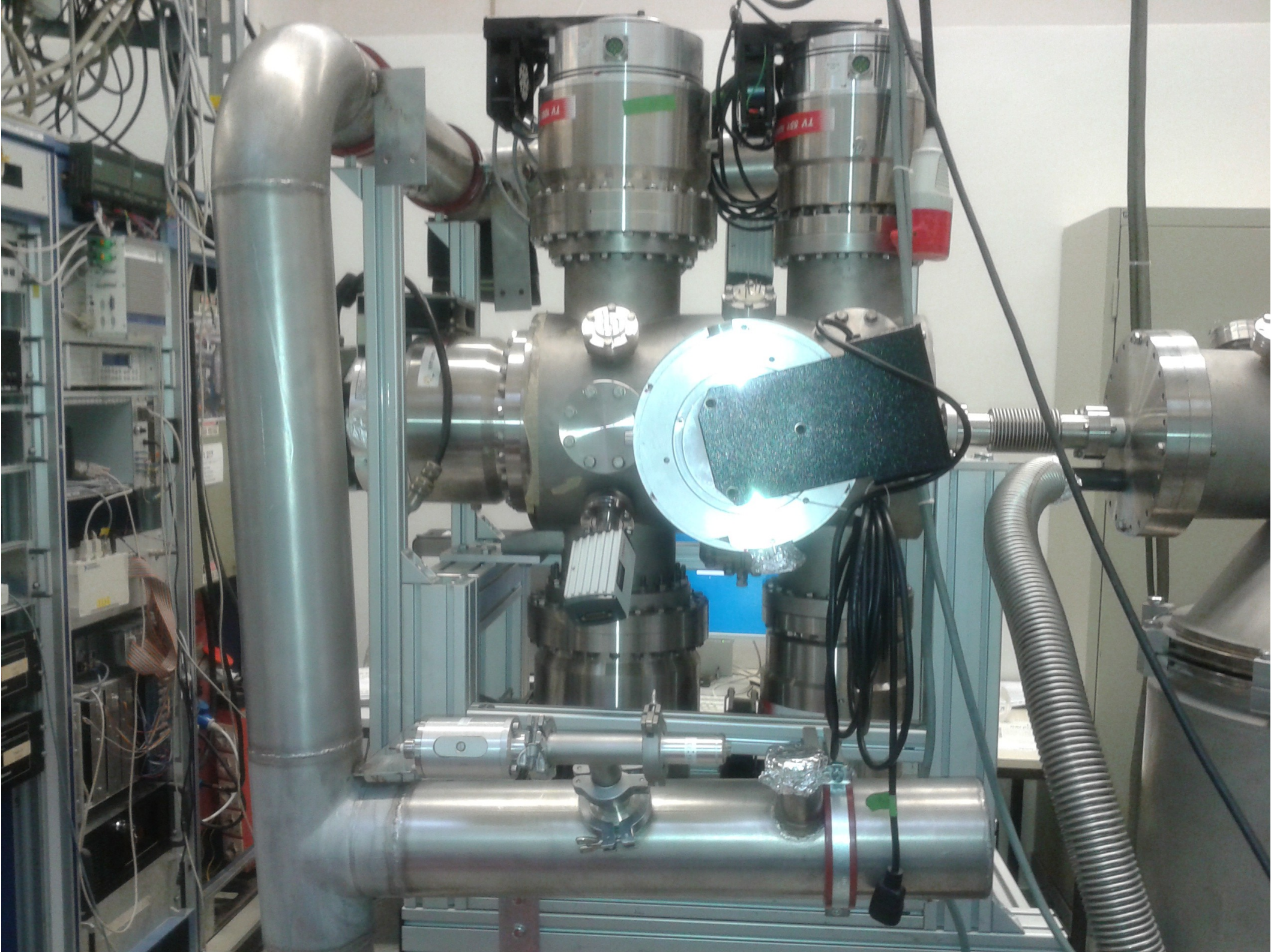


A. Trzciński

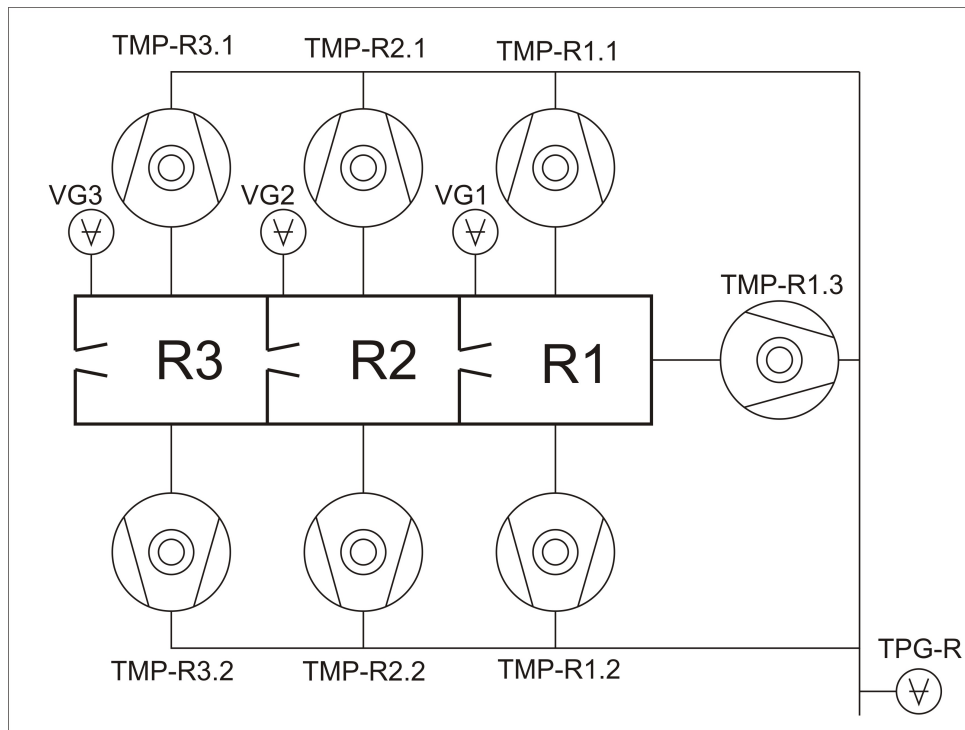
*National Centre for Nuclear Research
Warsaw*

***Operation of beam-dump
turbopumps via slowcontrol
at the GSI testing facility***



The Slow-Control for the Beam Dump

A list of elements to be controlled



***R1 - R3 vacuum chambers
Under normal operating
conditions of the cluster-jet
source:***

R3 at $\sim 10^{-6}$ mbar,

R2 at $\sim 10^{-5}$ mbar,

R1 at $\sim 4 \cdot 10^{-5}$ mbar.

***Turbomolecular pumps VARIAN:
TMP-R1.3 TV 1001 NAVIGATOR
(900l/sec),***

TMP-R1.1, R1.2 TV 1001

***NAVIGATOR, TMP-R2.1, R2.2 TV
1001 NAVIGATOR,***

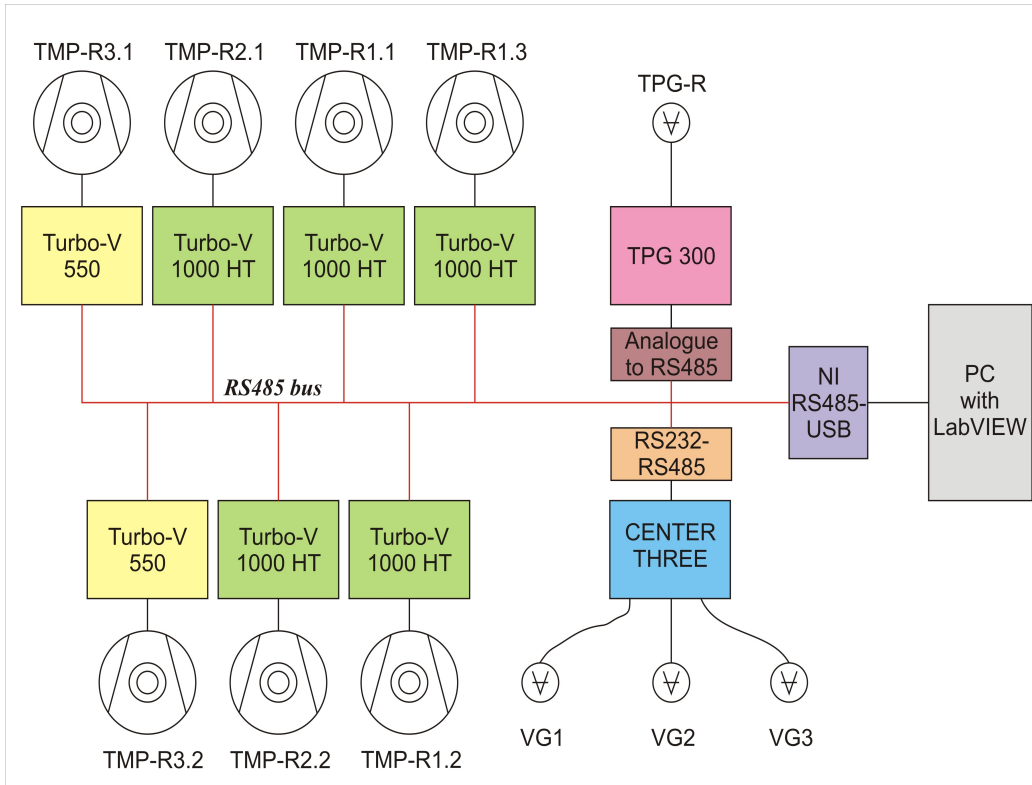
***TMP-R3.1, R3.2 TV 551
NAVIGATOR (500l/sec).***

Vacuum gauges:

VG1 - VG3 Ionivac ITR200

TPG-R Ceravac CTR100

RS-485 bus controlled and communication elements

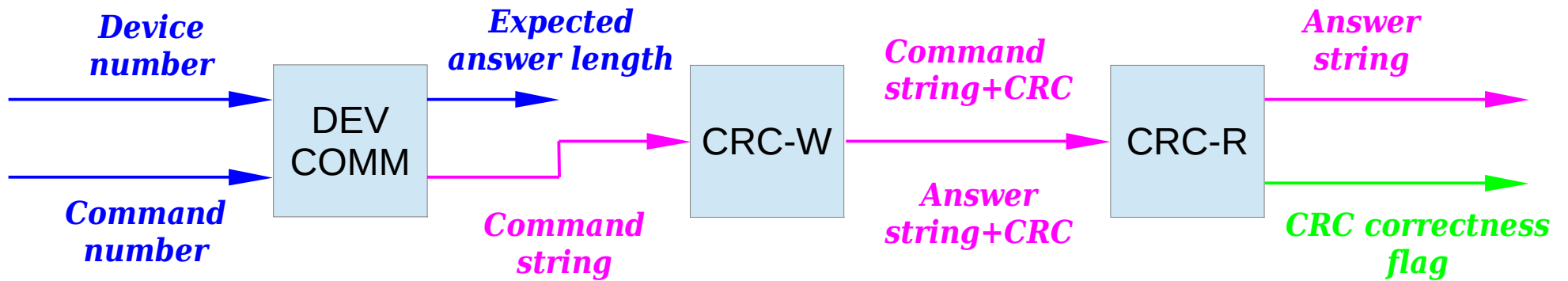
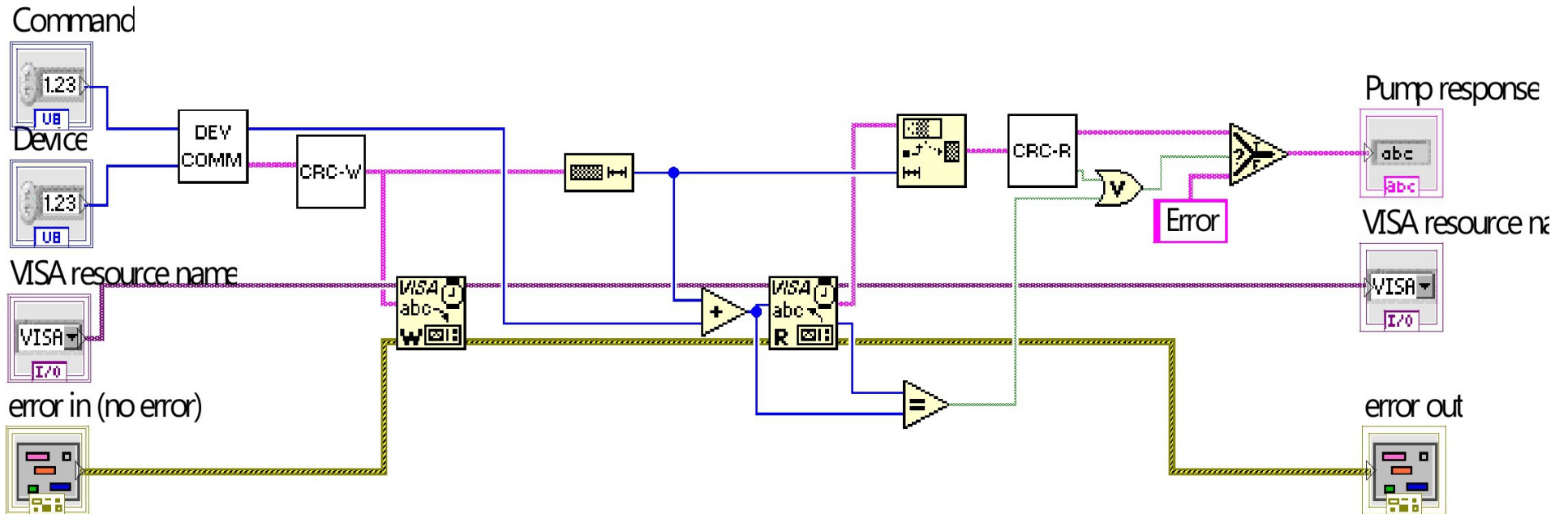


TMP controllers

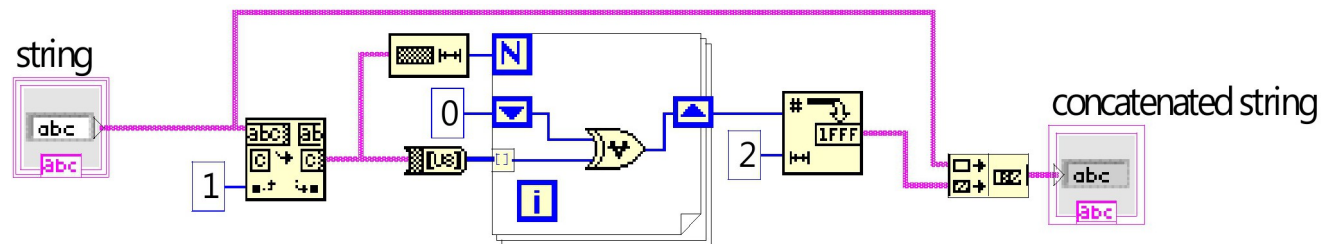
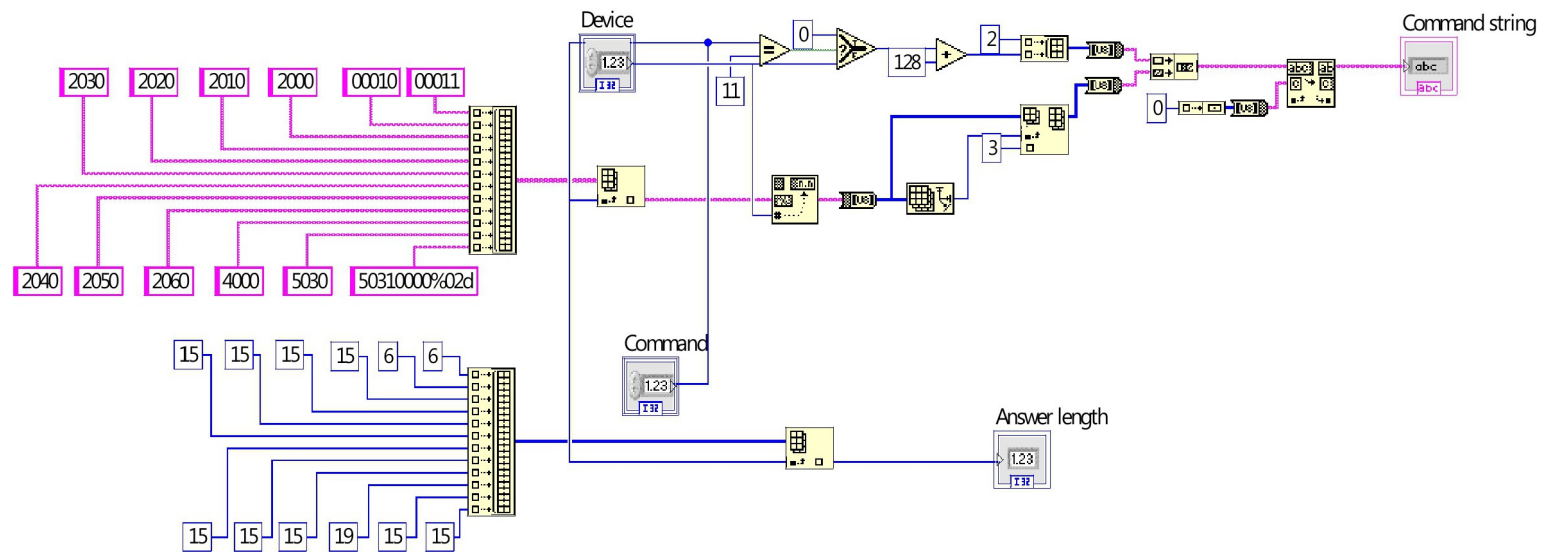
TV 1001 - Turbo-V 1000 HT
TV 551 - Turbo-V 550 HT
communicate via the RS-485

VG1 - VG3 vacuum gauges -
Leybold CenterThree which
communicates via RS-232
RS232↔RS485 addressable
converter is needed

Schematic view of the program flow diagram



Details of the basic modules



TO DO

- *installation of RS-232↔RS-485 converters for CenterThree devices*
- *translation of the LabView schemes to the CompactRIO VxWorks tasks*
- *further improvement and application of the schemes to other serial devices*