Balboa Display

Content

Type

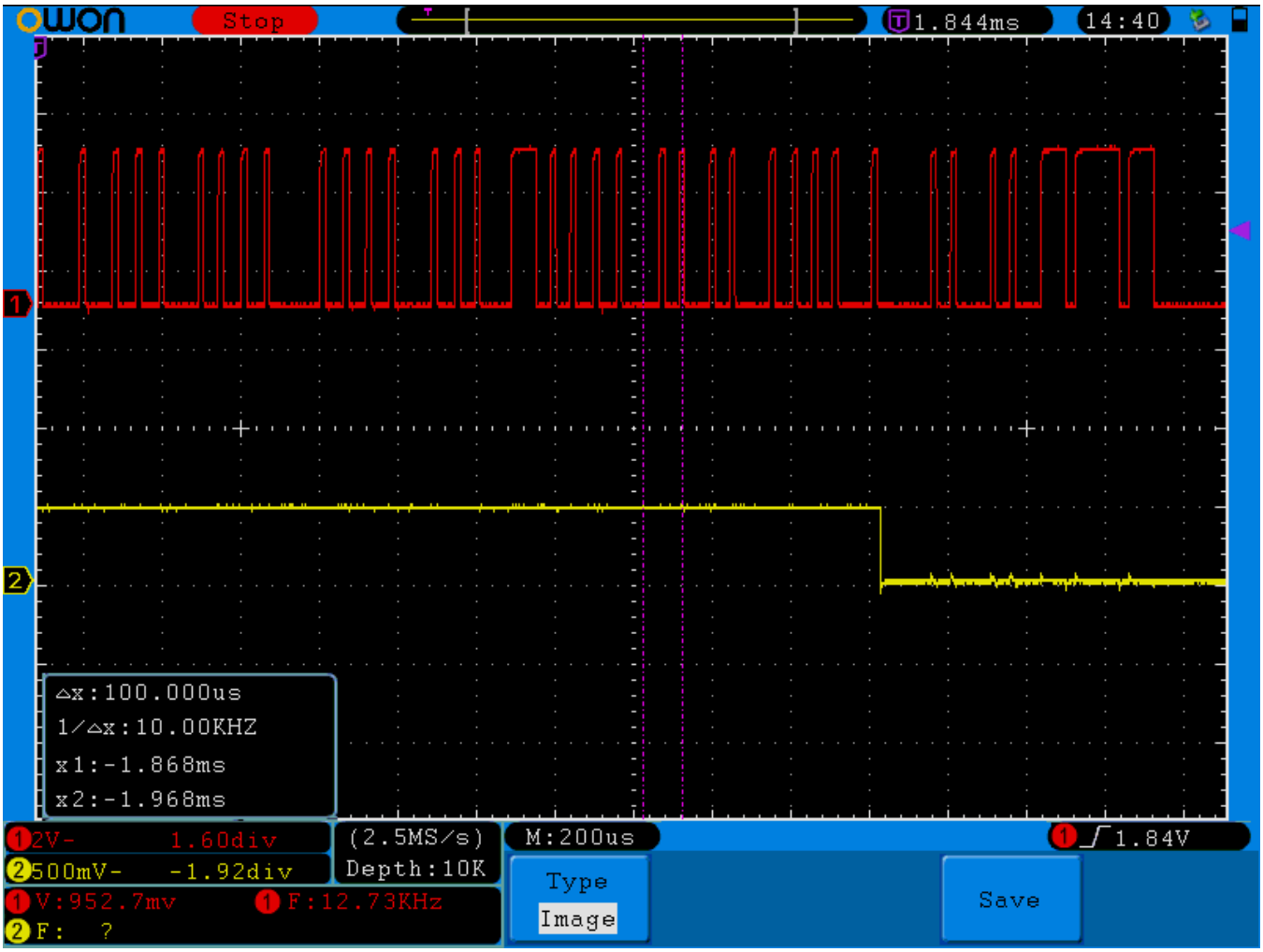
Balboa 51057-01 with RJ45 connector matches the closest layout wise.

Connector

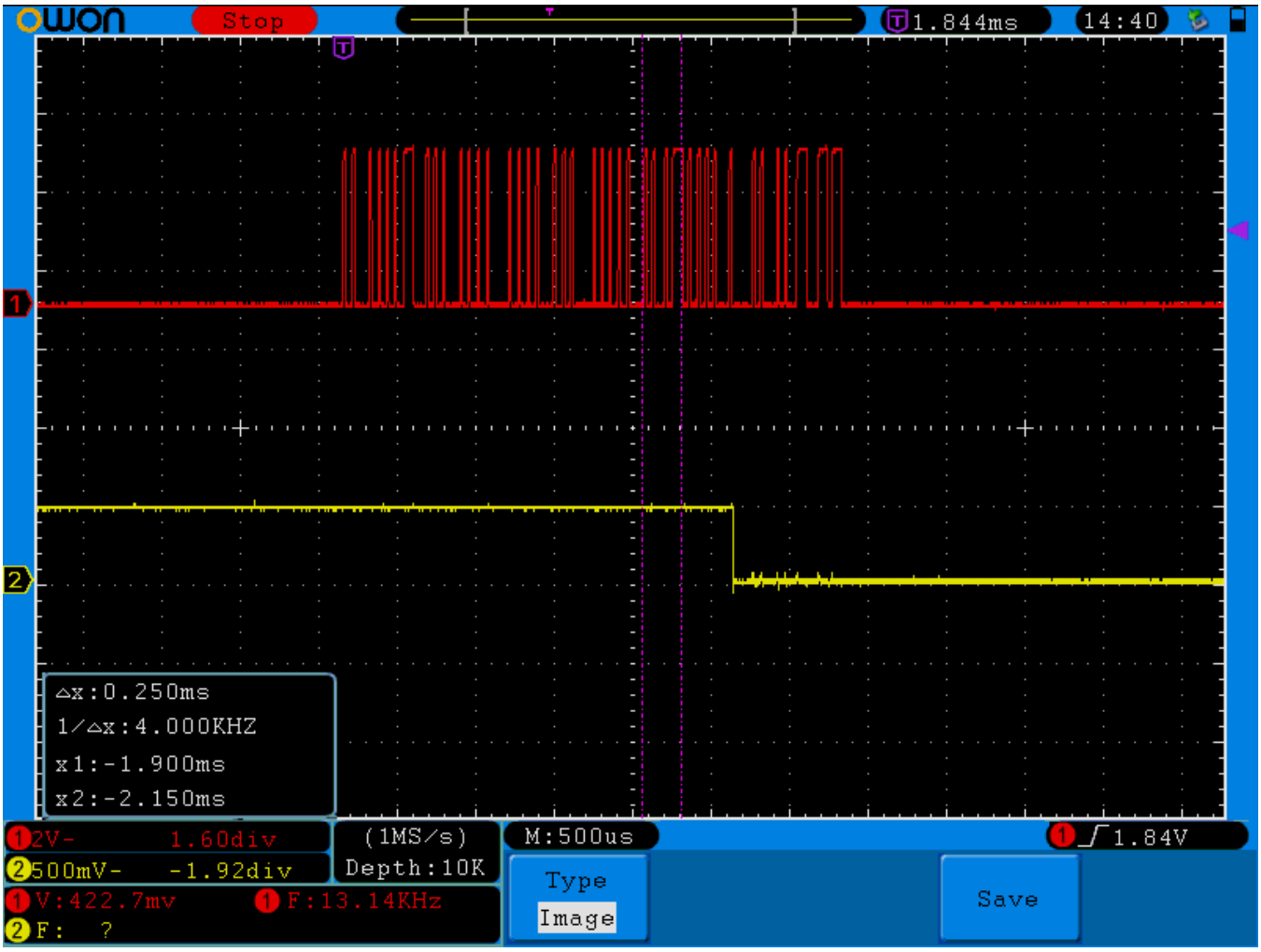
RJ45 Pin	Function
1	Internal Light Power
2	Internal Light Power
3	Button Data (from display)
4	GND
5	Data (to display)
6	Clock
7	5V
8	Floating? (maybe internal lighting?)

Scope

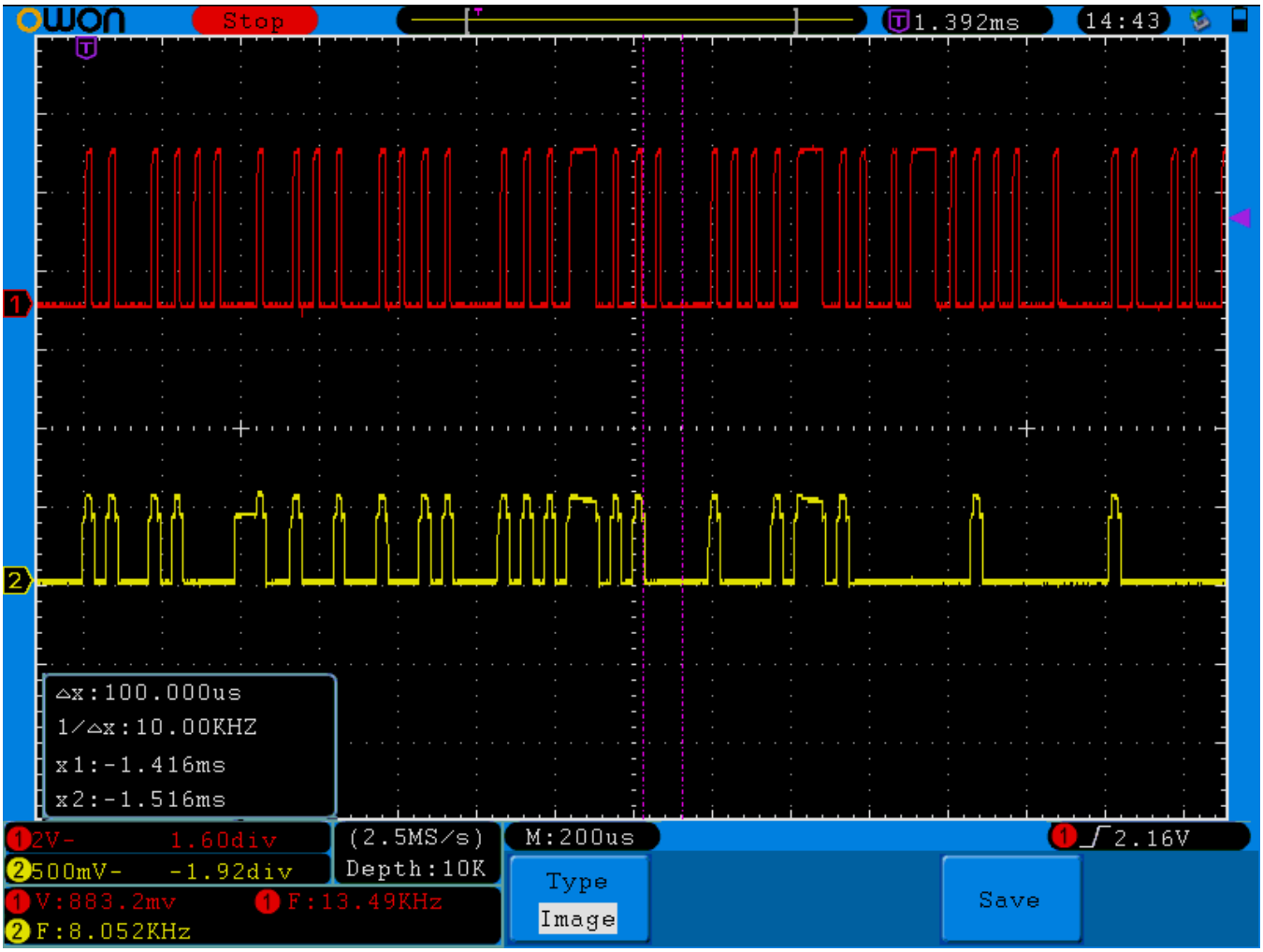
Clock + Buttons, Zoomed



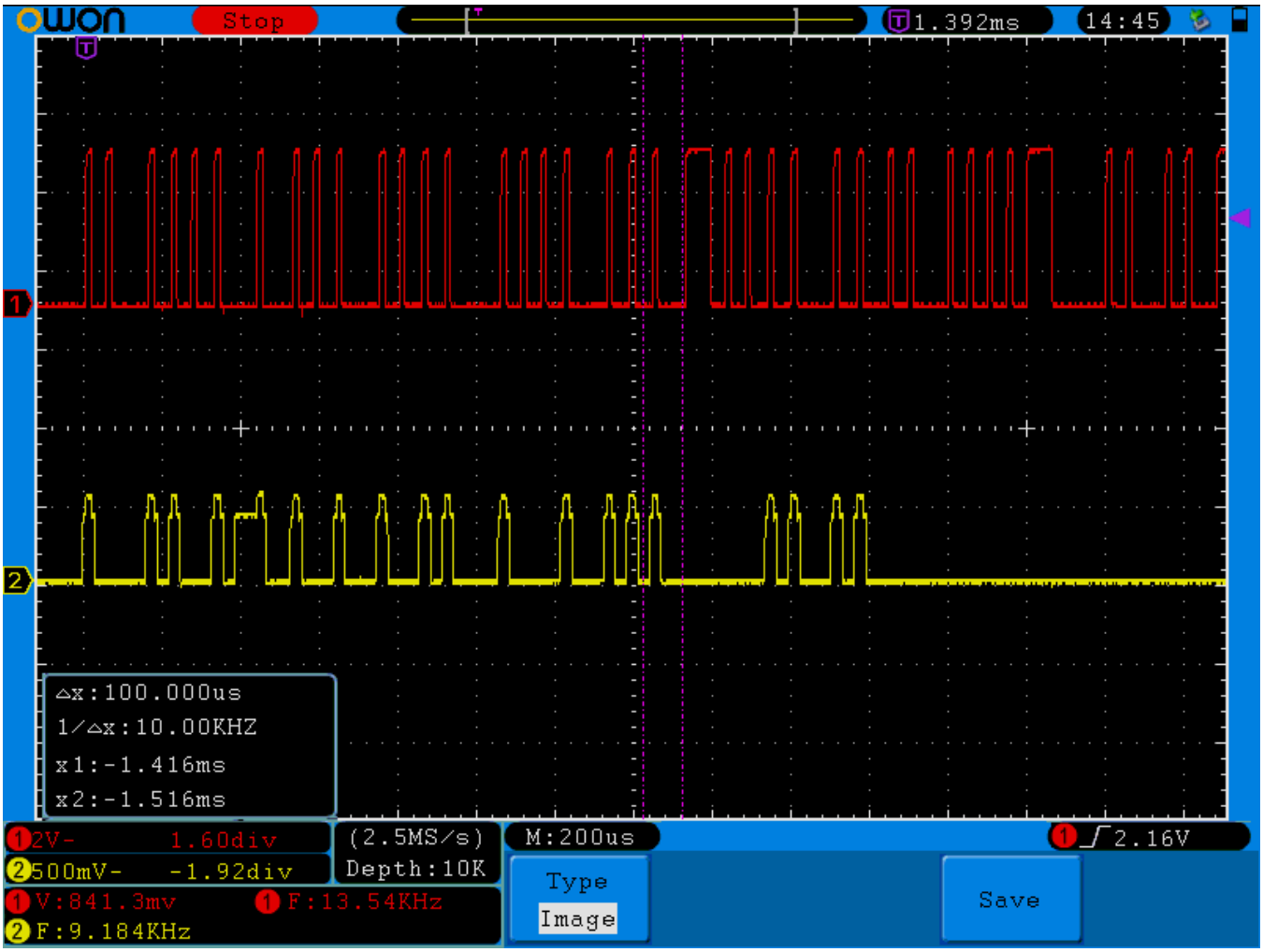
Clock + Buttons



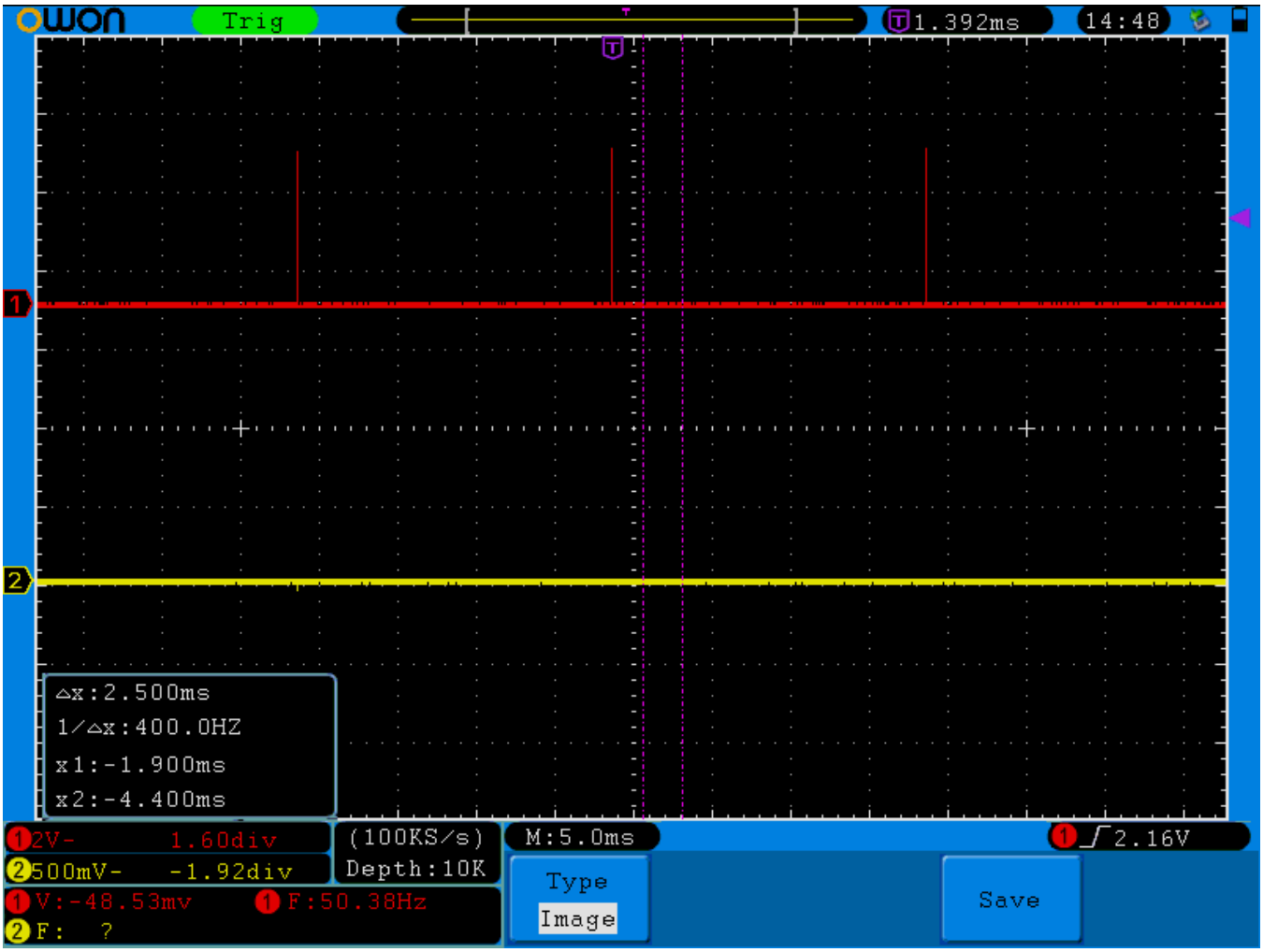
Clock + Data, Zoomed (Display: 35.0C)



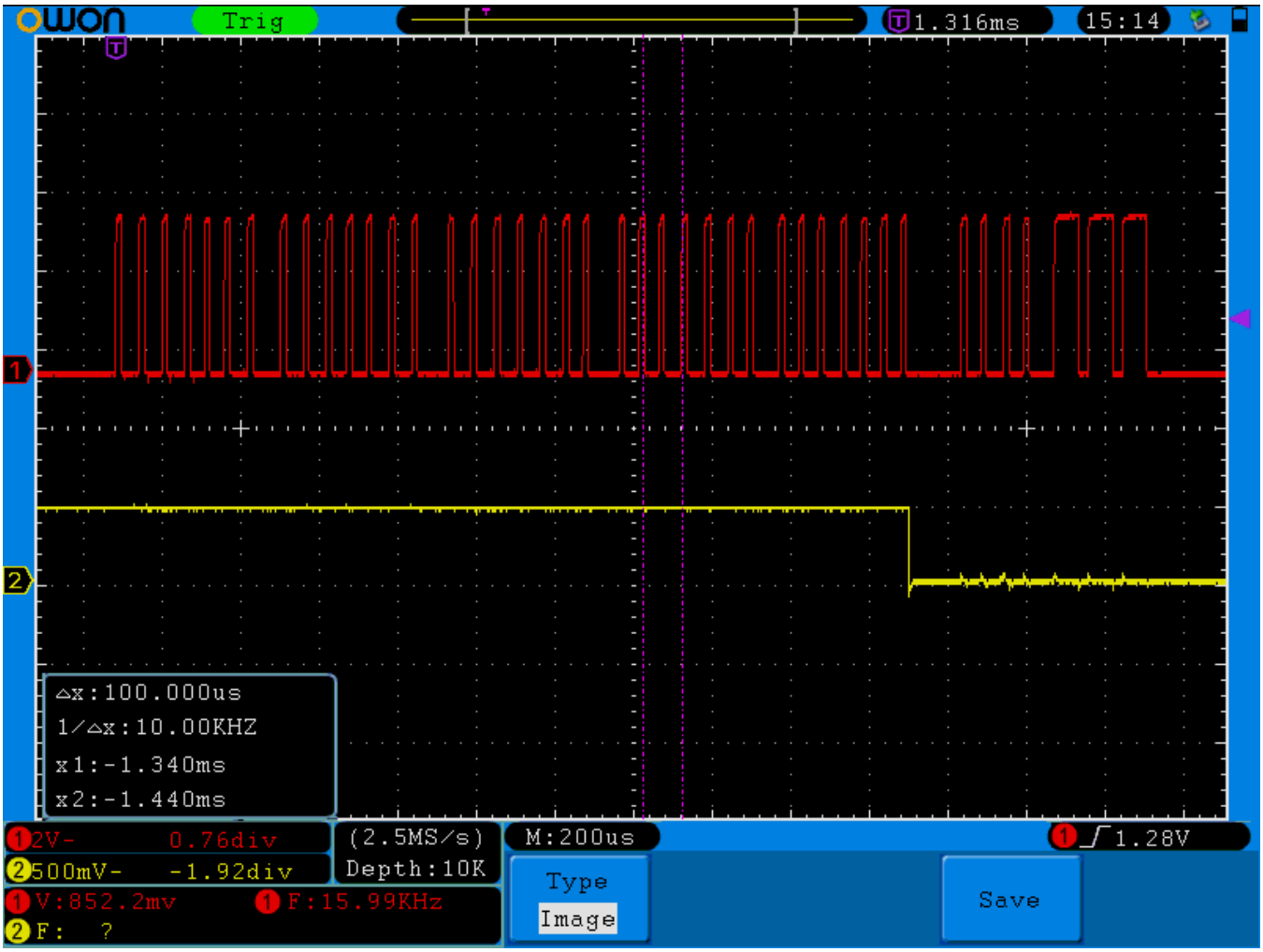
Clock + Data, Zoomed (Display: SSET)



No display plugged in

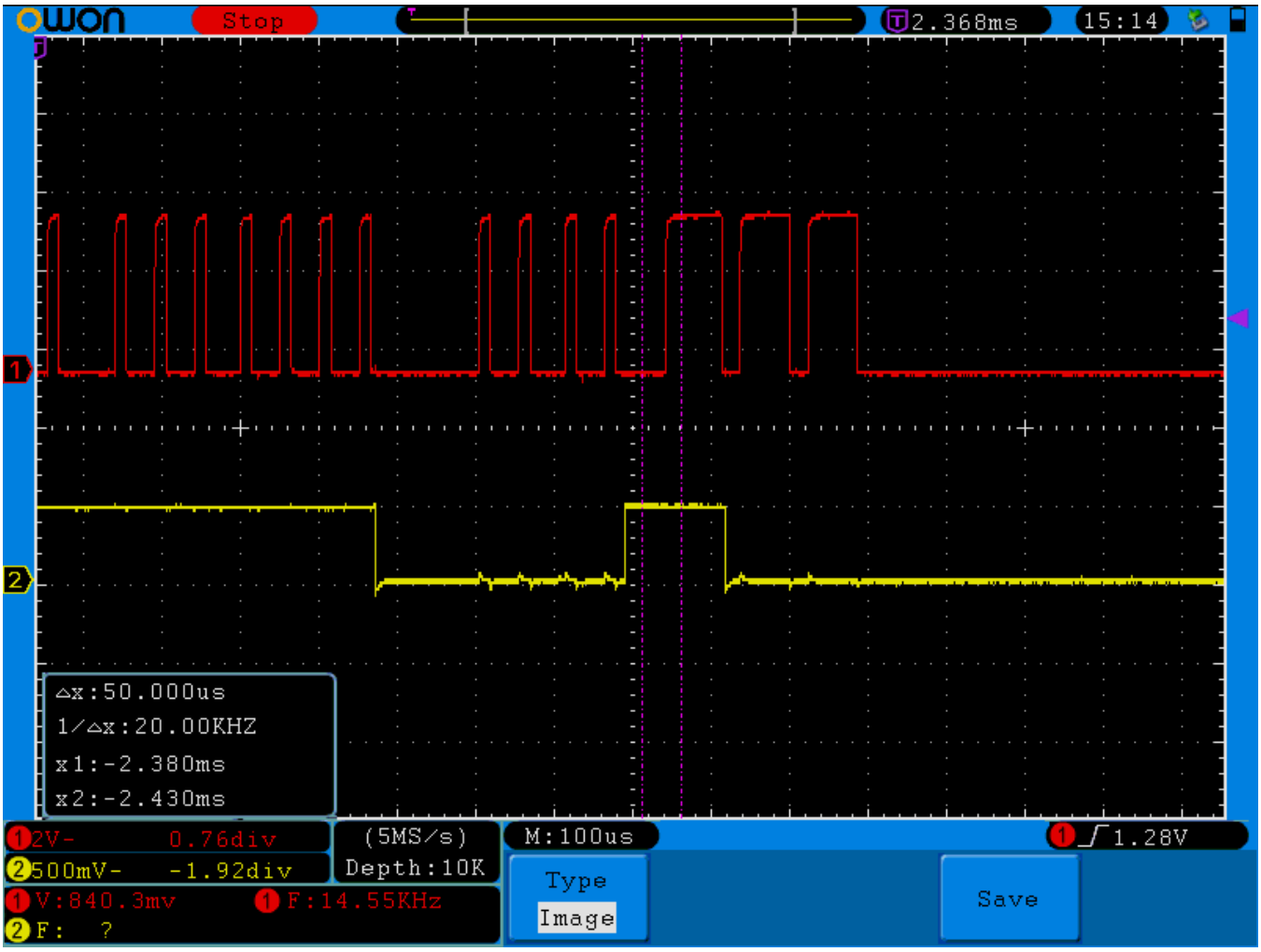


Clock + Buttons

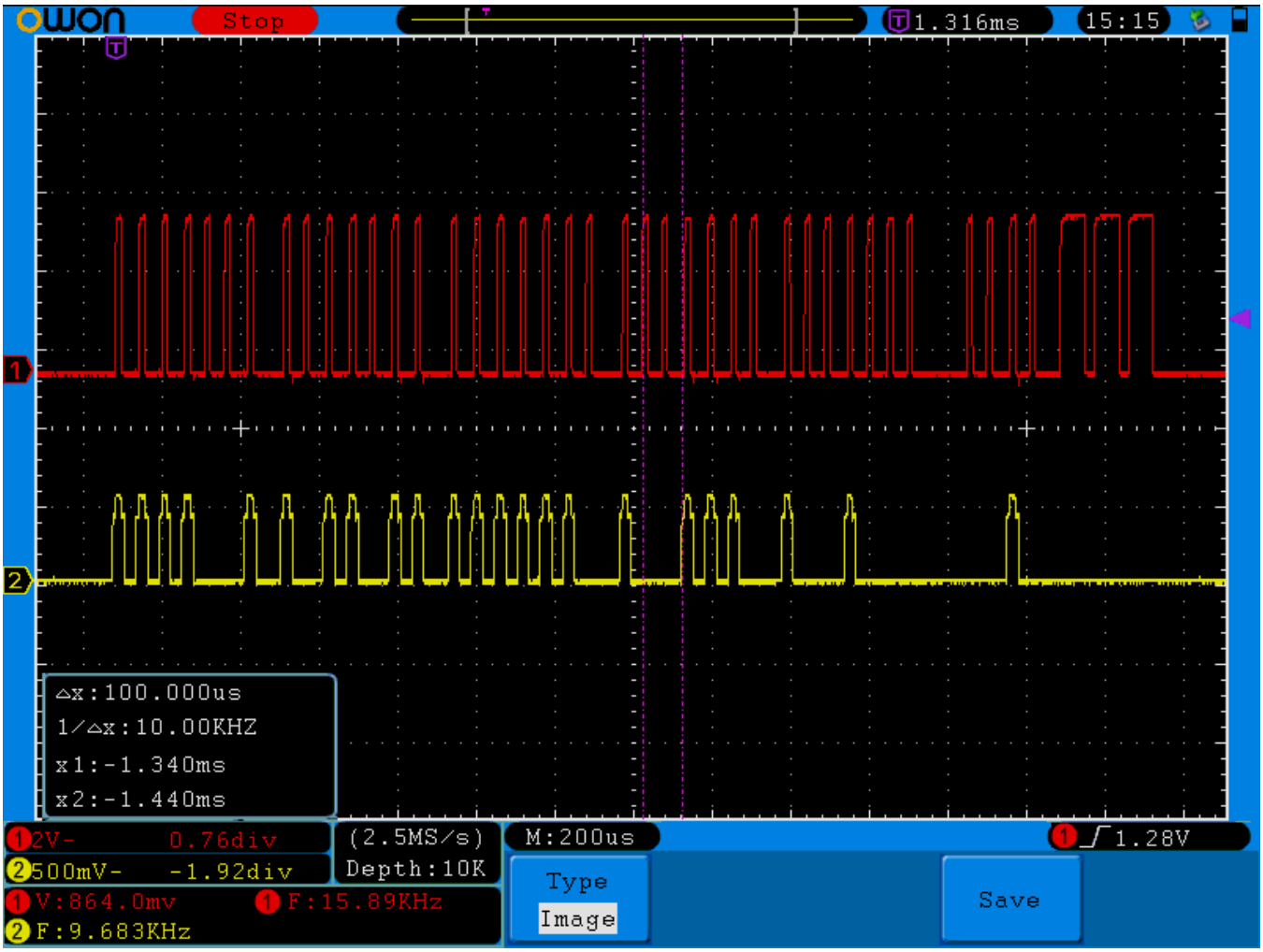


Clock + Buttons Zoomed - Decoding

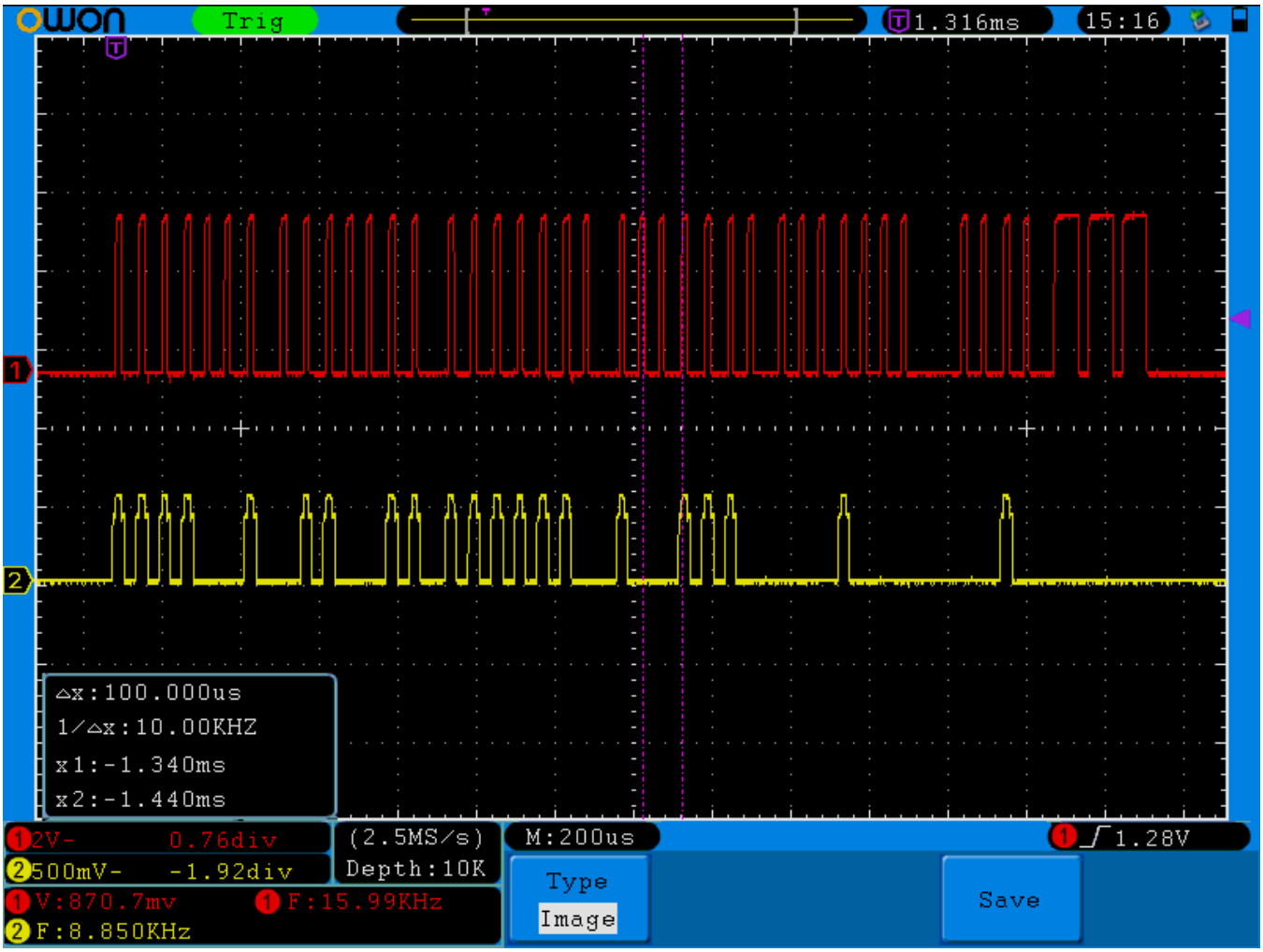
Button	Decoding
Temp Up	100
Temp Down	101
Light	111
Jets	110
Blower	011



Clock + Data (Display: 35.0C)



Clock + Data (Display: 34.0C)



Data

Data seems to be clocked out LSB first.

Byte number	Data In	Data Out
1	Display Digit 1	
2	Display Digit 2	
3	Display Digit 3	
4	Display Digit 4	
5	Bit 1 - 0x01: Arrow Up Bit 2 - 0x02: Colon Bit 3 - 0x04: AM Bit 4 - 0x08: Decimal Point Bit 5 - 0x10: PM Bit 6 - 0x20: / Bit 7 - 0x40: / Bit 8 - 0x80: /	
6	Bit 1 - 0x01: Heat Light Bit 2 - 0x02: Jets Light Bit 3 - 0x04: / Bit 4 - 0x08: Blower Light Bit 5 - 0x10: /	Button Data

Button Data

Function	MSB First	LSB First
Temp Up	0x04	0x10
Temp Down	0x05	0x50
Lights (3 settings)	0x07	0x70
Jets (2 settings)	0x06	0x30
Blower	0x03	0x60