

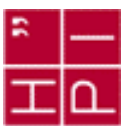
---

# HPI-DCL

legOS-RTM  
Remote Task Management

# legOS-Kernel

---



- ❑ Old legOS-Kernel:
- ❑ 3 tasks started during initialisation
  - Idle thread
  - Key\_handler
  - Packet\_consumer

# Key\_Handler

---



- Handles activity on the buttons of the RCX
- On/Off overwrites anything
- Run is also Stop
- With legOS up to 8 different programs

# Packet\_consumer 1

---

- Handles activity on IR-Port
- Recognizes 4 commands:
  - CMDdelete
  - CMDcreate
  - CMDrun
  - CMDirmode
- BUT only if no program runs!

# Packet\_consumer 2

---

- ❑ Interrupt Routine = Packer\_Producer on LNP-Port 0
  - Copies the message and sets a semaphore
- ❑ Packet consumer waits for new message and interpretes it

# legOS-RTM

---

- ❑ Expansion to kernel:
  - RTM-Handler called in packet\_producer →
  - Introduces two new commands
    - START ( + program number)
    - STOP ( Stops all)
  - New thread started during kernel initialisation:
  - RTM-Thread waits on semaphore and handles new commands (works like packet\_consumer)

# Problems and limitations

---

- User programs could overwrite default handler for Port 0 → no more communication to RCX
- Several programs can be started simultaneously → conflicts during execution(atm. Limit to one program at a time)
- Only all programs at once can be stopped