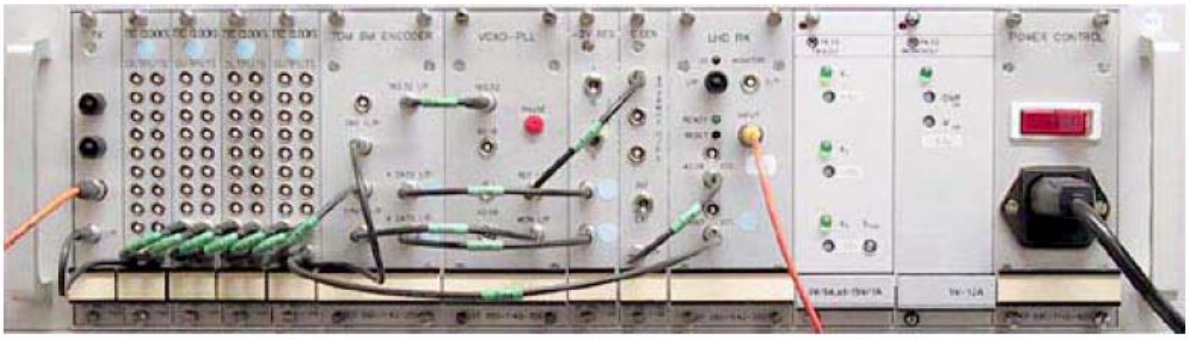
# TTCmi check lists

Connect the optical fiber to the second optical input of the LHCrx module. The green light "ready" should light up.

## The "ready" led does not light up – check list:

1. reset the LHCrx (small button below the led)
2. Verify if the optical connector is well connected to the LHCrx. It is really easy to lock the connector without having engaged it correctly
3. Check the position of the modules inside the TTCmi crate. They must be inserted according to the following order:

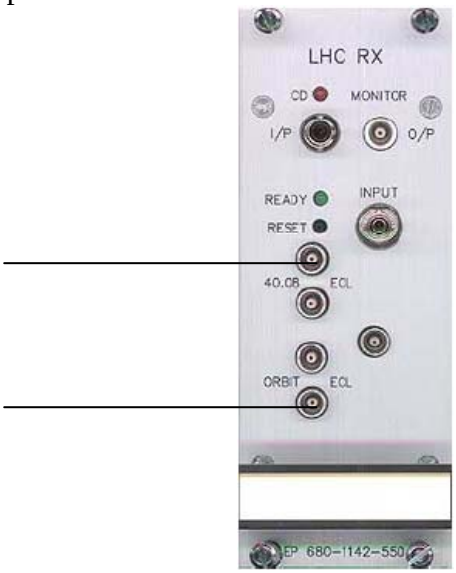


4. Check the optical power at the input of the LHCrx (on the output of the cable to be connected to the LHCrx). The power must be between -18dBm and -22dBm for 1310nm. Ideally -20dBm. If the power is -40dBm or lower, the connection is cut somewhere. If the value is between -40 and -22dBm, the attenuation is too high, try to remove one of the attenuators on this fiber, if any. If the value is above -17dBm, the power is too high, it needs to be attenuated. In this last case, call S. Baron, 160494 or A. Monera, 71025.
5. If none of these ideas are working, call S. Baron, 160494 or A. Monera, 71025.

## The "ready" led lights up but you are not happy with the signals – check list:

1. you should have:
   - BC frequency = 40.078334MHz.
   - Low jitter < 50ps RMS.
   - Orbit frequency ~43kHz. Stable during the flat top. Can be variable between flat tops.
   - Orbit period during the spill: 924BC. **Please send a mail to Sophie.Baron@cern.ch and Angel.monera@cern.ch if you see some discrepancies in term of orbit period during the spill.**

2. If the 40MHz frequency is more a 43MHz-ish : press on the reset on the LHCrx module.
3. If the jitter is too high:
   - reset the LHCrx
   - test the optical power (see above)
   - verify the quality of the connection
4. check the quality of the recovered signals connecting a scope on the LHCrx 40MHz and Orbit outputs with a DC-50Ohm connection:




5. If none of these ideas are working, call S. Baron, 160494 or A. Monera, 71025.