STFPC320

VFD controller with integrated Real-Time Clock

Following the STFPC311, ST has launched the new STFPC320 Vacuum Fluorescent Display (VFD) driver and controller with built-in standby power management connected to the microcontroller (MCU) and integrated Real-Time Clock.

The STFPC320 allows communication with the MCU through a serial I^2C interface. It also integrates functions such as watchdog timer and remote-control decoding protocols (Philips RC-5, NEC, Sony, Thomson and Matsushita).

The STFPC320 offers a complete, integrated low-cost solution for driving and controlling front-panel VFD displays.

Key features

- Wake-up from front panel / remote control keys / external pin AV_PIN8 (SCART) / Real-Time Clock (RTC)
- Integrates highly accurate, low-power RTC
- Infrared decoder for Philips, NEC, Sony, Thomson and Matsushita protocols
- Ultra-low standby current consumption (~1mA)
- Compliant with DVD/STB Energy Star and Blue Angel standards (< 1 Watt)
- 24-key scanning (12 x 2 matrix)
- Replaces the expensive MCU solution with a single front panel VFD controller
- Easy software implementation thanks to the I^2C serial interface
- PQFP52 Pb-free package

Main applications

- High end set-top boxes
- Home multimedia
- Media center PCs
- DVD recorders

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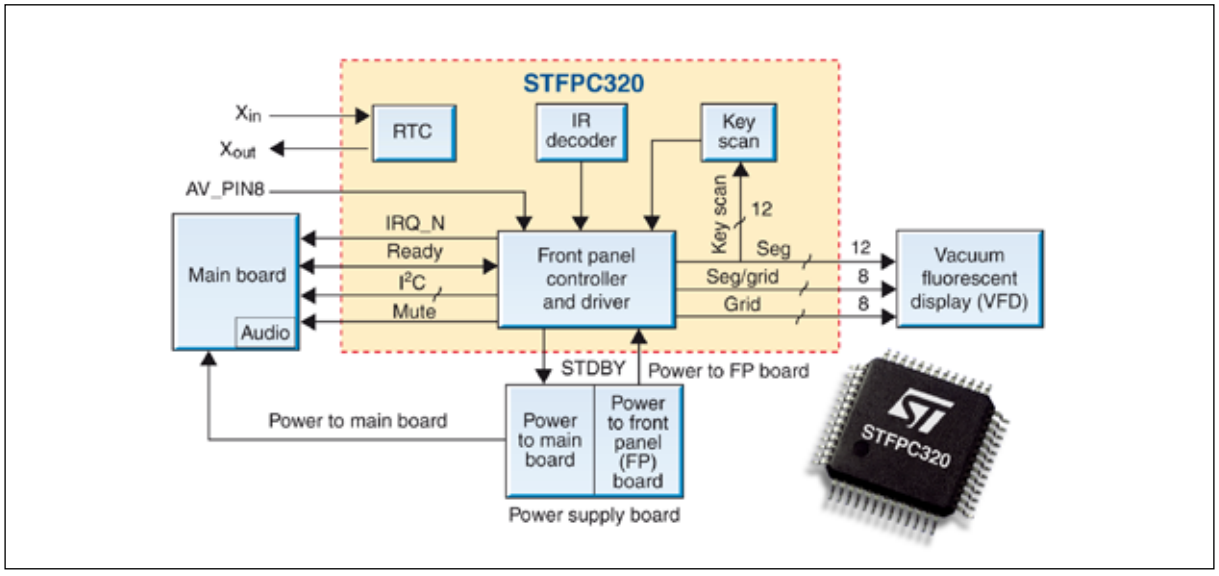
Comparison between STFPC311 and STFPC320

Features	STFPC311	STFPC320
Device type	VFD driver	VFD driver with accurate low power RTC
Remote control protocols	Philips, RC5 and NEC	Philips, RC-5, NEC, Sony, Thomson and Matsushita
Interface to host	Serial	I^2C
Interrupt	No interrupt to host	Includes an IRQ_N output to host
Wake-up	Front panel and remote control keys	Front panel and remote control keys, RTC and SCART AV_PIN8
RESET_N	POR only	Includes both POR and external hardware reset
External crystal	None required	32.768kHz crystal required for RTC
Number of wake-up keys (hot keys)	8 for both front panel and remote control	Includes all 24 keys for front panel and remote control
RC device address	Supports one remote controller at a time	Supports multiple remote controllers simultaneously
Main advantages	Low-cost VFD controller and driver thanks to high power management integration	Single chip solution to replace main MCU-based front panel ICs for VFD displays



STFPC320 application diagram

ST's front panel VFD solutions

Part number	Description	V_{CC} [V]	Number of Grids / Segments	Keyscan	Interface	Package
STFPC320	Front-panel controller with standby power management, IR decoder and integrated Real-Time Clock (RTC)	3.3	8-grids / 20-segments to 16-grids / 12-segments	12 x 2	I^2C (SCL, SDA)	PQFP52
STFPC311	Front panel controller with standby power management and IR decoder	3.3	8-grids / 20-segments to 16-grids / 12-segments	12 x 2	Serial (CLK, STB, D_{IN}, D_{OUT})	PQFP52
STM86312	1/4 to 1/11 duty, VFD controller with key-scan	5	6-grids / 16-segments to 11-grids / 11-segments	6 x 4	Serial (CLK, STB, D_{IN}, D_{OUT})	PQFP44

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Full product information at www.st.com

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