Datasheet

Updated Product Description (XC3714)

8-Digit 7-Segment Display Module (74HC595 Based)
This serial display module features eight 7-segment digits and uses dual 74HC595 shift registers for control. Unlike earlier versions that used the MAX7219 driver, this model requires manual data shifting to control segments and digits, giving developers greater flexibility but requiring more detailed coding.

Ideal for microcontroller projects requiring numeric output, this display supports common cathode 7-segment displays and can be driven via three control lines: data, shift clock, and latch clock.

🔧 Key Features

- 8-digit 7-segment display (common cathode)

- Controlled via two 74HC595 shift registers

- 3-wire serial interface: DIO, SCLK, RCLK

- Works with Arduino, Raspberry Pi, and micro:bit (via GPIO)

- Manual bit shifting or external library support required

💼 Typical Applications

- Counter or timer display

- Digital voltmeter or temperature readout

- Scoreboard displays

- Microcontroller training and education projects

📌 Connection Table

Signal Pin Name Description

Signal	Pin Name	Description
DIO	Data	Serial data input (bit stream)
SCLK	Clock	Shift clock (data bit latch)

Signal Pin Name Description

RCLK   Latch   Output register update (display)

VCC   Power   +5V power input

GND   Ground   0V ground connection

Test wiring example (STC89C52):

- DIO → P33

- SCK → P32

- RCK → P34

🔗 Arduino Compatibility and Libraries

Yes – Arduino Compatible.
However, the module **is not compatible** with MAX7219 libraries such as LedControl or MD_MAX72XX. Instead, it uses standard shift register logic (like shiftOut() in Arduino).

Library Option:
You can use general-purpose 74HC595 libraries, such as:

- [ShiftRegister74HC595](#)

- Or use shiftOut() manually

🍓 Raspberry Pi Compatibility

Yes – Compatible.
You can control this module using the GPIO pins on a Raspberry Pi via Python with libraries such as:

- RPi.GPIO or gpiozero

- Manual bit-banged shifting will be required

🧠 micro:bit Compatibility

Yes – Compatible.

The 3 control lines can be connected to any GPIO pin on the micro:bit.

You'll need to:

- Use MicroPython or MakeCode (with custom bit-shifting logic)

- Libraries for 74HC595 (if using MicroPython)

⚠️ Important Notes

- Not suitable for plug-and-play use without understanding shift register timing.

- Requires custom code or correct library.

- Not suitable for use with pre-built MAX7219 display drivers.