

## 22 Basic timers (TIM6/7)

### 22.1 Introduction

The basic timers TIM6, TIM7 consist of a 16-bit auto-reload counter driven by a programmable prescaler.

They can be used as generic timers for timebase generation but they are also specifically used to drive the digital-to-analog converter (DAC). In fact, the timers are internally connected to the DAC and are able to drive it through their trigger outputs.

The timers are completely independent, and do not share any resources.

### 22.2 TIM6/7 main features

Basic timer (TIM6/TIM7) features include:

- 16-bit auto-reload upcounter
- 16-bit programmable prescaler used to divide (also “on the fly”) the counter clock frequency by any factor between 1 and 65536
- Synchronization circuit to trigger the DAC
- Interrupt/DMA generation on the update event: counter overflow

**Figure 173. Basic timer block diagram**

