

Detailed Board Descriptions

Frame Timebase (FTB) HD/LD (23002/23012)

Adjustments

	Function	Description
RV1	Y Shift	User vertical position adjustment
RV2	Zoom Cal.	External zoom height adjustment. Adjusts for zoom board gain
RV3	35mm Still	Vertical Size in Stop
RV4	"S" Corr.	Flat Face-plate Compensation. Matches Run Reverse to Still.
RV5	16mm Still	Vertical Size in Stop
RV6	S8 Still	Vertical Size in Stop
RV7	Alt. F.L.	Alternate Focal Length. For non-standard gates (SW3 On).
RV8	Zoom BW	External zoom board control signal bandwidth (SW1-5 On)
RV9	S16 RTS	Vertical Size adjustment in both Run and Stop modes.
RV10		reserved

Table 29 - FTB Front Adjustments

	Function	Description
C7	PLL Lock	Center frequency adjustment
RV11	X Position Unity	† Pan center adjustment
RV12	X Position Range	† Pan range adjustment
RV13	X Size Unity	‡ Unity Width adjustment
RV14	X Size Range	‡ Zoom width adjustment
RV15	Gain	Current gain of the power amplifier
RV16	Offset	DC offset of the power amplifier
RV17	Damping	Damping of the power amplifier
		† Only when controlling Line Timebase X Position (Pan)
		‡ Only when controlling Line Timebase X Size (Zoom)

Table 30 - FTB Internal Adjustments

Frame Timebase (FTB) HD/LD (23002/23012) (cont.)

Switches

- SW1-1: DC Offset Test Mode
- SW1-2: Zoom settings forced to Unity
- SW1-3: Run Compensation Disable. Forces run size to Still size.
- SW1-4: Y-Position Disable. Forces the Y-Position to unity.
- SW1-5: Zoom Filter Variable Bandwidth Disable.
- SW1-6: XYZ set to unity in Local.
- SW1-7: Reserved for future use.
- SW1-8: Internal Zoom Mode Enable.
- SW2: Vertical Flip Enable.
- SW3: Alternate Focal Length Enable.
- SW4: Reserved for future use.
- SW5: Resets the 2101 DSP on the board.

Link Settings

Link	Signal	PL1 Pin	Normal Setting	Link	Signal	PL1 Pin	Normal Setting
L1	Remote2 Width	7A	open	L12	X Size to LTB	28A	open
L2	Remote2 X Position	11A	open	L13	Local Zoom	31A	closed
L3	Remote1 Width	13A	closed	L14	DSP Bus SData+	32A	closed
L4	Remote1 X Position	14B	closed	L15	Remote2 Zoom	33A	open
L5	Remote1 Y Position	18A	closed	L16	DSP Bus SClk+	34A	closed
L6	Remote2 Y Position	19A	open	L17	DSP Bus SData-	34B	closed
L7	Remote1 Zoom	20A	closed	L18	DSP Bus SFrame+	35A	closed
L8	Local Width	21A	open	L19	DSP Bus SClk-	35B	closed
L9	Local X Position	22A	closed	L20	Y Destrobe (Kinesis)	36A	closed
L10	X Position to LTB	24A	open	L21	DSP Bus SFrame-	36B	closed
L11	Local Y Position	27A	closed				

Table 31 - FTB Solder Link Settings (HD version ONLY)

Frame Timebase (FTB) HD/LD (23002/23012) (cont.)

Jumpers

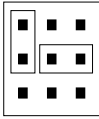
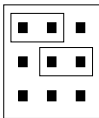
Jumper	Description	Setting (• indicates normal)	
J1	Watchdog timer	• in out	enabled disabled
J2	Zoom Mode (MUST match SW1-8)	• 1-2 2-3	External Zoom Board Internal Zoom
J3	Interrupt Selectors		Normal
			18FPS Non-Varispeed ONLY
J4	DSP Bus Framing Slave mode	in • out	Slave Mode Master Mode
J5	DSP Bus Clock Slave mode	• in out	Slave Mode Master Mode

Table 32 - FTB Jumper Settings

Connectors

P1: HD version: 76-pin Edge Connector to Motherboard.

LD version: 33-pin ITT Edge Connector to Motherboard.

P2: 26-pin IDC ribbon cable:

a) Upper 16 pins (pins1-16): analog control signals.

b) Lower 10 pins (pins17-26): DSP Bus Data to P5 SRCP2.

Velocity DSP (23004)

Adjustments

C56: Phase-locked loop center frequency adjustment.

VR1: Gate Sprocket Sensor2 gain adjustment.

VR2: Gate Sprocket Sensor1 gain adjustment.

VR3: Capstan Tach1 gain adjustment.

VR4: Capstan Tach2 gain adjustment.

VR5: Capstan Drive gain adjustment.

Switches

SW1: Resets the 2101 DSP on the board.

Connectors

P1: 33-Pin ITT Low Density Edge Connector to Motherboard.

P2: 50-Pin IDC ribbon cable to P2 Phase Adapter 4 and P2 Gate System Adapter.

P3: 40-Pin IDC ribbon cable to P3 SV2.

P4: 10-Pin IDC ribbon cable DSP Bus to P16 SRCP2 (MkIII) or P6 Phase Adapter 4 (URSA)

Velocity DSP (23004) (cont.)

Jumpers

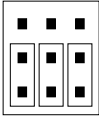
Jumper	Description	Setting (• indicates normal)	
J1	Write Vertical Drive (WVD) terminator	in • out	758 termination Hi-Z input
J2	Interrupt Selectors		All three down
J3	Write Horizontal Drive (WHD) terminator	in • out	758 termination Hi-Z input
J4	Write Vertical Drive (WVD) polarity	• 1-2 (up) 2-3 (down)	URSA MkIII, Turbo
J5	Write Horizontal Drive (WHD) polarity	1-2 (up) • 2-3 (down)	positive pulse negative pulse
J6	Watchdog timer	in • out	enabled disabled
J7	Serial Clock Slave Mode	in • out	Slave Master
J8	Serial Framing Slave Mode	• in out	Slave Master
J9	PLL reference	1-2 (left) • 2-3 (right)	Serial Clock WHD
J10	Selects P2-18 as GateCode 2	1-2 (left) out	URSA Gate Code MkIII Gate Code

Table 33 - Velocity DSP Jumper Settings

Gate & System Adapter (23005)

Connectors

P1: 33-Pin ITT Low Density Edge Connector to Motherboard.

P2: 50-Pin IDC to P4 Phase Adapter 4 and P2 Velocity DSP.

Capstan Servo Control 2 Adapter (23006)

Jumpers

Jumper	Description	Setting (• indicates normal)	
J1	Speedbus0	• in out	Normal MkIIIB
J2	Speedbus1	• in out	Normal MkIIIB
J3	Speedbus2	• in out	Normal MkIIIB
J4	Speedbus3	• in out	Normal MkIIIB
J5	Speedbus4	• in out	Normal MkIIIB
J6	Speedbus5	• in out	Normal MkIIIB

**Table 34 - Capstan Servo 2 Adapter
Jumper Settings**

Connectors

P1: 33-Pin ITT Low Density Edge Connector to Motherboard.

P2: 50-Pin IDC to P2 SV2 and P2 Capstan Servo Control 1/3 Adapter.

P3: 10-Pin IDC to P17 SRCP2 (MkIIIB only).

Capstan Servo Control 1/3 Adapter (23008)

Jumpers

Jumper	Function	Setting (• indicates Normal)	
J1	Shuttle Volts selector	out • in	MkIIIB Otherwise
J2	FSO* selector (Film Speed Override)	• open	No TLC no FSO*
		1-2 (up)	TLC with MkIIIB or Turbo 2 or late URSA FSO* on PL1-25
		2-3 (down)	TLC with MkIIIC or early URSA FSO* on PL1-27

Table 35 - Capstan Servo Control 1/3 Adapter Jumper

Connectors

- P1: 33-Pin ITT Low Density Edge Connector to Motherboard.
P2: 50-Pin IDC to P2 SV2 and P2 Capstan Servo Control 2 Adapter.

Servo Logic 8M (23009)

Adjustments

- RV1: Local Shuttle Offset
RV2: Remote 1 Shuttle Offset
RV3: Remote 2 Shuttle Offset

Connectors

- P1: 33-Pin ITT Low Density Edge Connector to Motherboard.

Phase Adapter 4 (23019)

Adjustments

RV1: LTC Risetime (not currently implemented).

RV2: LTC Level (not currently implemented).

Switches

SW1: URSA Bypass Enable.

SW2-1: Timing Bit for counter pulses relative to Ferrit output.

SW2-2: Timing Bit for counter pulses relative to Ferrit output.

SW2-3: Frame Pulse duration select.

SW2-4: Frame Count pulse selection.

SW2-5: LTC Generator (not currently implemented).

SW2-6: Sync Separator (not currently implemented).

SW2-7: GPI I/F (not currently implemented).

SW2-8: Serial I/F.

Connectors

P1: 33-Pin ITT Low Density Edge Connector to Motherboard.

P2: 50-Pin IDC to P2 Velocity DSP.

P3: 26-Pin IDC to P15 SRCP2.

P4: 50-Pin IDC to P2 Gate & System Adapter.

P5: 40-Pin IDC to URSA Scan Generator.

P6: 10-Pin “Flat & Twist” cable to P4 VDSP (URSA only).

P7: 34-Pin IDC not currently used.

Phase Adapter 4 (23019) (cont.)

Jumpers

Jumper	Description	Settings (• indicates normal)	
J1	2ØB	• in out	Normal MkIIIB (588 Motherboard)
J2 / J3	Ferrit 02+ / 02- pulse output	• in out	Normal MkIIIB (588 Motherboard)
J4	2ØA	• in out	Normal MkIIIB (588 Motherboard)
J5	Shuttlelock 2	• in out	Normal MkIIIB (588 Motherboard)
J6	DSP Freeze	• in out	Normal MkIIIB (588 Motherboard)
J7 / J8	Ferrit 01 - / 01+ pulse Output	• in out	Normal MkIIIB (588 Motherboard)
J9	Aux 2 TTL or Master Select	• 1-2 (Up) 2-3 (Down)	Normal
J10	Aux 1 TTL or WVD select	• 1-2 (Up) 2-3 (Down)	Normal
J11	H. Rate or WHD Select	• 1-2 (Up) 2-3 (Down)	Normal
J12	Sclock or EXT Select.	• 1-2 (Up) 2-3 (Down)	Normal
J13	Servo Pulse/WVD Polarity Select (INPUT)	1-2 (Up) 2-3 (Down)	MkIII/Turbo (Servo Pulse) URSA (WVD)
J14	Servo Pulse/WVD Polarity Select (OUTPUT)	1-2 (Up) 2-3 (Down)	MkIII/Turbo (Servo Pulse) URSA (WVD)
J15 / J16	Aux 2 Selected as WHD Input to Board	• 1-2 (Up) 2-3 (Down)	Normal Non-JumpFree URSA
J17 / J18	Aux2/Aux 1 Level Select	• 1-2 (Up) 2-3 (Down)	Normal

Table 36 - Phase Adapter 4 Jumper Settings

Supervisor 2 (23021)

Switches

SW1: Capstan Motor Drive On/Off.

SW2: Resets the SV2 processor.

Jumpers

Note: Do not change the factory default settings listed below.

J1: Connect pins 1 and 2.

J2: Connect pins 1 and 2.

J3: Connect pins 2 and 3.

J4: Connect pins 2 and 3.

Connectors

P1: 33-Pin ITT Low Density Edge Connector to Motherboard.

P2: 50-Pin IDC to P2 Capstan Servo Control 1/3 Adapter and P2 Capstan Servo Control 2 Adapter.

P3: 40-Pin IDC ribbon cable to P3 Velocity DSP.

P4: Not used.

P5: 26-Pin IDC to P13 SRCP2.