Obsession Line Jumpers, Dipswitches and LED Guide

Obsession Line Jumpers, Dipswitches, and LED Guide

Obsession--Serf Board [4052B5011]
Revision C

1. Switches are either On (Closed) or Off (Open).
2. Obsession Serf does not use DIP switches 2-5.
3. DIP switch 1 must be Off or the system will not start.

Main DIP Switch Function (S1)

1 Factory Use Only Off	Off (Open) Should always be set
2, 3, 4 & 5 Unused	
6 Console mode on start up	On (Closed) Backup (B) Off (Open) Master (A)
7 Full Tracking Backup	On (Closed) Tracking on Off (Open) Tracking off
8 Network	On (Closed) Network installed Off (Open) Network not installed

ETC Net Jumpers for Rev C (J17)

1. Locate jumpers 1 thru 12. If I/O pcb is installed you may need to remove it to gain access.
2. For BNC connector (Thin-Net), install jumpers 1 through 6. Jumpers 7 through 12 are not installed.
3. For RJ45 connector (Twisted Pair) or the DB15 connector (ThickNet), install only jumpers 7 through 12. Jumpers 1 through 6 are not installed.

Verify that the Serf Card is getting proper DC voltage by metering between TP1 and G1. You should get 5.05vdc between these two points. If not adjust voltage at the power supply so that you get 5.05vdc between TP1 and G1.

Obsession--Serf Board [4052B5011]
Revision D and E

1. Switches are either On (Closed) or Off (Open).
2. Obsession Serf does not use DIP switches 2-5.
3. DIP switch 1 must be Off or the system will not start.

Main DIP Switch Function (S4)

1 Factory Use Only Off	Off (Open) Should always be set
2, 3, 4 & 5 Unused	
6 Console mode on start up	On (Closed) Backup (B) Off (Open) Master (A)
7 Full Tracking Backup	On (Closed) Tracking on Off (Open) Tracking off
8 Network	On (Closed) Network installed Off (Open) Network not installed

ETC Net Dipswitch settings for Rev D and Rev E

1. Locate the two sets of Dipswitches, at the back right corner of the main circuit board (near the fans). If I/O pcb is installed you may need to remove it to gain access.
2. For BNC (ThinNet) connector, set the back six Dip switches, labeled (S1), to On <right>. Set the front six Dip switches to Off <left>.
3. For RJ45 (Twisted Pair) connector or the DB15 (ThickNet) connector, set the front six Dip switches, labeled (S2), to On <right>. Set the back six Dip switches to Off <left>.

Verify that the Serf Card is getting proper DC voltage by metering between TP1 and G2. You should get 5.05vdc between these two points. If not adjust voltage at the power supply so that you get 5.05vdc between TP1 and G2.

Chip locations

Serf PCB—4052B5011 Rev E&D

DMX 1	U76	SN75176	Z216
DMX 2	U75	SN75176	Z216
DMX 3	U74	SN75176	Z216
DMX 4	U73	SN75176	Z216 (Spare)
CRT#1	U20	BT477	Z479 CRT#1 Ramdac
CRT#2	U9	BT477	Z479 CRT#2 Ramdac

Serf PCB—4052B5011 Rev C

DMX 1	U63	SN75176	Z216
DMX 2	U62	SN75176	Z216
DMX 3	U61	SN75176	Z216
DMX 4	U60	SN75176	Z216 (Spare)
CRT#1	U24	BT477	Z479 CRT#1 Ramdac
CRT#2	U10	BT477	Z479 CRT#2 Ramdac

Node PCB—4052B5014 Rev A

DMX 1	U44	SN75176	Z216
DMX 2	U47	SN75176	Z216
DMX 3	U49	SN75176	Z216
DMX 4	U51	SN75176	Z216 (Spare)
RFU Tx	U46	SN75176	Z216
RFU Rx	U45	SN75176	Z216

Obsession Serf PCB LED Guide--4052B5011
Slave Version 1.24 and higher
Numbers 0-7 are LEDS cr20 thru cr27.

Fast Blink	~30 Hz
Blink	~2 Hz
Slow Blink	<< 1 Hz - as slow as once every 15 minutes
? or Stopped	Not blinking, can be in either state
Boot ROM	
1-7 off	Startup
6,7 on	It Lives!
5 on	Dram initialize
4 on	Control Tables set up
3 on	Restart from Dram
2 on	About to start monitor or down loader
Down Loader	
0,1 off 2-7 on	Waiting for Host to sync up
Monitor	
0 blink 1-7 on	Running monitor
After Down Load	
0-7 off	Slave code start
0-5 off 6 blink 7 off	Waiting for Host to sync up
0-6 off 7 on	Sync complete
0-5 off 6,7 on	Done with shared memory setup
0-5 off 6 on 7 blink	DUART 1 initialized, clock running
0-4 off 5,6 on 7 blink	Both DUARTs initialized
0-3 off 4-6 on 7 blink	DMA setup, requires DUART 0
0-2 off 3-6 on 7 blink	DRAM vars setup
0,1 off 2-6 on 7 blink	Start of Main Loop
Running	
0 Slow blink	Getting tick packets from Host (extremely slow)
1 Blink	Main Loop running (possibly nothing from Host)
2-5 Fast blink	Processing Data
7 Blink	Clock (DUART 1) running
Error States	
0 ? 1,7 blink 2-5 off 6 ?	Slave running, Host not communicating
0,1 ? 2-5 off 6 ? 7 blink	Slave waiting to return packets to Host
0-5 stopped 6,7 blink	Shared memory queues hosed
0-7 stopped	Slave crash

Obsession Facepanel PCB LED Guide--4052B5004
Revision D and higher
Numbers 1<4 are LEDS cr3 thru cr6.

Fast Blink	~30 Hz
Blink	~2 Hz
On, OFF	Not blinking, can be in either state
Boot ROM	
2,4 Fast Blink	Facepanel waiting for Sync, Blink is simultaneous
After Down Load	
2,4 Fast Blink	Facepanel waiting for Sync, Blink is simultaneous
1 On	???
Running	
2,4 Fast Blink	Facepanel procession instructions, Blink is alternating
1 Slow Blink	FIFO status
Led States	
4 (Green) Fast Blink	Timer (20 msec) for processing instructions
3 (Red) On	Error in communication between U1 and U3 Micro
2 (Green) Fast Blink	Timer (20 msec) for processing instructions
1 (Yellow) Slow Blink	FIFO status, Blinks when FIFO gets loaded and cleared

Fuses

Full Console		
A/C	F133	FUSE 6.25A SLOW 1/4X1 ¼
RFU	F131	Fast Micro #272.002 Littelfuse
Net	F125	Fast Micro #272.001 LittleFuse
Remote Console		
A/C	F133	FUSE 6.25A SLOW 1/4X1 ¼
PS	F122	FUSE 5A 250V 3AG 312.005 LTF
RFU	F131	Fast Micro #272.002 Littelfuse
Net	F125	Fast Micro #272.001 LittleFuse
Processor Unit		
A/C	F133	FUSE 6.25A SLOW 1/4X1 ¼
PS	F122	FUSE 5A 250V 3AG 312.005 LTF
RFU	F131	Fast Micro #272.002 Littelfuse
Net	F125	Fast Micro #272.001 LittleFuse

Obsession Line Jumpers, Dipswitches, and LED Guide

Remote Console--Node Board [4502B51014]

1. Switches are either On (Closed) or Off (Open).
2. The Remote Console does not use DIP switches 7 or 8.
3. DIP switch 1 must be Off and 2 must be On or the Remote Console will not start.

Main DIP Switch Function (S1)

1	Factory Use Only	Off (Open) Normal operation
2	Factory Use Only	On (Closed) Normal operation
3	Factory Use Only	Off (Open) Normal operation
4	Remote Console	On (Closed) Enables Remote Console interface
5	through 8 Reserved	Off (Open) Normal operation

ETC Net Jumpers for Rev A PCB (J22)

1. Locate jumpers 1 through 14.
2. For BNC connector (Thin-Net), install jumpers 1 through 6. Jumpers 7 through 12 are not installed.
3. For RJ45 connector (Twisted Pair) or the DB15 connector (ThickNet), install only jumpers 7 through 12. Jumpers 1 through 6 are not installed.
4. Jumper 14 should always be on. Jumper 13 must always be Off.

ETC Net Jumpers for Rev 0 PCB (J22)

1. Locate jumpers 1 through 14.
2. For BNC connector (Thin-Net), install jumpers 9 through 14. Jumpers 3 through 8 are not installed.
3. For RJ45 connector (Twisted Pair) or the DB15 connector (ThickNet), install only jumpers 3 through 8. Jumpers 9 through 14 are not installed.
4. Jumper 1 must always be On. Jumper 2 must always be Off.

Verify that the Node Card is getting proper DC voltage by metering between TP1 and Com. You should get 5.05vdc between these two points. If not adjust voltage at the power supply so that you get 5.05vdc between TP1 and Com.

Designer's Remote Console--Node Board [4052B5014]

1. Switches are either On (Closed) or Off (Open).
2. The Designer's Remote Console Remote Interface does not use DIP switches 7 or 8.
3. DIP switch 1 must be Off and 2 must be On or the Designer's Remote Console Remote Interface will not start.

Main DIP Switch Function (S1)

1.	Factory Use Only	Off (Open) Normal operation
2.	Factory Use Only	On (Closed) Normal operation
3. & 4	Remote Console	On (Closed) Enables Designer's Remote Console
5.	Reserved	Off (Open) Normal operation
6.	DMX512 addressing	Off (Open) Addresses DMX512 outputs 1-1,536 On (Closed) Addresses DMX512 outputs 1,537-3,072
7.	Unused	Off (Open) Normal operation
8.	Unused	Off (Open) Normal operation

ETC Net Jumpers for Rev A PCB (J22)

1. Locate jumpers 1 through 14.
2. For BNC connector (Thin-Net), install jumpers 1 through 6. Jumpers 7 through 12 are not installed.
3. For RJ45 connector (Twisted Pair) or the DB15 connector (ThickNet), install only jumpers 7 through 12. Jumpers 1 through 6 are not installed.
4. Jumper 14 should always be on. Jumper 13 must always be Off.

ETC Net Jumpers for Rev 0 PCB (J22)

1. Locate jumpers 1 through 14.
2. For BNC connector (Thin-Net), install jumpers 9 through 14. Jumpers 3 through 8 are not installed.
3. For RJ45 connector (Twisted Pair) or the DB15 connector (ThickNet), install only jumpers 3 through 8. Jumpers 9 through 14 are not installed.
4. Jumper 1 must always be On. Jumper 2 must always be Off.

Verify that the Node Card is getting proper DC voltage by metering between TP1 and Com. You should get 5.05vdc between these two points. If not adjust voltage at the power supply so that you get 5.05vdc between TP1 and Com.

ML Designer's Remote Console--Node Board [4052B5014]

1. Switches are either On (Closed) or Off (Open).
2. The Designer's Remote Console Remote Interface does not use DIP switches 7 or 8.
3. DIP switch 1 must be Off and 2 must be On or the Designer's Remote Console Remote Interface will not start.

Main DIP Switch Function (S1)

1.	Factory Use Only	Off (Open) Normal operation
2.	Factory Use Only	On (Closed) Normal operation
3.	ML Des. Remote Con	Off (Open) Normal operation
4.	ML Des. Remote Con	Off (Open) Normal operation
5.	ML Des. Remote Con	On (Closed) Enables ML Designer's Remote Console
6.	DMX512 addressing	Off (Open) Addresses DMX512 outputs 1-1,536 On (Closed) Addresses DMX512 outputs 1,537-3,072
7.	Unused	Off (Open) Normal operation
8.	Unused	Off (Open) Normal operation

ETC Net Jumpers for Rev A PCB (J22)

1. Locate jumpers 1 through 14.
2. For BNC connector (Thin-Net), install jumpers 1 through 6. Jumpers 7 through 12 are not installed.
3. For RJ45 connector (Twisted Pair) or the DB15 connector (ThickNet), install only jumpers 7 through 12. Jumpers 1 through 6 are not installed.
4. Jumper 14 should always be on. Jumper 13 must always be Off.

Verify that the Node Card is getting proper DC voltage by metering between TP1 and Com. You should get 5.05vdc between these two points. If not adjust voltage at the power supply so that you get 5.05vdc between TP1 and Com.

Remote Interface--Node Board [4052B5014]

1. Switches are either On (Closed) or Off (Open).
2. The Remote Interface does not use DIP switches 7 or 8 .
3. DIP switch 1 must be Off and 2 must be On or the Remote Interface will not start.

Main DIP Switch Function (S1)

1.	Factory Use Only	Off (Open) Normal operation
2.	Factory Use Only	On (Closed) Normal operation
3.	Factory Use Only	Off (Open) Normal operation
4.	Factory Use Only	Off (Open) Normal operation
5.	Reserved	
6.	DMX512 addressing	Off (Open) Addresses DMX512 outputs 1-1,536 On (Closed) Addresses DMX512 outputs 1,537-3,072
7.	Unused	Off (Open) Normal operation
8.	Unused	Off (Open) Normal operation

ETC Net Jumpers for Rev A PCB (J22)

1. Locate jumpers 1 through 14.
2. For BNC connector (Thin-Net), install jumpers 1 through 6. Jumpers 7 through 12 are not installed.
3. For RJ45 connector (Twisted Pair) or the DB15 connector (ThickNet), install only jumpers 7 through 12. Jumpers 1 through 6 are not installed.
4. Jumper 14 should always be on. Jumper 13 must always be Off.

ETC Net Jumpers for Rev 0 PCB (J22)

1. Locate jumpers 1 through 14.
2. For BNC connector (Thin-Net), install jumpers 9 through 14. Jumpers 3 through 8 are not installed.
3. For RJ45 connector (Twisted Pair) or the DB15 connector (ThickNet), install only jumpers 3 through 8. Jumpers 9 through 14 are not installed.
4. Jumper 1 must always be On. Jumper 2 must always be Off.

Verify that the Node Card is getting proper DC voltage by metering between TP1 and Com. You should get 5.05vdc between these two points. If not adjust voltage at the power supply so that you get 5.05vdc between TP1 and Com.

Obsession Node PCB LED Guide--4052B5014

Revision A and higher

Numbers 1<4 are LEDS cr21 thru cr24.

Fast Blink	~30 Hz
Slow Blink	~2 Hz
2Blink	Double blink
5Blink	Pentuple blink
On, OFF	Not blinking, can be in either state

Running

1 Fast Blink	Node processing packets

Led States

1 (Red) Fast Blink	Node Processing packets
2Blink	Jabber on packets
5Blink	Polarity reversed Timer (20 msec)
2 (Green) Slow Blink	Output Transmitter status, Slow blink on short
3 (Green) Slow Blink	Input Receiver status, Slow blink on short
4 (Yellow) On or Slow Blink	Collision on Ethernet

Remote Video Interface—Processor Board [4053B5001]

1. Switches are either On (Closed) or Off (Open).

Main DIP Switch Function

1	Factory Use Only	On (Closed) Normal operation
2 - 5	Factory Use Only	Off (Open) Unused
6 + 7	Factory Use Only	On (Closed) Normal operation
8	Factory Use Only	Off (Open) Unused

ETC Net Dipswitch settings for Rev A and Rev 0 PCB

1. Locate the two sets of DIP switches, visible through the right side panel of the RVI.
2. For BNC (ThinNet) connector, set the back six DIP switches to On (up). Set the front six to Off (down).
3. For RJ45 (Twisted Pair) connector or the DB15 (ThickNet) connector, set the front six switches to On (up). Set the back six to Off (down).

Obsession 2 Line LED Quick Guide

Face Panel Board Functions

Status LEDs

Each PC board on the face panel contains one red, one green, and three yellow status indicator LEDs. The color and function of these LEDs is common to all PC boards. They are intended to be used for local status indication and visual troubleshooting. The LED functions are described in the following text.

Heartbeat LED

This red LED indicates that the PIC is running and executing its main instruction loop. Normal operation is indicated by the LED flashing. If this LED is not flashing, this is a bad thing. The board is dead, dead, dead.

Key-scan LED

This yellow LED indicates that the PIC is scanning any keys present on the board or connected from elsewhere on the console. Normal operation is indicated by the LED flashing quickly and then remaining off for a short period. For this reason, this LED appears to be dimly lit in normal operation. This LED is flashed on and off at the start of the scanning sequence so may be used to synchronize test equipment for troubleshooting purposes.

I²C—Switch LED

This green LED has a dual function. It indicates activity on the I²C bus and when a switch contact is closed. Normal operation is indicated by the LED flashing quickly on and off when a packet of information is transmitted or received over the I²C bus. For this reason, this LED appears to be dimly lit in normal operation.

The second function of this LED is to indicate when a switch on or connected to the board is closed. The LED is lit at full intensity when any switch contact is closed and will remain lit until the switch contact is opened.

Pot—Encoder LED

This yellow LED also has a dual function. It indicates activity by any shaft encoder mounted on or connected to the board and has a test function related to potentiometers. Normal operation is indicated by the LED being off. When a shaft encoder is rotated, the LED is flashed quickly on and off as each phase changes state. For this reason, the LED appears to be dimly lit while the shaft encoder is being rotated. The apparent intensity will increase as the shaft encoder is rotated faster.

The second function of the LED is to indicate 50% position of potentiometers on the board. The potentiometer which is being indicated is one less than the potentiometer set to maximum. In other words, push a pair of fader or submaster potentiometers to maximum. The LED will be lighted at full intensity. Adjust the lower numbered (on the schematic) potentiometer toward a lower setting. When the potentiometer reaches 50% or below, the LED will go out. The alternate test is to set all potentiometers to maximum. Adjust any potentiometer toward a lower setting. When the potentiometer reaches 50% or below, the LED will go out. Return the selected potentiometer to maximum to test any another.

+5 Volts DC LED

This yellow LED indicates there is +5 volts DC power applied to the board. Normal operation will have this LED lit at full intensity as soon as power is turned on to the console.

Console CPU Board Functions

CR4 - blinks when sending Ethernet packet
CR5 - turns on with valid UTP connection
CR6 - blinks when Ethernet collision detected
CR7 - rapid blinking during PIC main loop
CR8 - IIC transactions
CR9 - slow blink during i960 main loop
****(CR9-CR11 will briefly flash on at bootup, if they don't turn off then there is something wrong)**

I²C Error Codes

The following is a list of board codes numbers that help identify problems in the message log. In the message log you will see a message such as:

02/19 16:44:03 299 addr=c0:16:00:00:10:05 1 CHKSUM_BAD 5415071 5 29 9 0 7 6 7 4

The message contains an address, error sn#, error type, time in milliseconds since boot, board code, and remainder of error string.

Board Codes:
I2C MASTER = 0, (PIC on i960 CPU board is the i2c master)
Fader = 1,
Keypad = 2,
Submaster Left = 3,
Submaster Right = 4,
ML Main = 5,
ML Left Wing = 6,
ML Right Wing = 7,
Unknown board = 8 (Shouldn't ever happen)
All boards = 9 (Shouldn't ever happen)

How to access Console Setup Menus

Console setup functions enable you to establish the proper ETCNet connection, calibrate the touchscreen and adjust the backlighting levels of console displays. Also, you can test the function of all console controls if you wish, but this operation is intended for diagnostic pur-poses rather than for console setup.

1. Start with the console power off.
2. Disconnect the ETCNet cable from the console.
3. Switch the console on to reboot the system soft-ware.
4. After the software has booted (dots appear at the bottom of the screen in place of startup messages) simultaneously press [Stop/Back] and [Go]. The Console Setup display appears.

The Console Setup display lists the following functions:

1. Ethernet setup
2. Touchscreen calibration
3. LCD Backlight Setup
4. Facepanel Diagnostics

Press the number of one or more of these console setup functions to go to the respective display(s). When fin-ished with all functions, press S8, Return, to leave console setup. Reconnect the ETCNet cable.

Obsession Device Types

The following list can be used to determine device type in message logs.

MAIN CONSOLE =	0	
BACKUP CONSOLE =	1	
PROCESSOR UNIT A =	2	
PROCESSOR UNIT B =	3	
REMOTE CONSOLE =	4	
REMOTE ML CONSOLE =	5	Doesn't Exist
DESIGNERS REMOTE =	6	
DESIGNERS ML REMOTE =	7	Obsn 1
REMOTE DISPLAY CONTROL =	8	
REMOTE INTERFACE UNIT =	9	
REMOTE VIDEO UNIT =	10	
REMOTE FOCUS UNIT =	11	
TOUCH PAD =	12	
REMOTE SUBMASTERS =	13	
REMOTE PLAYBACK =	14	
ML TOUCHSCREEN =	15	Obsn 1
OBSN2FACEPANEL =	16	