MCP Software

Software Components	Tasks
serial.c	TCC, barcodcan
cmd.c	
axis_cmds.c	tmAz,tmAlt,tmRot
	tmLatch
telescope_motion.c	
umbilical.c	tmUmbil
instrument_lift.c	

MCP Software

Software Components	Tasks
counter_weight.c	
data_collection.c	MEI_DC(100Hz)
	SLC_DC(1Hz)
display.c	Menu(tShell)
	Inst(tShell)
ipsym.c	serverData
	taskTrg

TCC Commands

Command	Status
• <break>	Done
• CORRECT	Done
• DRIFT	Done
• ID	Done
• INIT	Done
• MOVE	Done
• MOVE pos	Done
• MOVE pos vel	Done
• MOVE pos vel time	Done

TCC Commands

Command	Status
• +MOVE pos	OK
• +MOVE pos vel	OK
• +MOVE pos vel time	NotRequired
• MS.MAP.DUMP	No
• ms# +val -val MS.MAP.LOAD	No
• MS.OFF	No
• MS.ON	No
• ROT	Done
• SET.TIME date	Done

TCC Commands

Command	Status
• Stats	No
• Status	OK
• Tel1	Done
• Tel2	Done
• Time?	Done

Added TCC Commands

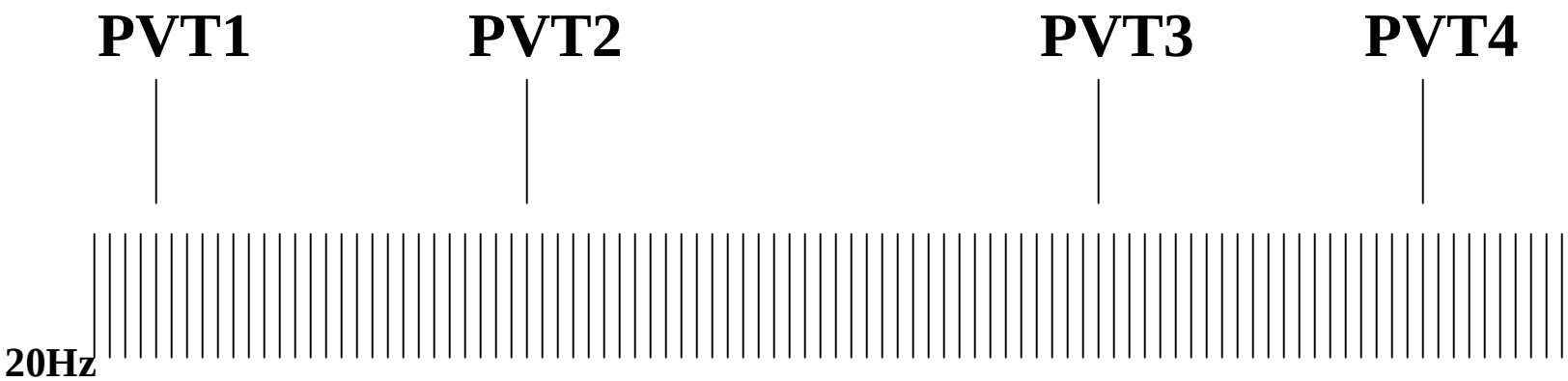
Command	Status
• CWMOV id pos	Done
• CWPOS pos	Done
• CWINST name	Done
• CWSTATUS	Done
• BRAKE.ON	Done
• BRAKE.OFF	Done
• CLAMP.ON	Test
• CLAMP.OFF	Test

Added TCC Commands

Command	Status
• SP1	Done
• SP2	Done
• SLIT.CLOSE	Done
• SLIT.OPEN	Done
• CART.LATCH	Test
• CART.UNLATCH	Test
• SLIT.STATUS	Done
• AB.STATUS wrd len	Done

PVT MOTION

Calculates 20 points ahead and maintains PID at 10 vectors ahead



p(t)=pi+vi(t-ti)+1/2ai(t-ti)^2+1/6j(t-ti)^3
v(t)=vi+ai(t-ti)+1/2j(t-ti)^2
a(t)=ai+j(t-ti)
j(t)=j
where ti<=t<=tf
ai=(2/dt)*((3*v’)-(2*vi)-vf)
j=(6/(dt^2))*(vi+vf-(2*v’))

INSTRUMENT LIFT MOTION

Motion FSM
Rule FSM

FSM
- **State**
- **InitialEntry Function**
- **State Function**
- **Transitions (Arg1,Arg2)**