

ABSTRACT OF THE DISCLOSURE

TITLE OF THE INVENTION: A TIMING RECOVERY APPARATUS AND A
DIVERSITY COMMUNICATION APPARATUS
USING THE SAME

The timing recovery apparatus and the diversity communication apparatus using the same realizes a high-speed timing phase pull-in characteristic and a low-jitter characteristic at the time of power-on sequence, recovery from line disconnection and the like. The apparatuses also prevent the bit error rate characteristic and synchronization characteristic from being deteriorated by signal delay time difference. A received PSK signal is X-times oversampled. From received phase data sequences Y_i obtained by the X-times oversampling, a data sequence including j symbol frequency components not affected by carrier frequency deviation is extracted by signal processing including simple adding and subtracting operations. The data sequence including j symbol frequency components is synthesized to provide two data sequences including symbol frequency components having a good S/N ratio with $\pi/4$ phase difference in radian and not affected by carrier frequency deviation. Further, a data sequence including two symbol frequency components is used for timing regeneration.