As we have seen for the digital camera market and a resolution increasing to "megapixels", all the scientific and high-tech imagers (whatever the wave length - from radio wave to X-ray) tends also to always increases the pixels number. So the constraints on front-end data processing increase too. A quasi-unavoidable solution to simplify integration of large arrays of pixels is the front-end multiplexing. Moreover, the integration of a "simple" and "efficient" multiplexing technique allows its integration on the same substrate of the focal plane array. For instance, CCD (Charge Coupled Device) technology has boost number of pixel in digital camera. Indeed, this is exactly a planar technology which integrates both the sensors and a front-end multiplexed readout. In this context, front-end multiplexing techniques will be reviewed for a better understanding of their advantages and their limits. Finally, the cases of astronomical instruments in the millimeter ranges will be discussed as examples.