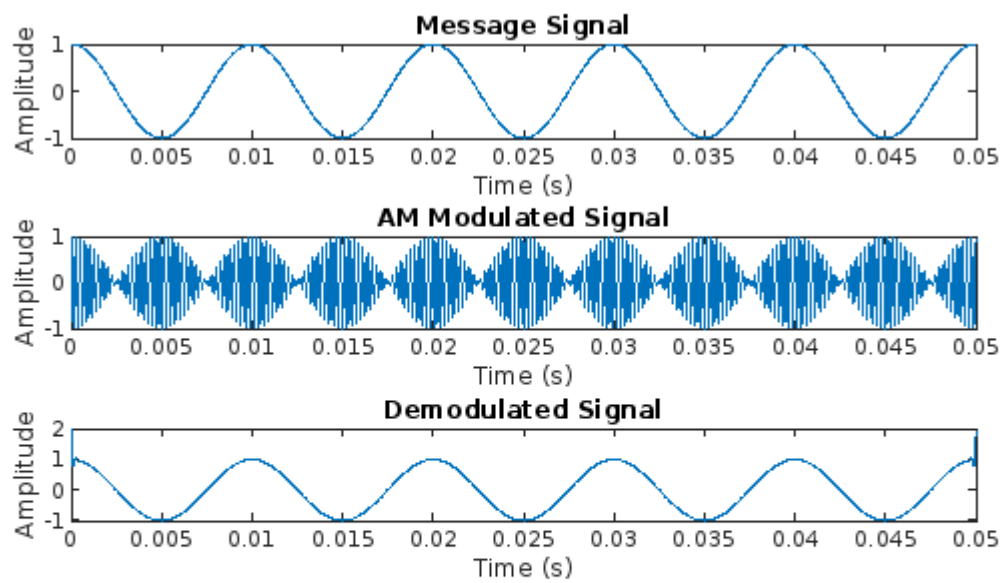
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