

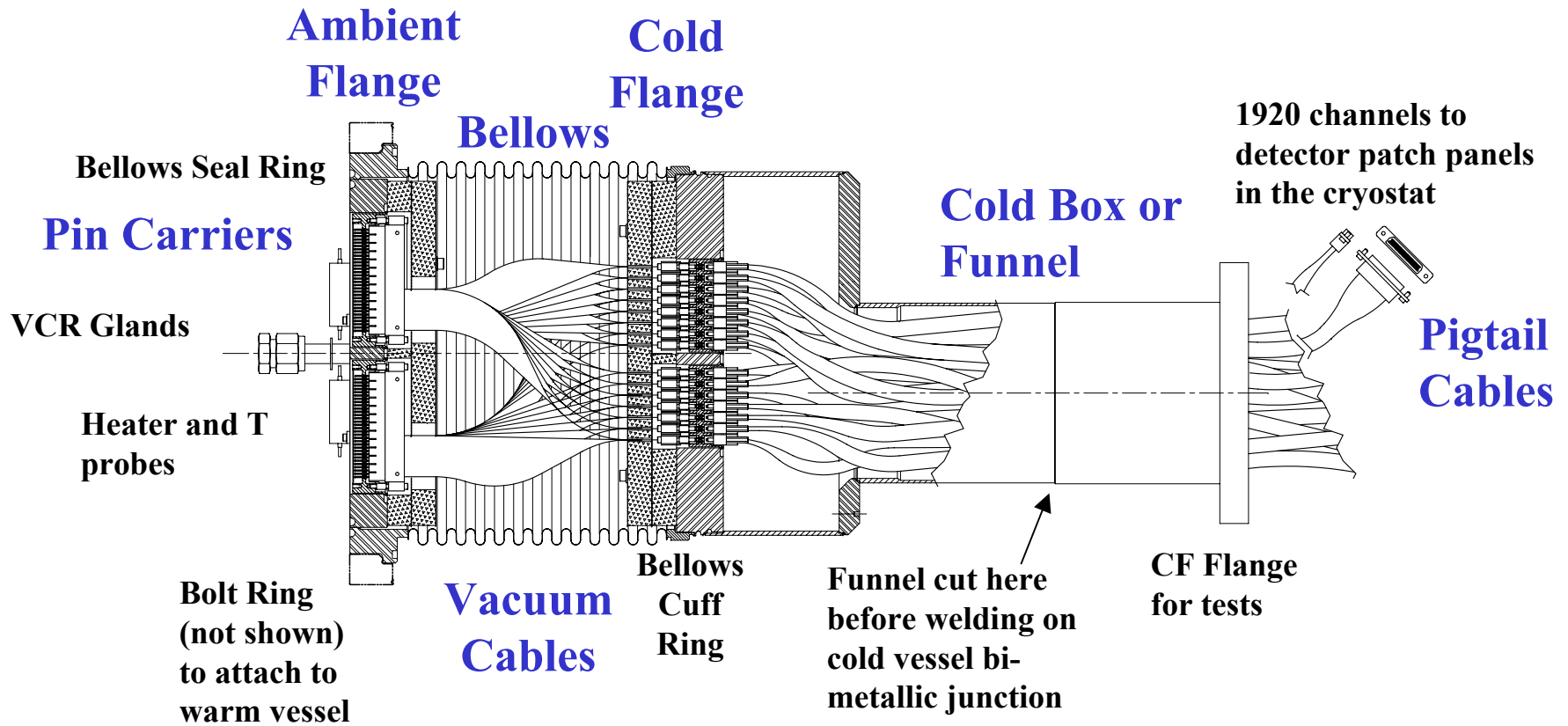
# Endcap

## Signal Feedthrough

### Production at Victoria

*Status Summary*

# Overview



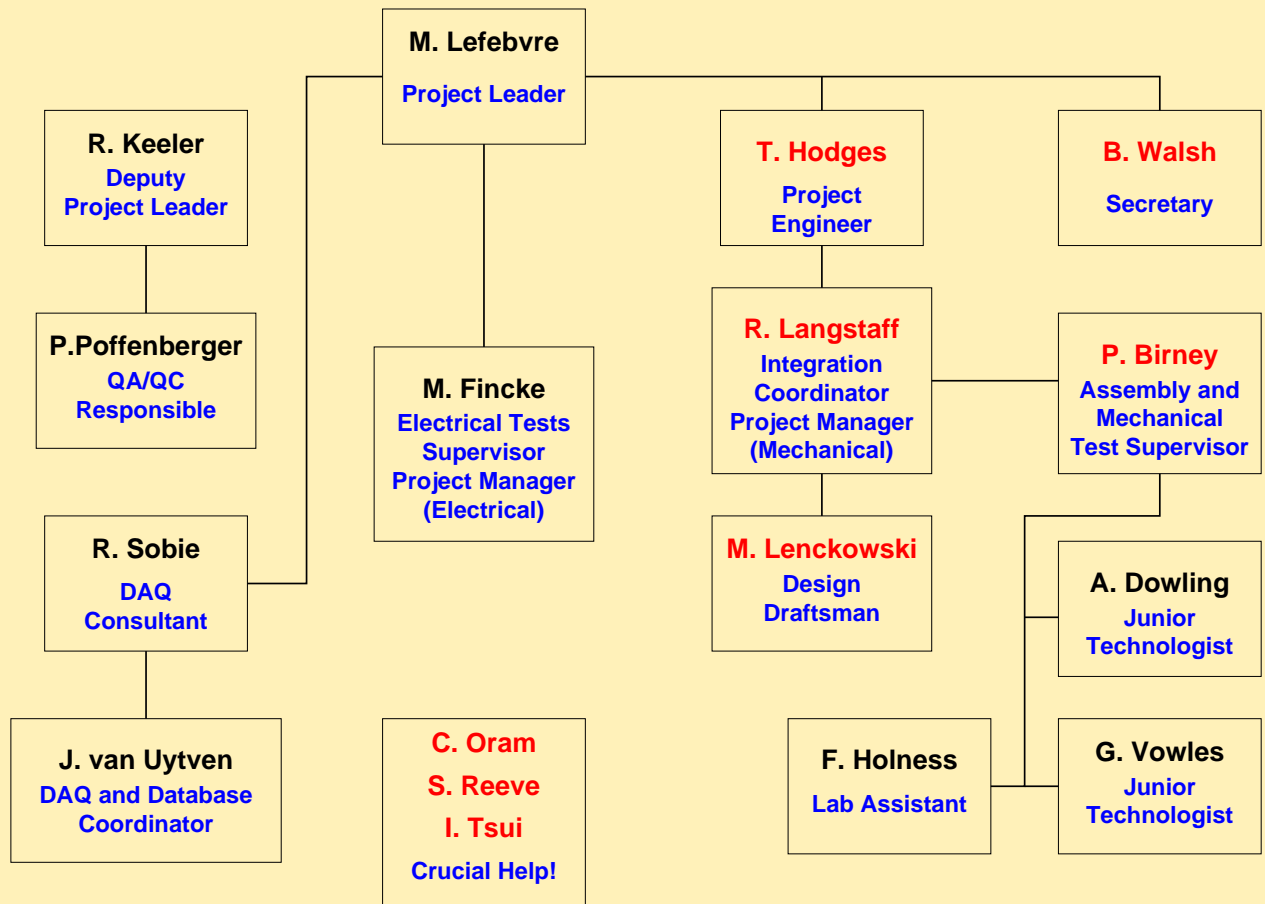
Seal ring OD = 326.4 mm

Total height = 699.9 mm

## Canadian Responsibilities

- Design
- Fabrication
  - Signal pigtails purchased from Orsay
- Commissioning
- Transport
- Reception
  - Electrical and ambient vacuum testing
    - \* Vacuum pumps and leak tester provided by ATLAS CERN
- Assistance during installation
  - Assistance during welding on the cryostat
  - Assistance for leak testing during/after installation
  - Manpower to connect warm cables to ambient flange

# Endcap Cryostat Signal Feedthrough Production Organizational Chart (2001)



## 50 + 5 Endcap Signal Feedthroughs of Four Different Types

- $(2 \times 16) + 3$  **Standard**
  - 18 T47 pigtail cables
  - 12 T48 pigtail cables
  - 2 calibration vacuum cables
- $(2 \times 4) + 1$  **Special**
  - 12 T47 pigtail cables
  - 18 T48 pigtail cables
- $(2 \times 4) + 1$  **HEC**
  - 4 T47 pigtail cables
  - 4 T48 pigtail cables
  - 8 T49 pigtail cables
  - 4 T50 pigtail cables
  - 6 T51 pigtail cables
  - 4 LV pigtail cables
  - 4 calibration vacuum cables
- $(2 \times 1)$  **FCAL**
  - 30 T52 pigtail cables

# Projected Production Rate

Date	Build	Running Sum
31-mar-2002	-	(35)
30-apr-2002	3	38
31-may-2002	3	41
30-jun-2002	4	45
31-jul-2002	3	48
31-aug-2002	2	50
30-sep-2002	4	54
15-oct-2002	1	55

- 29 feedthroughs (19 Standard, 5 Special, 4 HEC, 1 FCAL) now at CERN plus one more (HEC) in transit  
⇒ all ECC feedthroughs + 5 spares (3 Standard, 1 Special, 1 HEC)
- 27 feedthroughs at CERN fully tested, 25 officially received by the ATLAS Cryostats and Cryogenics project leader.
- all feedthrough components in hand for completion of project except for 226 remaining pigtail cables

# EndCap Signal Feedthrough Production Status

## Available on Web

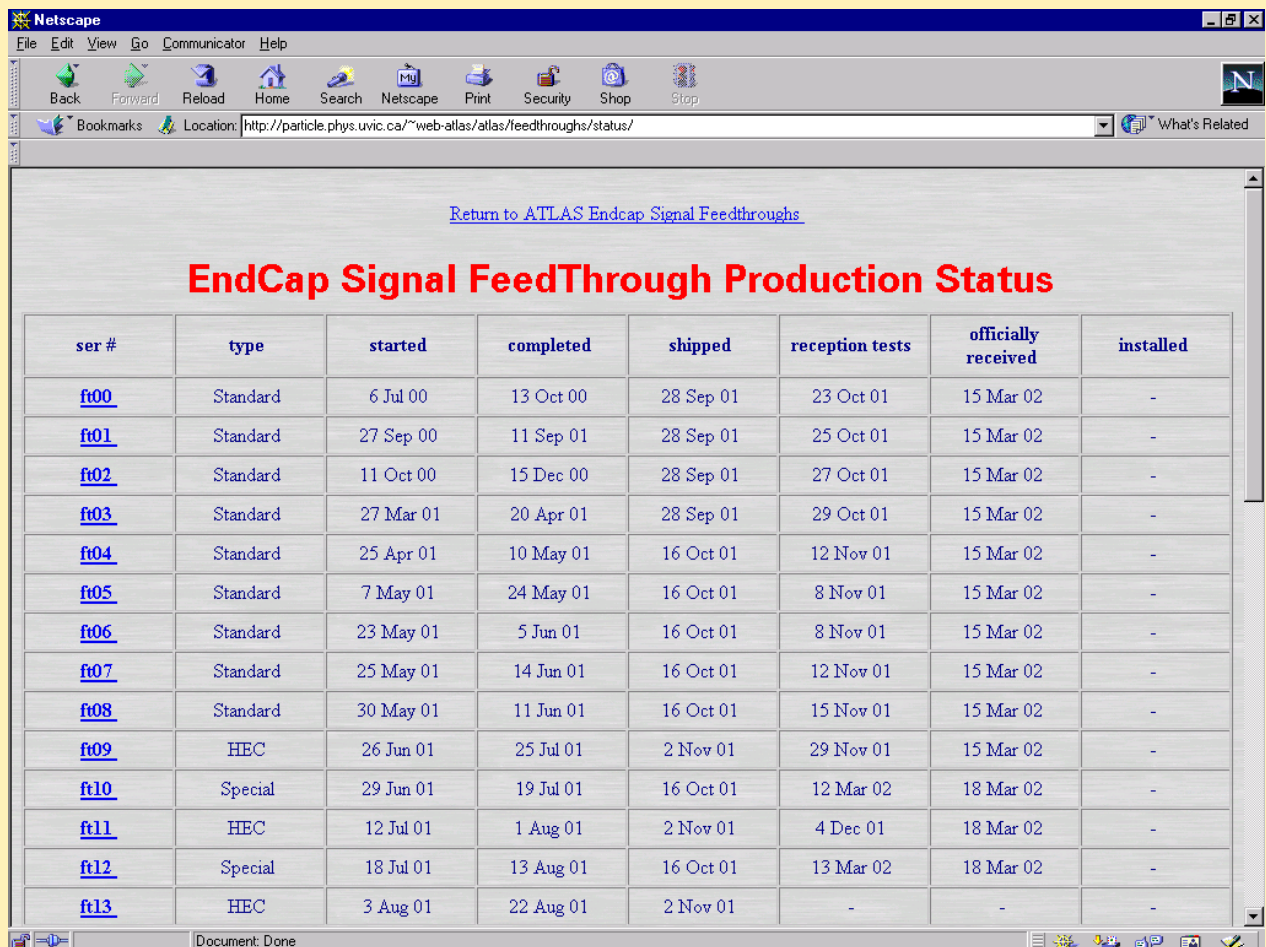
<http://particle.phys.uvic.ca/>

⇒ ATLAS

⇒ ATLAS Group at Victoria

⇒ Endcap Signal Feedthroughs

⇒ **Production Status**



Return to [ATLAS Endcap Signal Feedthroughs](#)

### EndCap Signal Feedthrough Production Status

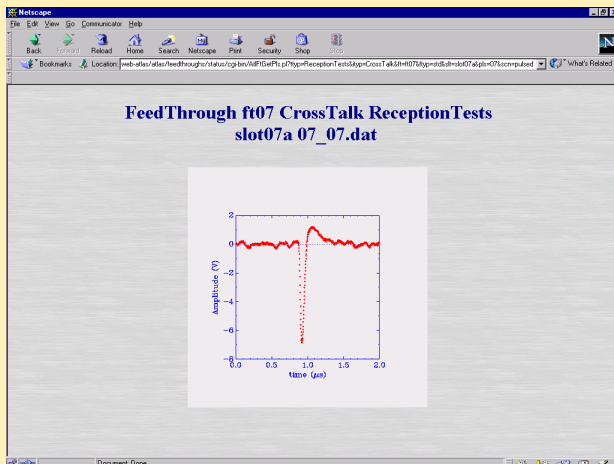
ser #	type	started	completed	shipped	reception tests	officially received	installed
<a href="#">ft00</a>	Standard	6 Jul 00	13 Oct 00	28 Sep 01	23 Oct 01	15 Mar 02	-
<a href="#">ft01</a>	Standard	27 Sep 00	11 Sep 01	28 Sep 01	25 Oct 01	15 Mar 02	-
<a href="#">ft02</a>	Standard	11 Oct 00	15 Dec 00	28 Sep 01	27 Oct 01	15 Mar 02	-
<a href="#">ft03</a>	Standard	27 Mar 01	20 Apr 01	28 Sep 01	29 Oct 01	15 Mar 02	-
<a href="#">ft04</a>	Standard	25 Apr 01	10 May 01	16 Oct 01	12 Nov 01	15 Mar 02	-
<a href="#">ft05</a>	Standard	7 May 01	24 May 01	16 Oct 01	8 Nov 01	15 Mar 02	-
<a href="#">ft06</a>	Standard	23 May 01	5 Jun 01	16 Oct 01	8 Nov 01	15 Mar 02	-
<a href="#">ft07</a>	Standard	25 May 01	14 Jun 01	16 Oct 01	12 Nov 01	15 Mar 02	-
<a href="#">ft08</a>	Standard	30 May 01	11 Jun 01	16 Oct 01	15 Nov 01	15 Mar 02	-
<a href="#">ft09</a>	HEC	26 Jun 01	25 Jul 01	2 Nov 01	29 Nov 01	15 Mar 02	-
<a href="#">ft10</a>	Special	29 Jun 01	19 Jul 01	16 Oct 01	12 Mar 02	18 Mar 02	-
<a href="#">ft11</a>	HEC	12 Jul 01	1 Aug 01	2 Nov 01	4 Dec 01	18 Mar 02	-
<a href="#">ft12</a>	Special	18 Jul 01	13 Aug 01	16 Oct 01	13 Mar 02	18 Mar 02	-
<a href="#">ft13</a>	HEC	3 Aug 01	22 Aug 01	2 Nov 01	-	-	-

## Data Available by Following Web Links

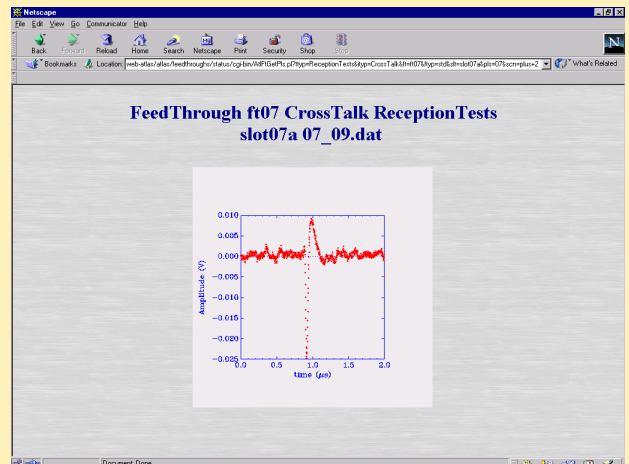
- Serial numbers of all components taken directly from our feedthrough production database (eg, pigtail serial number and type for each position)
- Vacuum cable test data
  - cross talk
  - trace resistance
  - ground contact resistance
  - impedance (TDR)
- Cold test data
  - cross talk
- Final tests performed at UVIC
  - cross talk
  - trace resistance
- Reception tests performed at CERN
  - cross talk



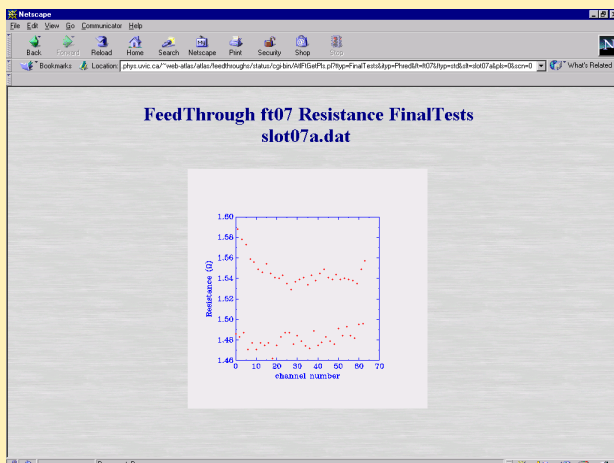
# Samples of Data Viewable on the Web



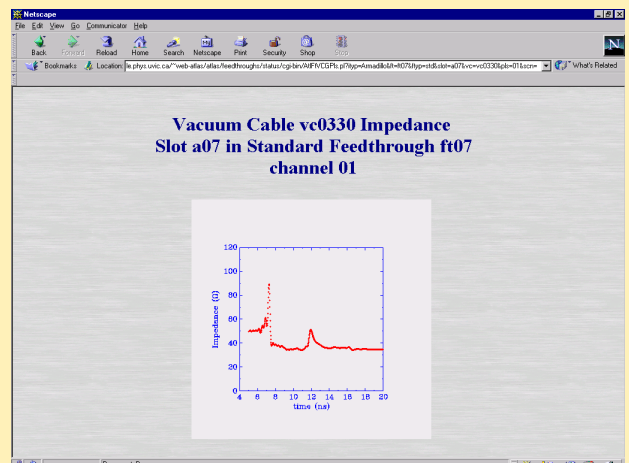
cross talk  
(scan pulsed channel)



cross talk  
(scan neighboring channel)



resistance data



vacuum cable impedance data

26,700 plots available for each Standard, Special and FCAL  
feedthrough; 23,140 plots for each HEC feedthrough!

# Other Documentation Available on Web

<http://particle.phys.uvic.ca/>

⇒ ATLAS

⇒ ATLAS Group at Victoria

⇒ Endcap Signal Feedthroughs

⇒ documentation

- QA/QC document (version 5, 28 March 2002)
  - assembly and test instructions
  - traveler sheet forms
  - component and assembly drawings
  - weld plans
  - material certifications
  - control step document
  - miscellaneous test reports
- various other feedthrough related notes

<http://particle.phys.uvic.ca/>

⇒ ATLAS

⇒ ATLAS Group at Victoria

⇒ Endcap Signal Feedthroughs

⇒ drawings

- All feedthrough related drawings (hpgl, pdf, and ps formats)



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