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1.12 Exercise
   Jacobiet (x(t)) (h(t,t)) (y(t)) (1)
                                         W3((W-W11)t)
                                                                                        (PF) yart)
 -J2 sin(Wot+ +)
                                                                                  -Jusin (WIFt)
  xit) = azit). Jzcos vet + dait/- Jzsin (wet+ p). g
        = NZ [ aziti wow - g da(t) sin(wut+4)]
  1(t) = X(t)
  (1) = y(t). co3((WL-WIF)t)
       = \sqrt{2} \cdot \left[ a_{1}(t) \cdot \frac{\cos \omega_{3}t + \cos (\omega_{c}t - \omega_{3}t)}{2} - g \cdot a_{0}(t) \cdot \frac{\sin (\omega_{3}t + \rho) + \sin (\omega_{c}t + \rho - \omega_{3}t)}{2} \right]
  (2) = LPF\{(1)\} = \sqrt{2} \cdot \left[ a_1(t) \cdot \frac{cos W_{sft}}{2} - g \cdot a_{o(t)} \cdot \frac{sin(w_{sf}t + p)}{2} \right]
  41(t) = LPF{ (2). Jz w3(W3Ft)}
         = UPI { 2 \cdot \left[ A_{2}(t) \cdot \frac{1}{2} \cdot \frac{1+\omega_{3} \times \omega_{3} + t}{2} - g A_{0}(t) \cdot \frac{1}{2} \cdot \frac{\sin(\phi) + \sin(\omega_{3} + t + \beta)}{2} \right] 
          = LPT { Az(t) = \frac{1+ \omega_3 \, mJzft}{2} - g \, Ao(t) = \frac{sin\phi + sin(2MJft + \phi)}{2} }.
          = - azit) - g. - aalt) . sin p
  yelt) = LPF { (2). - Jisin (WIFt) }
           = UPF [-2. [ az(t). \frac{1}{2} ws writin wift - gabit) \frac{1}{2}. \frac{cos(0) - ws(>wift+0)}{2}]
           = LP [ {-azit). \frac{1}{2} \sin > Wzft + \frac{1}{2} g agit). [ cos \phi - cos (mzft + \phi)] }.
           = - 2. g. a a 1-t) . cosp
=> Kewvered Signal: YI(t) + j Ya(t)
                           = = 1 aI(t) - g = 2 aa(t) sinp + j = 2 g aa(t) cos $\phi$
                           = \frac{1}{2} az(t) + j. \frac{1}{2} g aalt) [ j simp + cosp ]
                           = = [azit) + j gaait) e j ]
                             = = 1 { × a(t) + b a*(t) }
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