Building to a Billion, and Beyond

Inside one of the worlds largest digital radio deployments

NAULEI

AM/FM Radio Transmitters



Agenda

- The scope of the project
- Background
- The plan
- Building and testing the systems
- Installations
- Training
- Lessons learned
- Your questions



Rakesh Aggarwal Comcon, New Delhi



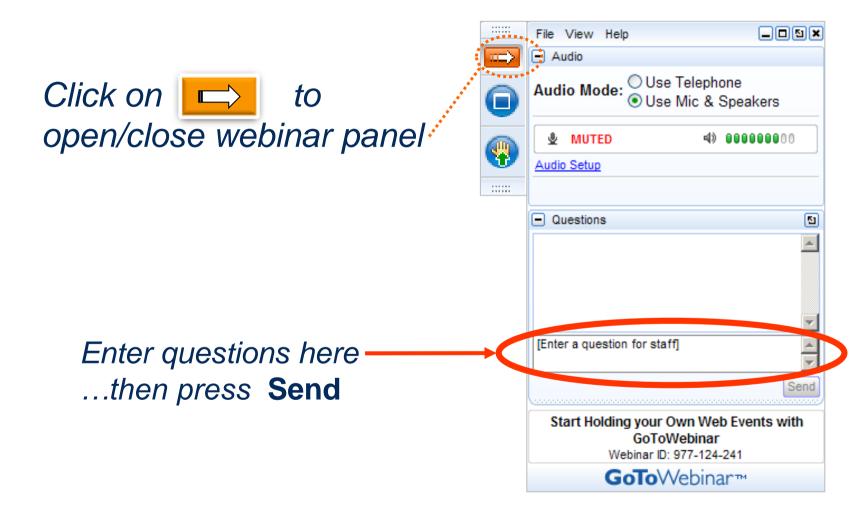
Stephen Farley Senior Project Manager



Chuck Kelly Regional Sales Manager Making Digital Broadcasting Work.



Questions?







b/

ALL

INDIA

RADIO





ALL INDIA RADIO



All India Radio is the largest broadcaster to select DRM as it's choice for Digital MW broadcasting.

In 2010, All India Radio began a process of upgrading 27 transmitter sites with new state of the art AM transmitters, equipped with DRM equipment.

The process of tendering and order placement took several years, and the first of the orders was placed with Nautel in 2012.

The system designs included Nautel NX100, NX200 and NX300 kW transmitters, as well as Digidia DRM modulators and content servers, Altronics Soda Loads and Kintronics Labs ATU's.

Nautel's in-country partner is Comcon Technologies of New Delhi.

In 2013, Nautel began shipping the systems, and they were fully installed on schedule.



25 kW-2,000 kW Digital/Analog

25 kW–2,000 kW Digital/Analog Medium Wave Transmitters



All Solid State
All Solid State

• 90%+ Efficiency

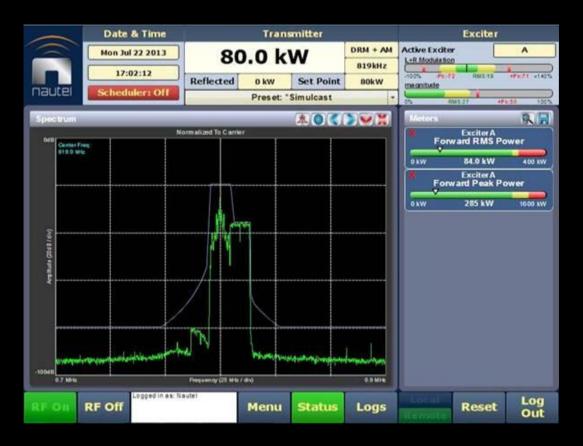
Designed for DRM:

- Wide modulator bandwidth
- Digital I/Q interface
- Unparalled linearity
- Simultaneous DRM and AM

Industry leading features:

- 17 inch color touchscreen AUI
- Spectrum Analyzer
- Network Analyzer

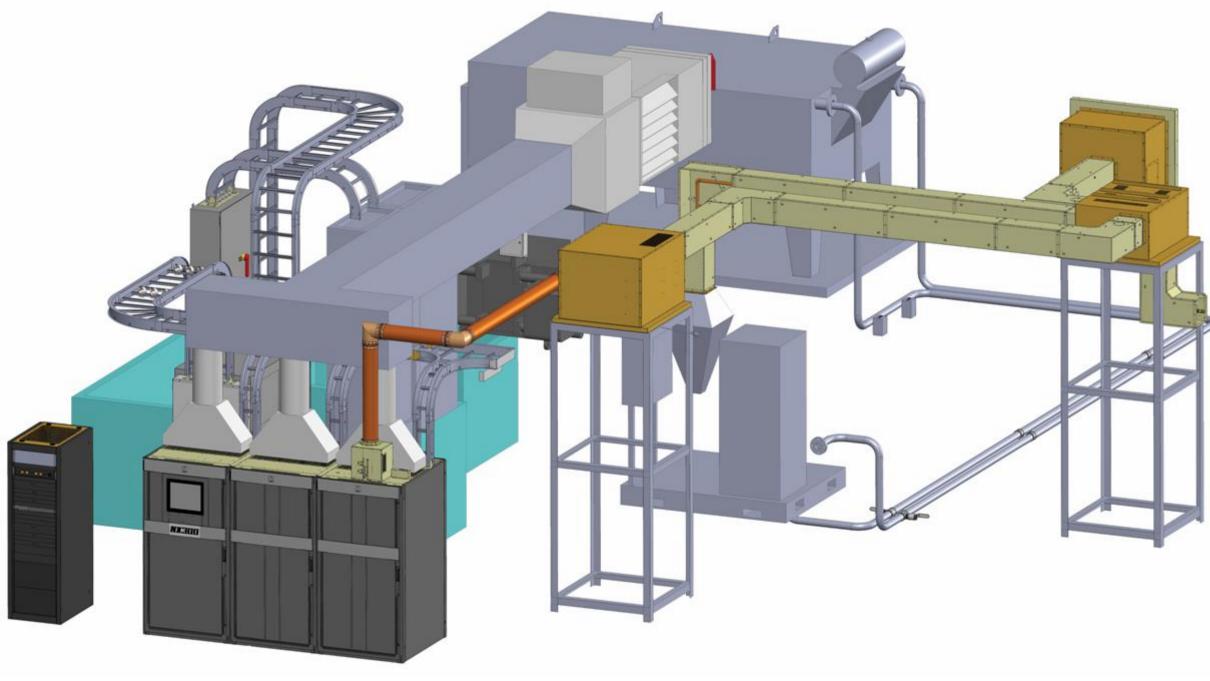
Initial and eventual transmission modes:





20 kHz DRM

Simulcast



A unique partnership

naute

आकाशवाणी

"Based on trust and mutual respect, with a common goal of building the finest digital radio installation, and on time"





















Mon Apr 7 2014 18:35:39

Date & Time

0 kW

0 KW

Preset: 0 KW

Hour

18

Day

Time

Date

Timezone Region Country

Zone

Aralog AM

26

Apr - 2014 -

8150-g

Month

Carlen.

Set Port OX

User Settings

Network Setup Email Configuration Notifications Exgine Settings SNMP Configuration Time Setup NTP Servers Call Sign/ID

RF Off

RF:On



























<u>HITVADA</u> – <u>31[10]2015</u> AIR set to start digital relay of three channels for first time from Jabalpur

Staff Reporter

"ADDING another milestone towards Digital India campaign, All India Radio is all set to start digital relay of three channels for the first time in Central India from Jabalpur. Newly established digital radio module (DRM) will relay AIR channels within periphery of upto 200 kilometres," informed Animesh Chakraborty, Engineer-in-Chief, All India Radio, while addressing a press conference on Friday. Engineerin-Chief Animesh Chakraborty informed that a total of 36 digital radio module transmitters have been established across the country. Under the head of Digital India campaign, new DRM transmitter has been established in Jabalpur.

It is the first transmitter established in Madhya Pradesh. He informed that preparations are underway to establish new digital transmitters in North-East states for digitalisation of All India Radio services across the country. He added that analogue relay of three digital channels has been started that will be digitalised

ent.



AIR, Engineer-in-Chief, Animesh Chakraborty inspecting new DRM transmitter.

soon with completion of technical fulfillments.

With start of digital relay service, residents will have to purchase new receivers for enjoying advanced digital relay services. Earlier, Engineer-in-Chief Animesh Chakraborty who is 1979 Batch IES Officer conducted inspection of newly established 200 KW Digital Radio Module transmitter situated at All

India Radio in village Karmeta on Patan road. He also visited AIR Katanga office and gave necessary instructions to the officers concerned and employees for maintaining quality of AIR programmes. AIR, Assistant Director, Jabalpur, Anil Kumar Lakhera informed that new 200 MW DRM transmitter has been successfully established at AIR office in (Contd on page 4)

AIR set to start digital relay of three...

Karmeta and its relay testing has been started. On the occasion, B Yadav, Chief Engineer (retired), AIR, B Jaiprakash Baba, Deputy Director (Mumbai), Vivek Singh, Director (Engineering) (Mumbai), K K Sagre, Assistant Director (Programme) and others were pres-

















Delhi: "Training the installers"

Training for Excellence



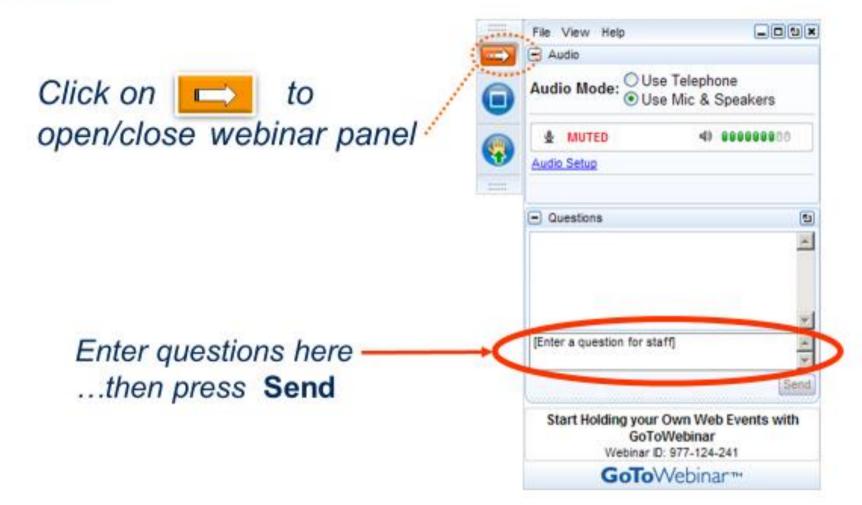


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We're here to help

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Making Digital Broadcasting Work.

