



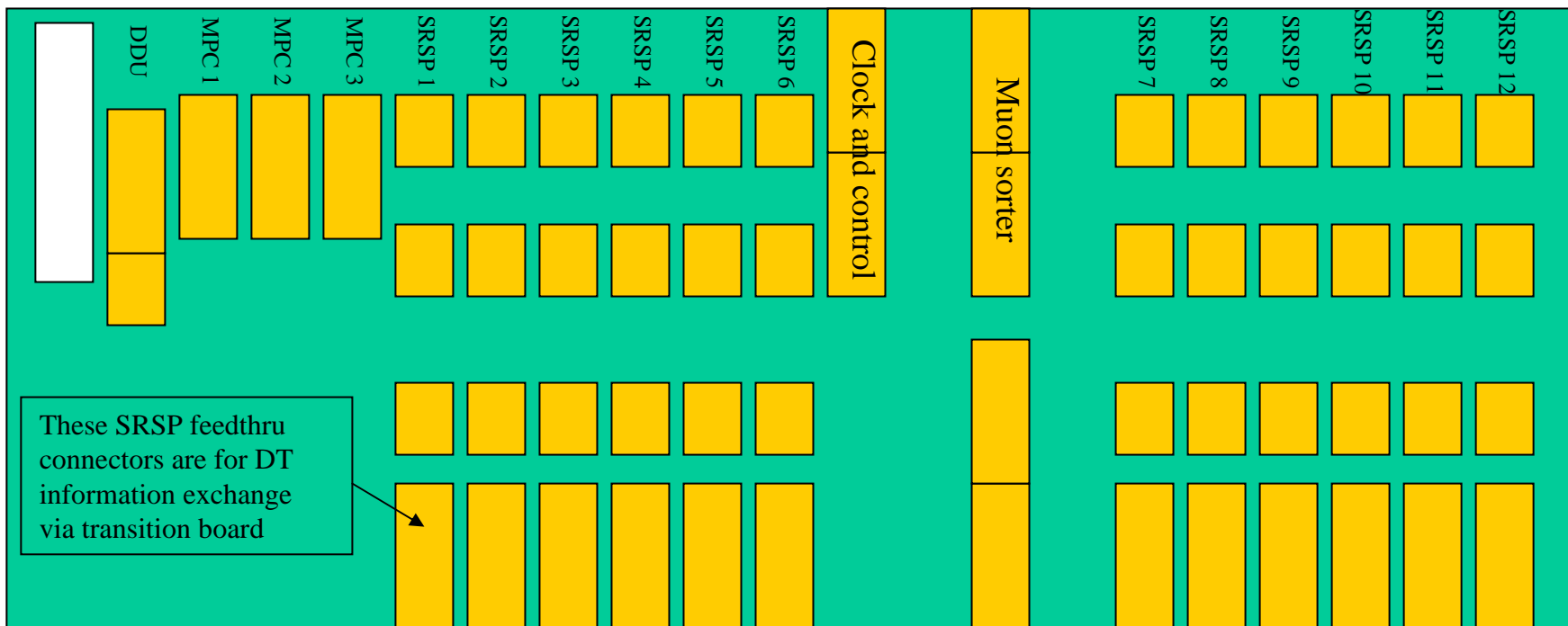
# Track Finder Crate, Backplane and Parts

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# Track Finder Backplane

Standard VME 64x J1/P1 backplane





# Backplane corrections

- 80 MHz clock lines to three MPC slots



# Power consumption

- Based on very conservative calculations
  - Each Sector Processor:
    - 21.5A @ 3.3V
    - 3A @ 5V
  - Crate (safety factor 1.5):
    - 400A @ 3.3V
    - 60A @ 5V
  - Total maximum power: ~1620 W
- Power consumption will be thoroughly measured before crate is ordered



# Track Finder Crate

- W-IE-NE-R 9U crate
- Standard VME-64X J1 section
- Custom J2 and J3 sections
- Power supply
  - 6U box (10 modules max)
  - 4 MEH modules (115A each) @ 3.3V
  - 1 MEH module @ 5V
  - $\pm 12$  and  $-5$  V if necessary
  - Input: 115 or 220V (selectable)



# Track Finder Crate

- **Cooling:**
  - Most powerful fan tray
    - 6020/4 type
    - 1500 m<sup>3</sup>/hr
  - Temperature sensors on top of the crate
    - Two threshold temperatures
    - First switches fans to maximum RPM
    - Second turns off power



# Track Finder Crate spare parts

- 1 Power supply box, 6U (without power modules)
- 2 MEH power modules (2-7V, 115A)
- 1 J1 standard VME64X backplane
- 1 Fan tray, 6020/4, intelligent



# Track Finder Rack

- **Rack requirements:**
  - Power outlets (220V, 50 Hz, 15A)
  - Front and Back door with locks, to protect optical cables
  - Cable strain relieves on front and back of TF crate. Probably need to be custom-designed by us.
  - The rest is according to Rack Wizard





# Rack Wizard

Rack compositor - User: Guest (Version: Wed Mar 03 22:06:18 CET 2004)

File Edit Tools Help

Memory usage: 89%

S1: lower floor

	D	E	F	G
01	ker CKER	S1E01 Opt. Cpl. FEC VARELA	S1F01 Preshower FEC BARNEYD	S1G01 DT RD/SC WILLMOT
02	ker CKER	S1E02 TTC TTC TROSKAJK	S1F02 DT track finder EROJR	S1G02 Pixel FEC PIXEL
03	ger LA	S1E03 TTC TTC TROSKAJK	S1F03 DT track finder EROJR	S1G03 Pixel FED PIXEL
04	ger LA	S1E04 Global Trigger TAUROK	S1F04 DT track finder EROJR	S1G04 Pixel FED PIXEL
05	ger LA	S1E05 Calorimeter Global Trigger HEATH	S1F05 CSC track finder TYLING	S1G05 DAQ DAQ RACZ
06	ger LA	S1E06 TTS TTS RACZ	S1F06 CSC track finder TYLING	S1G06 CSC FED TYLING
07	ger LA	S1E07 TTS TTS RACZ	S1F07 DAQ DAQ RACZ	S1G07 CSC FED TYLING
08	ger LA	S1E08 LHC BPTX WSMITH	S1F08 RPC endcap+ HV RANIERI	S1G08 CSC FED TYLING
09	ger LA	S1E09 LHC LHC WSMITH	S1F09 RPC endcap+ HV RANIERI	S1G09 CSC FED TYLING
10		S1E10	S1F10 RPC endcap- HV	S1G10 DT HV

Rack compositor - User: Guest (Version: Wed Mar 03 22:06:18 CET 2004)

File Edit Tools Help

Memory usage: 89%

S1F05

RACK

Property	Value
Rack label	S1F05
Detector	CSC
Usage	track finder
Responsible	TYLING
Comment	
Last change	2/15/2004 12:3:3
Width [cm]	60
Depth [cm]	90
Height [U]	56
Orientation [degrees]	270
Glass rack door	none
Rack door clearance [mm]	0
Cable ladder	none
Each cable ladder X-sect. [m...]	0
Weight [kg]	90.0
Total weight [kg]	248
Power supplied [kw]	2.244
Power dissipation [kw]	1.188
Power dissipation to air [kw]	0.2

Comment history:

- > 6.02.2004 4:18 (TYLING) null
- > 6.02.2004 4:18 (TYLING) null
- > 6.02.2004 4:18 (TYLING) null

Track Finder production readiness  
review, Rice, August 2004

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Parts

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# Rack Wizard

- Entry in Rack Wizard for TF crate was done a few months ago
- Currently, message from Rack Wizard is:

This version of Rack Wizard is no longer supported.

Please use the link below:

<https://oraweb.cern.ch/pls/cmsintegration/docs/EDMH.html>

...and this link does not work...



# Control computer and VME controller

- 1 computer + 1 spare
- 1 VME controller + 1 spare
- Computer and controller can be purchased later on. We have everything to run tests now.



# Parts procurement

- All parts are available within 4-6 weeks delivery time, **except optical links**
- Optical links **FTRJ-8519-1-2.5** are obsolete
- Need ~500 pcs (SP+MPC)
- Found and ordered 409 pcs
- Drop-in replacement part is **FTRJ8519F1GNL**
- If the rest of original part could not be found, replacement part has to be tested before ordering
- All other parts will be ordered soon.