

```

/* Set Hall B to CW mode. Check if the accelerator mode is CW. If accelerator mode is CW, set CW mode
in Hall B. */
accelerator_mode = *accelerator_csr1;
if (accelerator_mode && 0xff == 0x30) {
    *hallb_csr0 = 0;
    *hallb_csr1 = 0x30;
    *hallb_csr0 = 1;
}
else { ask the user to change the accelerator mode}

```

## Front Panel layout

Figure 4 shows the front panel layout of the SCAM

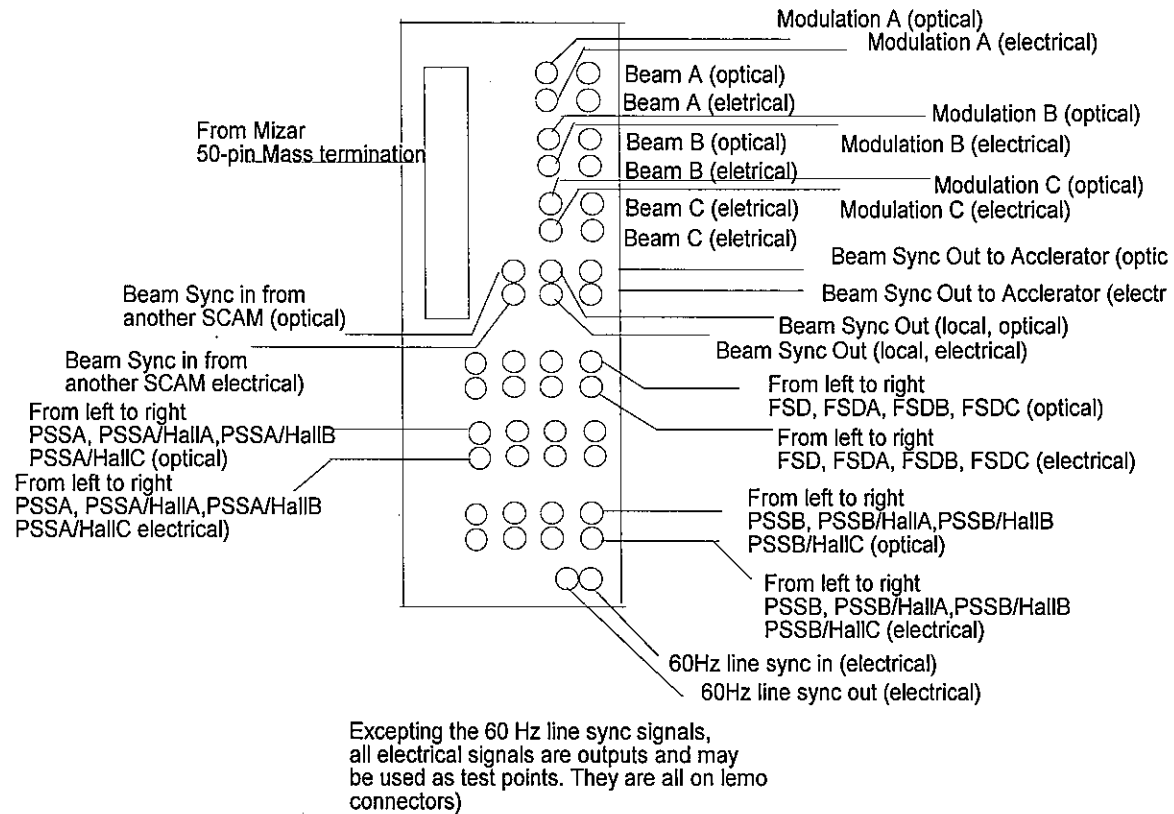
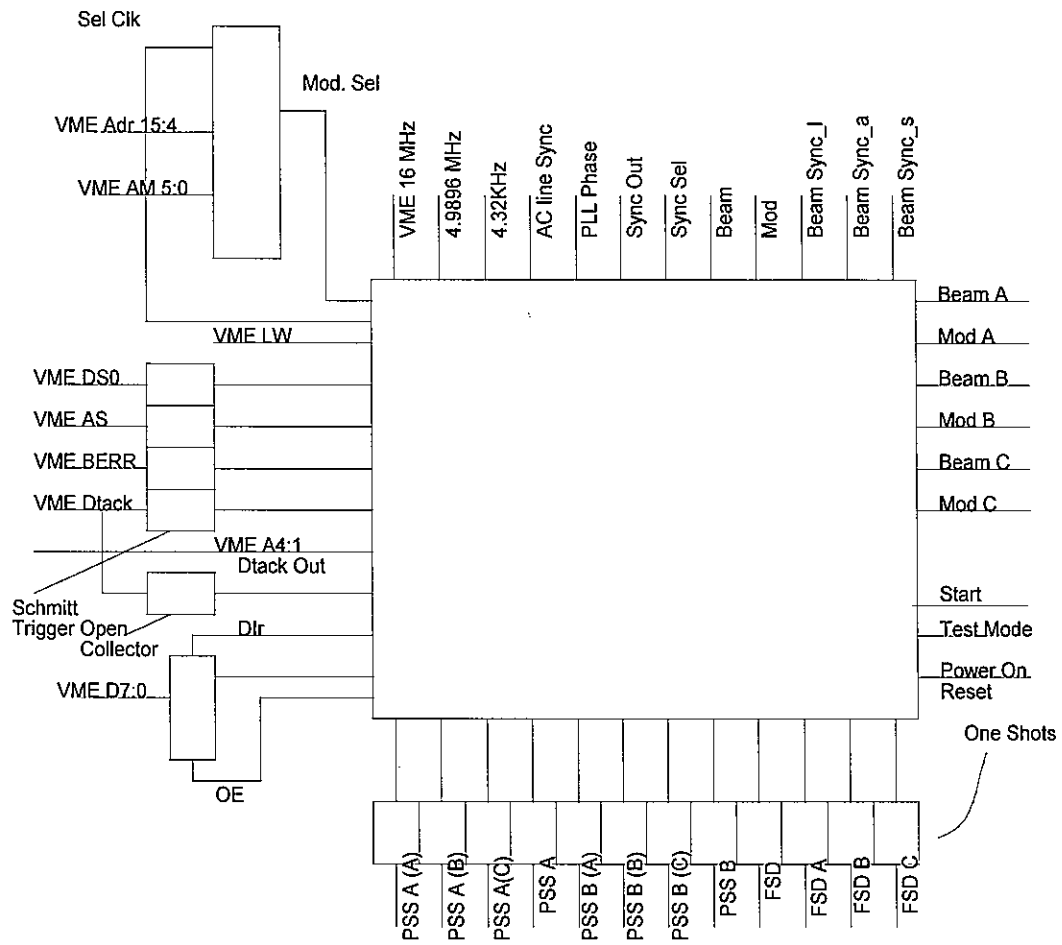


Figure 7

## Appendix I

### Signals at the Altera PLD

Signal Name	Number of signals	Type	Function
Module Sel	1	In	Decode Addr and AM code & select Module
Sel Clk	1	Out	Clock to latch Module select
D7:0	8	In/Out	Buffered data lines to/from VME
VME A4:1	4	In	VME address lines for register select
VME Write	1	In	VME Write line
IACKIN	1	In	VME Interrupt Acknowledge In
DS0	1	In	Schmitt trigger buffered VME Data Strobe 0
AS	1	In	Schmitt trigger buffered VME Address Strobe
Berr	1	In	Schmitt trigger buffered VME Bus Error
Dtack In	1	in	Schmitt trigger buffered VME Data Acknowledge
Dtack Out	1	Out	Dtack output from module to open collector buffer
LW	1	In	Long word signal from VME bus
OE	1	Out	Enable data on to VME bus
Dir	1	Out	Data direction (to/from VME)
FSD Accel	1	In	FSD in accelerator
FSD Hall A	1	In	FSD in Hall A
FSD Hall B	1	In	FSD in Hall B
FSD Hall C	1	In	FSD in Hall C
PSSA Accel	1	In	PSS A signal in the accelerator
PSSB Accel	1	In	PSS B signal in the accelerator
Spare	1	In	Spare Signal/Future Interlocks
Spare	1	In	Spare Signal/Future Interlocks
Spare	1	In	Spare Signal/Future Interlocks
Spare	1	In	Spare Signal/Future Interlocks
Spare	1	In	Spare Signal/Future Interlocks
Spare	1	In	Spare Signal/Future Interlocks
VME Clock	1	In	16 MHz Clock from VME backplane
4.98986 MHz	1	In	Local 4.9896 MHz Clock
4.32 KHz	1	In	Clock from PLL
60 HZ	1	In	AC line Sync
PLL Phase	1	Out	To PLL for phase comparison
Sync Gate	1	Out	60 Hz or Harmonic to Mizar 8310
Beam	1	In	Beam Pulse from Mizar 8310
Modulation	1	In	Modulation Pulse from Mizar 8310
Beam Sync	1	In	Beam Sync Pulse from Mizar 830
Beam Sync_s	1	In	Beam Sync from the other SCAM
Sync Sel	1	In	Valve position @ gun switch - select the beam sync
Beam Sync_l	1	Out	Local Beam Sync out from this SCAM
Beam Sync_a	1	Out	Beam Sync out to the accelerator
Beam Hall A	1	Out	Beam pulse to Hall A gun
Mod. Hall A	1	Out	Mod. Pulse to Hall A gun
Beam Hall B	1	Out	Beam pulse to Hall B gun
Mod. Hall B	1	Out	Mod. Pulse to Hall B gun
Beam Hall C	1	Out	Beam pulse to Hall C gun
Mod. Hall C	1	Out	Mod. Pulse to Hall C gun
Start	1	In	Start Beam/Mod generation from Mizar 8310
Test	1	In	Indicates that the SCAM is in Test Mode
Reset	1	In	Resets all registers on power up



## APPENDIX II

### Summary of connectors and signals

Fiber Optic receivers (HPxxxX) FSD,FSDA,FSDB, FSDC,  
PSSA,PSSB,PSSA/HallA,PSSA/HallB,PSSA/HallC,PSSB,PSSB/HallA,PSSB/HallB, PSSB/HallC,  
BeamSync from another SCAM, RS232 RX/TX.

Fiber Optic Drivers (HPxxxx)

Beam A, Modulation A, Beam B, Modulation B, Beam C, Modulation C, Beam Sync out to accelerator,  
Beam Sync out local, RS232 RX, RS232 TX/RX.

TTL Outputs (lemo)

FSD,FSDA,FSDB,FSDC,PSSA,PSSB,PSSA/HallA,PSSA/HallB,PSSA/HallC,PSSB,  
PSSB/HallA,PSSB/HallB,PSSB/HallC,BeamSync from another SCAM, 60Hz line sync

Filament transformer input (lemo)

60 Hz line sync in.

RS232-inputs from the IOC (9-pin D connector)

Electrical. This signal goes to a 3U card that plugs into the P2 connector at the back of the VME crate at the same slot as the SCAM.

VBVI107 input

Electrical. This signal goes to the the same 3U card as the RS232 inputs from the IOC.

Inputs/Outputs to Mizar 8310 (Mass termination)

TTL inputs and outputs to and from Mizar 8310