



# Community Radio Technical Primer

छवउं क

India Network

# Nomad and Its existence

- ◆ Nomad is a group of communication technologists committed to development and propagation of people oriented technologies
- ◆ Our mission is to re-appropriate technology that touches people's lives and put them in public domain
- ◆ Our technological solutions are free of copyright

# Community Radio

- ◆ Community Radio is not about technology... it is about communities and development
- ◆ Technology should not exceed 20 to 25 per cent of a CRS budget for the exercise to be viable
- ◆ Low cost technology is essential for the station to be sustainable
- ◆ Community Radio needs to be a mass movement

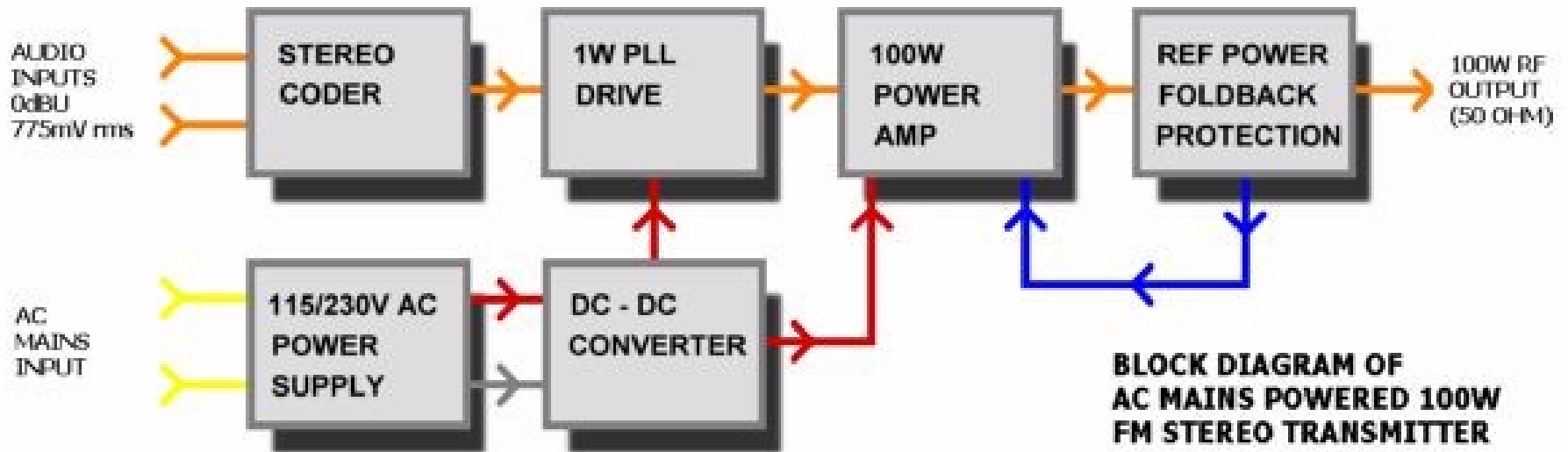
# Model budgetary allocation

<b>No</b>	<b>Components</b>	<b>Cost in %</b>
1	Planning and Licensing (Capex)	5
2	Civil Works (Capex)	20
3	Equipment (Capex)	20
4	Programming	30
5	Personnel	20
6	Marketing and Revenue generation	5
7	Total	100

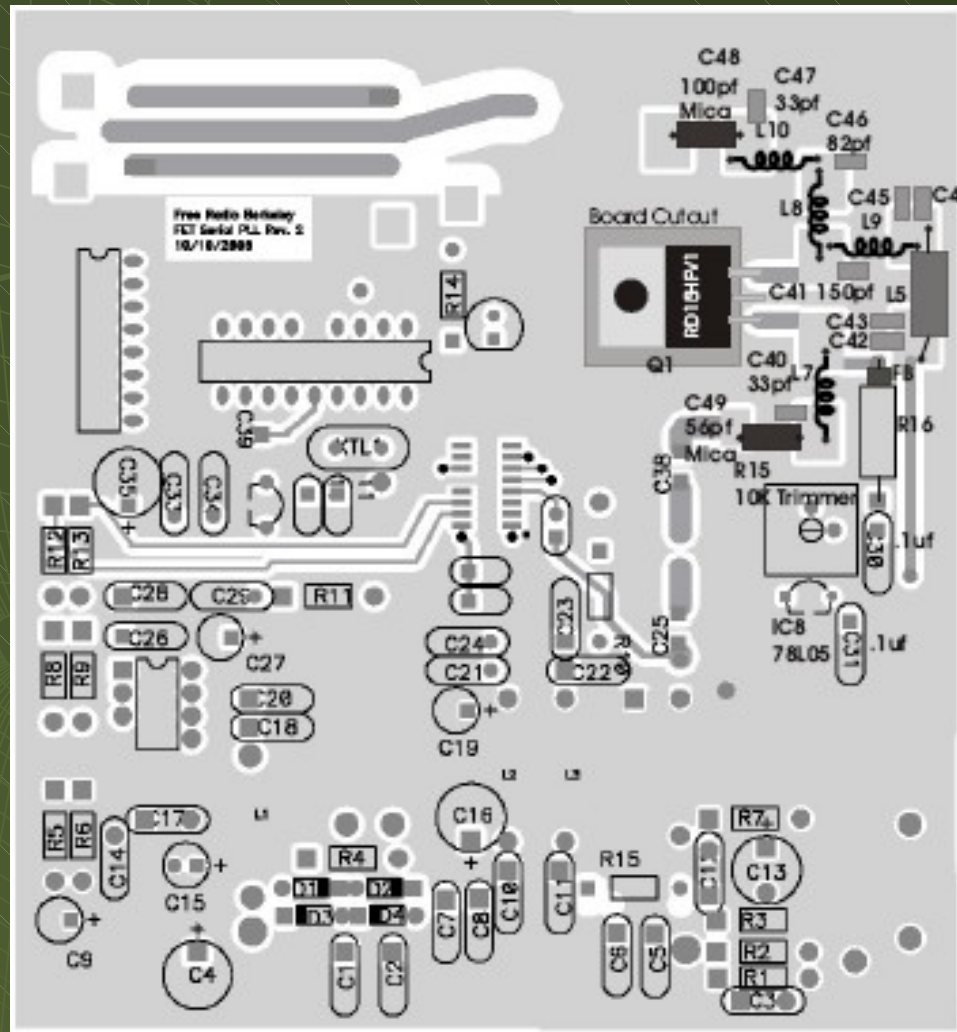
# Nomad and Community Radio

- ◆ We develop open source transmission systems and sound architecture designs
- ◆ We have designs for 1 W to 150 W transmitters, suitable for Indian environment
- ◆ They are robust, easy to use and maintain
- ◆ Meets International Telecommunication standards (ITU-R)
- ◆ We collaborate with global community radio movement in general and Free Radio Movement in North and South America in particular

# Block Diagram of Transmission Systems

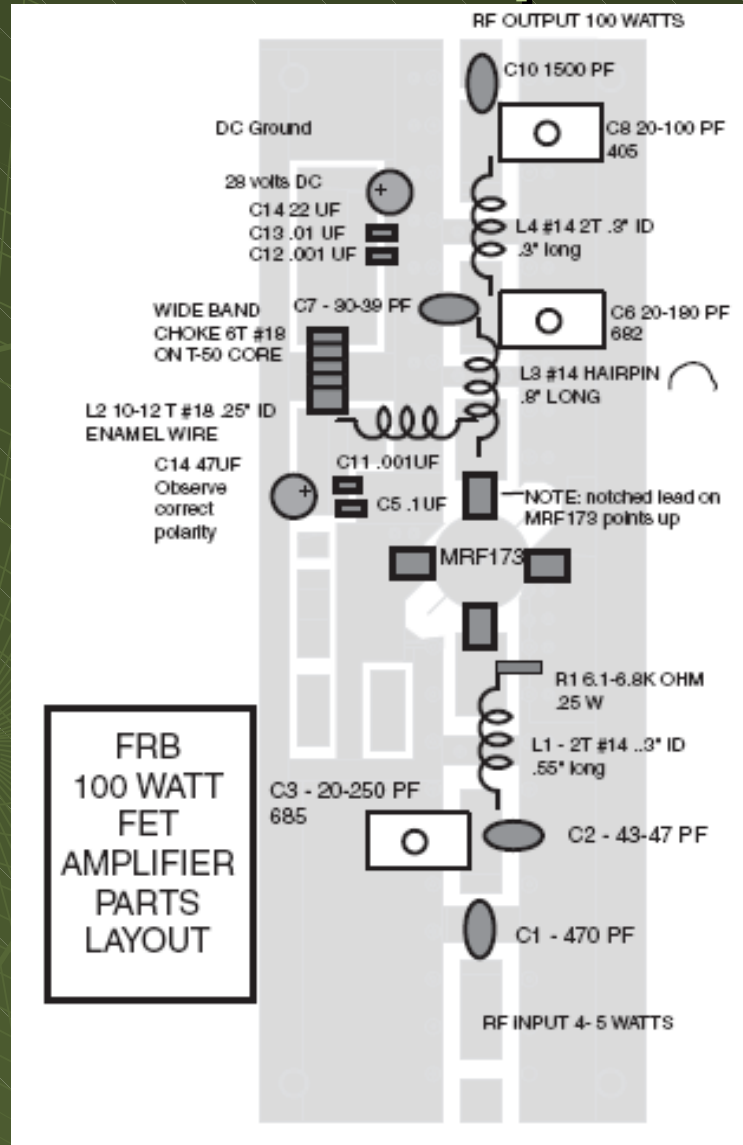


# 1W Drive with 10W Amplifier

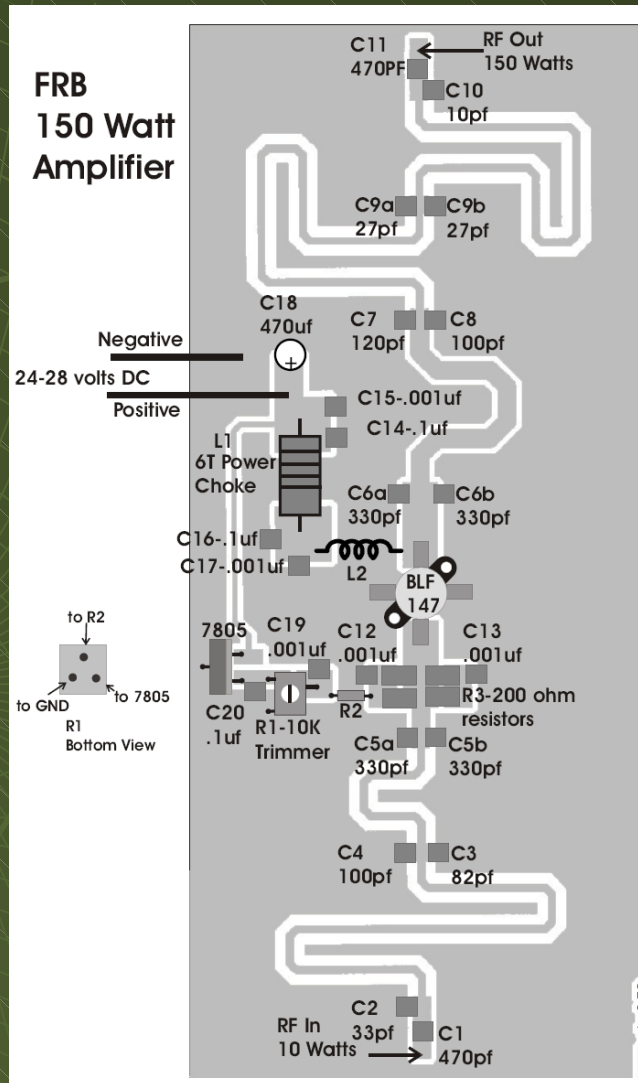




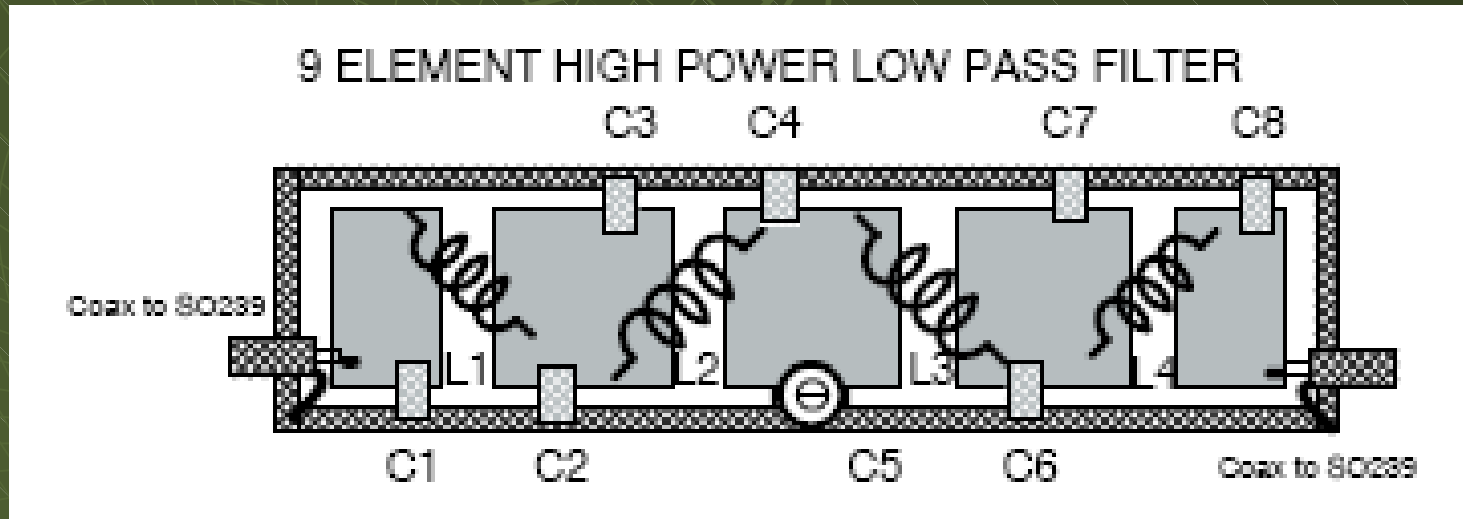
# 100 W Amplifier



# 150 W Amplifier

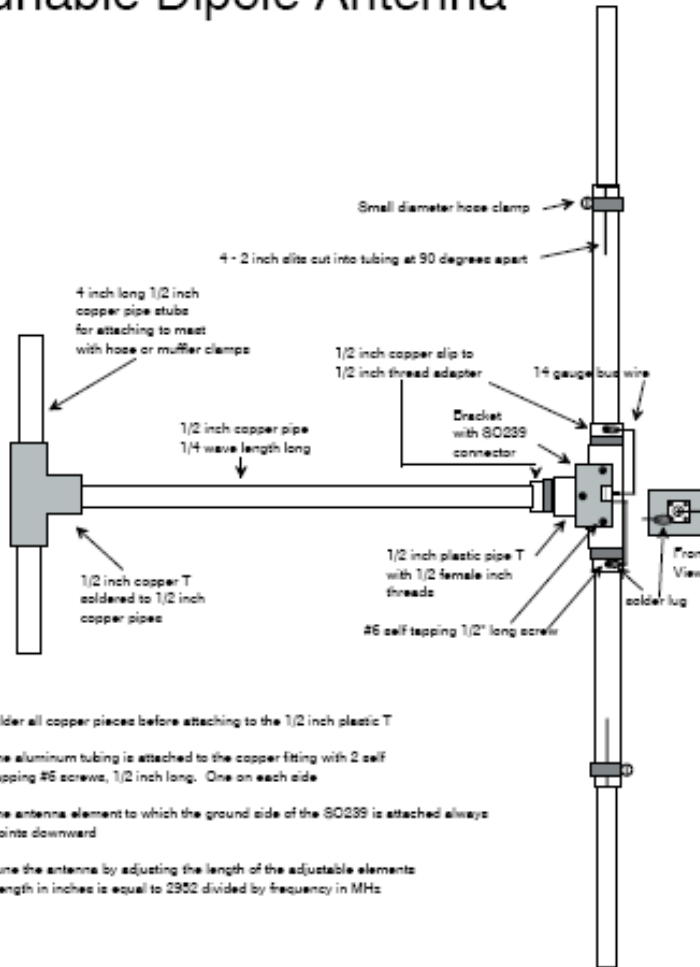


# Low pass filter



# Antenna System

## Tunable Dipole Antenna



# Making Airwaves Affordable

- ◆ Factors that influence cost
  - Unavailability of key components in Indian markets
  - Premium charged by multi-national electronics companies on RF components in India
  - Shortage of RF enthusiasts
  - Lack of domestic demand

# Cost

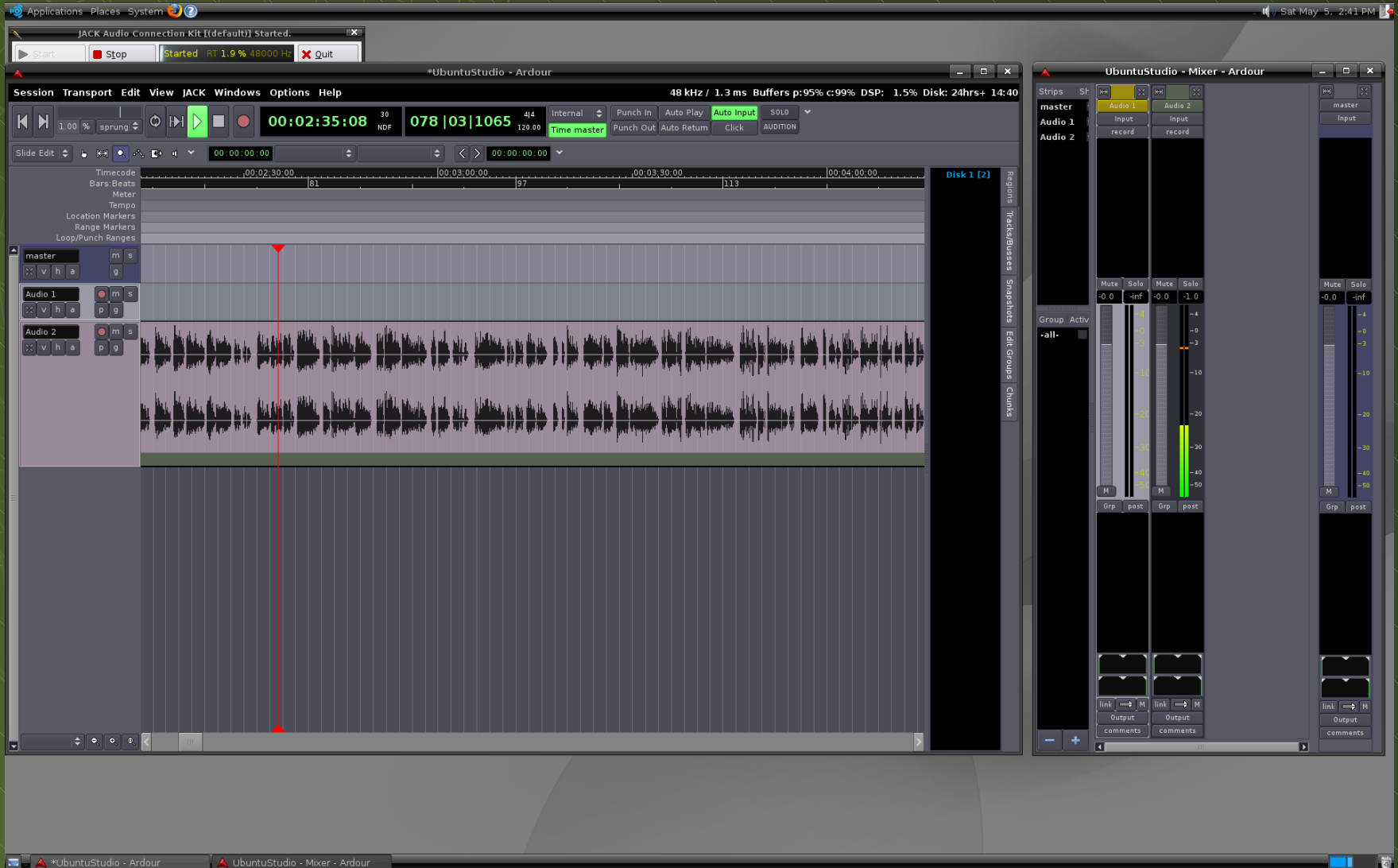
<b>No</b>	<b>Particular</b>	<b>Cost In Rs</b>
1	100 W ERP Transmission System	Rs 75000
2	Antenna and feeder Cable	Rs 20000
3	Antenna Mast	*
4	Civil Works and Acoustics	**
5	Studio and Sound Architechture	***
6	Uninterrupted Power Supply	****

# Open Source Radio

- ◆ Linux based operating system... Ubuntu Studio, Suse 10.1
- ◆ Advance Linux Sound Architecture
- ◆ Jack Audio Connection Kit
- ◆ Many other tools for radio automation, recording, editing, sequencing and mixing

# Professional tools

## Ardour 2 interface





# Experience Open Source

Courtesy of OSDir.com



# Caution !!

Want to Experiment with RF ? Please  
do so with a trained person ... RF  
burns are dangerous

They are like microwave – cooking you  
from within