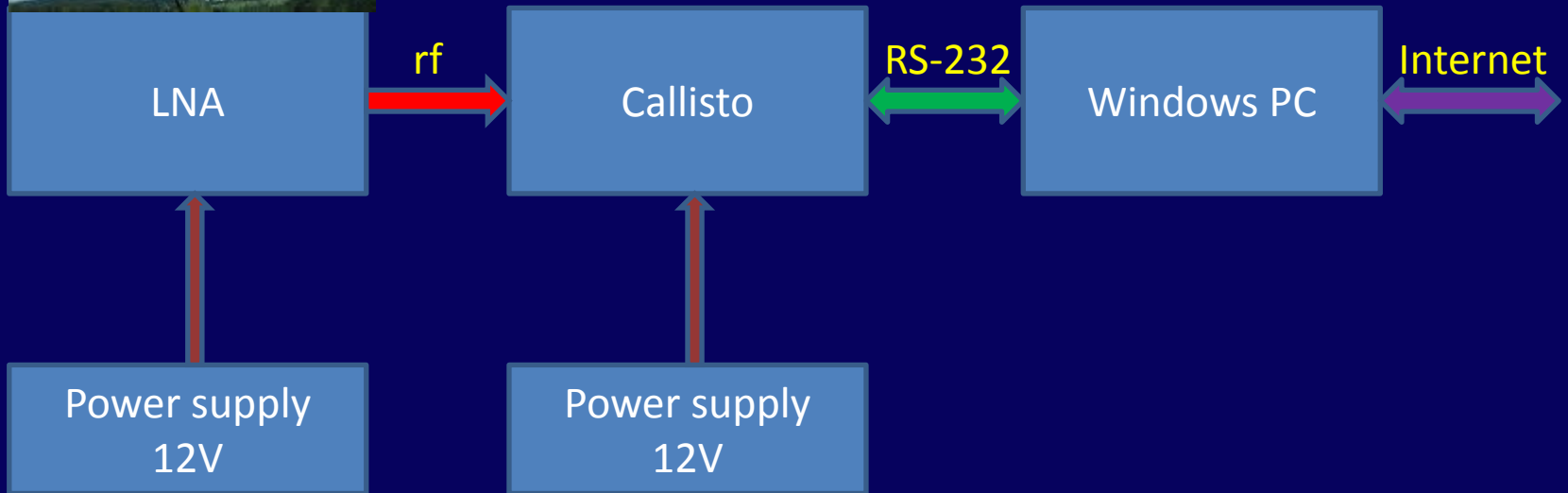# Instrument Installation

Topics

1. System overview
2. Hardware configuration
3. Software configuration
4. Spectral overview
5. Generation of frequency program
6. Observation scheduler
7. Observation
8. Data visualization (Java, IDL, Python)
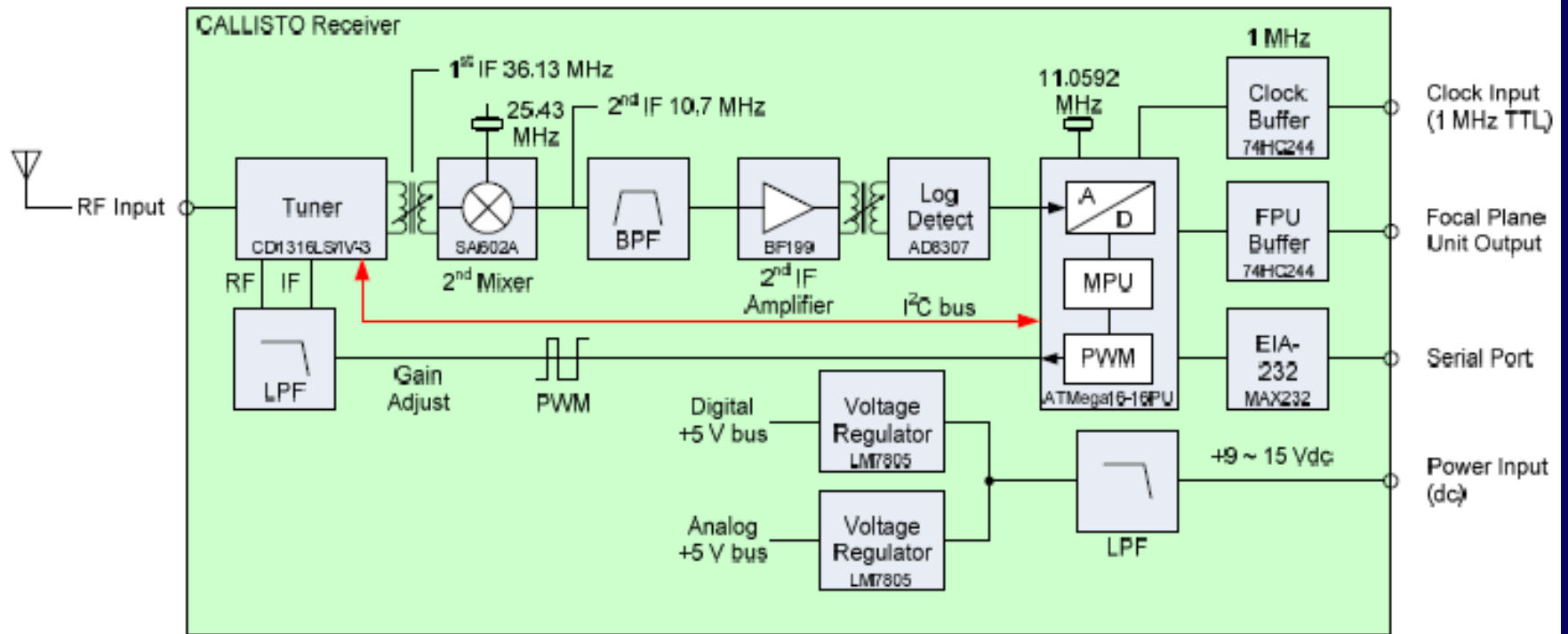9. FTP and data archiving (PERL)

System overview

LNA → **rf** → Callisto ← **RS-232** → Windows PC ← **Internet** →

Power supply 12V → LNA

Power supply 12V → Callisto

Hardware configuration

- Install antenna, ideally tracking the sun

- Install low noise amplifier (LNA) close to ant.

- Install coax between LNA and Callisto

- Install Callisto and 12V power supplies

- Setup Windows PC with serial interface

- Setup internet connection to download software

- Option: external clock

Receiver Schematics

Software configuration

- Prepare Windows (classic)
- Download & install Callisto software
- Download & install FGENI
- Download and install AutoScheduler
- Download and install WebGeni
- Download and install Java + JavaViewer
- Download and install PERL
- Option: PYTHON, IDL, SSWIDL

Spectral overview

- Power up all subsystems
- Make spectral overview & check saturation & adjust system gain
- Make spectral overview with reference
- Plot spectrum (sky – reference)
- Discuss it

Generation of a frequency program

- Take last, non-saturated spectral overview
- Generate several frequency programs
  - equidistant
  - optimized
  - low frequency
  - high frequency
  - broad band

Observation scheduler

- Configure AutoScheduler

- Generate default scheduler file

- Edit scheduler.cfg manually

- .

Observation

- Configure & check callisto.cfg
- Start observation
  - manual
  - automatic
- Stop observation
  - manual
  - automatic

Data visualization

- Demonstrate JavaViewer

- Demonstrate PYTHON example

- Demonstrate SSWIDL example

  .

FTP and data archiving

- Download and install PERL
- Install do.bat and tst.pl, execute it
- Check if data are arriving at FHNW
- Demonstrate e-Callisto archive