DNT24 APP FACTS

Design engineers of heavy duty industrial remote control equipment face complex software and hardware design challenges due to a myriad of system input / out requirements. Additionally, these heavy duty remote control applications require long-battery life and reliable transmission while operating machinery generating noise that interferes with radio transmission.

Commercial / Industrial:

Remote Control with Multiple Inputs and Outputs

RFM's DNT24 FHSS modules make for an efficient, low-cost solution for commercial and industrial remote control applications with multiple input and outputs.

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OTHER TOP DNT24 APPLICATIONS

Applications requiring direct connections and reporting of sensor data

SCADA for monitoring and control

Scoreboards and electronic signs

Industrial remote control

Energy management

APPLICATION OVERVIEW

Safety concerns when operating heavy duty industrial equipment such as blowers, crusher plants, remote gate openers, hoists and other equipment with motors has necessitated the need for remote control of these equipment over sufficient distances. Remote control of these devices also allows for freedom and mobility to operate the machinery in locations where direct wired connections is not possible.

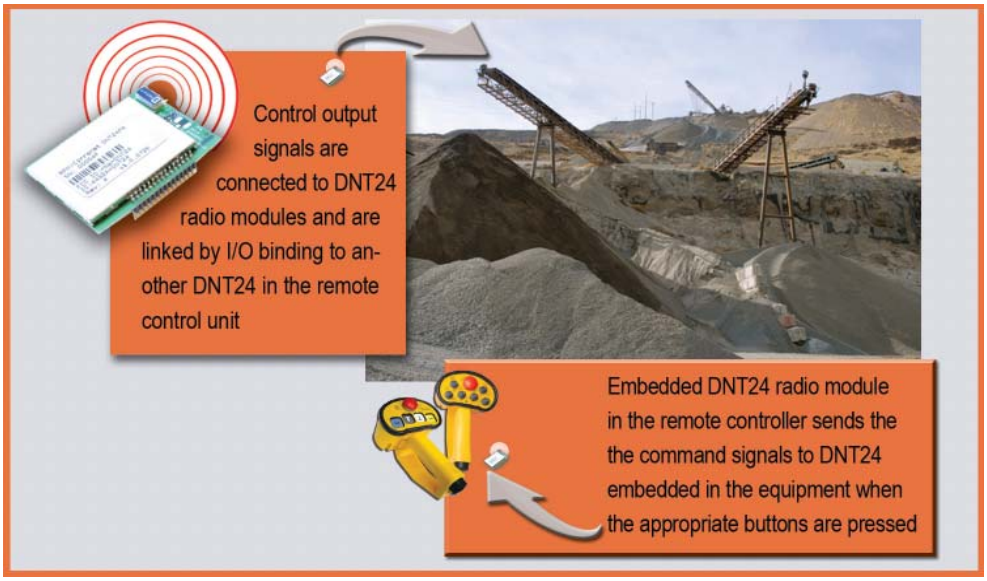
The key requirements for this application required a radio module with multiple analog / digital inputs / outputs. The other key requirement was battery operation. The machinery also generated lots of noise and hence a FHSS solution (Frequency Hopping Spread Spectrum) was a must. The DNT24 radio module fully satisfied all the requirements of this application.

APPLICABLE PRODUCT FEATURES

The DNT24 radio module's Sleep and Interrupt- awake capability allowed for battery operation. The Input/Output binding feature simplified the design effort significantly by not having to add additional software or hardware intelligence. Finally the Frequency Hopping Spread Spectrum technology (FHSS) provides reliable RF communication over large distances. The low cost allows systems to be economically priced and the 2.4 GHz allows world-wide deployment.

The Input / Output binding feature simplified design effort by not having to add additional hardware or software intelligence

HOW IT WORKS



Very small footprint, the DNT24 module is slighter larger than a quarter

SPECIFICATIONS

The DNT90 has the same form factor and pin out as the DNT24, and can be used for this application in the 900 MHz band

Radio Characteristics:	FHSS (Frequency Hopping Spread Spectrum)
Frequency:	2.406 - 2.475 GHz
Transmit Power:	10 or 100 mW
RF Data Rates:	250 kb/s
Receiver Sensitivity:	-100 dBm 10-5 BER
Data Encryptions:	AES-128
Network:	Point-to-Point, Point-to-Multipoint, Peer-to-Peer, Store-&-Forward Repeating
Environmental:	-40 °C to +85 °C 10 - 90% humidity, non-condensing
Power Supply:	3.3 to 5 VDC
Dimensions:	1.45 X 0.98 inches (36.8 X 24.9 mm) for DNT24C 1.45 X 1.10 inches (36.8 X 27.9 mm) for DNT24P
Mounting Option:	Pinned and Surface Mount Versions
RF Connection:	U.FL Coaxial, Chip Antenna
Input / Outputs:	6 GPIO, 3 ADC and 2 DAC outputs
Interface:	UART, SPI
Certification:	FCC, Canadian IC and ETSI certified

PART NUMBERS

Part Number	Description
DNT24P	DNT24 FHSS Module - Pinned Version
DNT24PA	DNT24 FHSS Module - Pinned Version, Chip Antenna
DNT24C	DNT24 FHSS Module - Surface Mount Version
DNT24CA	DNT24 FHSS Module - Surface Mount Version, Chip Antenna
DNT24DK	DNT24 FHSS Module Developer Kit
DNT24ADK	DNT24 FHSS Module Developer Kit with DNT24PA

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