



## DT-2000 MULTI-PROTOCOL DIGITAL SWITCH

*The DT-2000 features a flexible, multi-protocol design for single site & multi-site trunking networks.*

### DT-2000 DIGITAL SWITCH

VDV Media's DT-2000 Digital Trunk Switch has been designed to meet your trunking and interoperability needs for today. As you migrate to digital solutions, it can grow with you. The DT-2000 is designed to provide connectivity and compatibility to all the resources within the switch as well as to the network.

Because it is a digital TDM switch, it allows flexibility in resource management and in the switch to make use of a wide choice of resources. This would include a) an 800Mhz trunking radio can talk to an UHF trunking radio. b) A VHF conventional radio can be cross-banded to an UHF trunking radio. c) Any radio can have access to any phone line or any network link on the system. d) Outbound calls can be connected directly to a phone line or to a network link. e) If there are multiple DT-2000's networked together, any radio on a switch can be connected to any radio on another switch or to any phone line. It is truly a non-blocking digital matrix switch.

The DT-2000 Digital Trunk Switch can support 20 repeater or radio interfaces and can be expanded to support 40 repeater interfaces at 800Mhz, UHF, VHF high band land low band. The system is designed with the advanced DSP, TDM digital technology and it provides non-blocking switching, COR, PTT, RSSI capability. Each Radio Interface port can handle multiple radio groups to simplify system design and reduce cost. Automatic call setup and routing capability will allow easy to use and efficient communication network. Using its cross-banding technology, the DT-2000 Digital Trunk Switch can provide connectivity between different protocols and different frequencies making them part of the overall network. Dispatch calls between radio groups can be preprogrammed and set up in advance or can be programmed by a radio with DTMF on the fly.

When coupled with the MSD Multi-Site Dispatch Hub, the DT-2000 will support multi-site dispatch between 2 and 32 sites in a true Transmission Trunked mode.



### MAIN FEATURES:

- **20 Radio ports expandable to 40 radio ports.**
- **Telephone line support up to 96 audio resource interface lines.**
- **Technology: Digital TDM (Time Division Multiplexed) and DSP (Digital Signal Processor).**
- **Non-Blocking switching platform.**
- **Interoperable radio platform.**
- **Modular and Scalable system.**
- **Radio Interface: Suitable for HF, Low Band, VHF, UHF, 800Mhz, 900Mhz, LMR radios, SATCOM & others.**
- **Radio Interface Module: The radio interface module is used to interface with RF radio transceiver and other four wires audio devices. It will receive audio upon carrier detect signal and sent PTT, COR, VOX.**
- **Up to 40 Multiple Simultaneous Two-way or multi-site dispatch Calls.**
- **Multiple Group IDs encode/decode.**
- **External DTMF control.**
- **Network Interface module: Loop Start (POTS), DID, and E&M.**
- **Network link options include: T1, E1, Microwave, RF Link, and VoIP**
- **Remote Network Manager Console software provide system setup and control, Serial and modem remote control.**

**COMPONENT DESCRIPTIONS:****DT2000-6 or DT2000-20 - Basic Switch**

The basic DT-2000 is designed to support either 6 or 20 repeaters and can be upgraded to support up to 40 repeaters. It is configured in a 19" rack with the Digital switch including 12.1" TFT monitor, keyboard, touch pad, CD Rom, hard drive and Switch software supporting LTR Protocol, Data Network and Network Dispatch, Windows 2000. Also included is a Repeater Control Card (6 or 20 port) and a Telco Interconnect Card (8 slot).

**DT2000TEL – Audio Interconnect Card**

This is an Audio card with 8-port capability to provide connection to the PSTN or to the wide area network. The DT2000TEL requires a Loop Start or E&M hybrid module for each port to provide audio interconnection.

**DT2000LS - Loop Start Network Module**

Hybrid Module that allows interface to POTS lines.

**DT2000EM - E&M Network Module**

This Hybrid Module allows an interface to 2 wire or 4 wire E&M lines. To support 4 wire E&M interface, 2 modules are required. This hybrid module also supports DID interface.

**DT2000E1 - E1 Telco Card (30 port)**

Telephone card designed to support the international standards for delivering 2 Mbps or 30 phone lines from the Telephone Company. The system also supports fractional E1.

**DT2000T1 - T1 Telco Card (24 port)**

Telephone card designed to support the US standard for delivering 1.54 Mbps or 24 phone lines from the Telephone Company. The system also supports fractional T1.

**DT2000LRB - LTR Repeater Logic Board**

This is the interface board to connect the LTR repeater to the DT-2000 through the Repeater Controller Card.

**DT2000CRB - Conventional Repeater Logic Board**

This is the interface board to connect a conventional repeater/radio to the DT-2000. This board will support all the CTCSS tones/groups.

**DT2000CRB1 - Radio Logic Board**

Designed for proprietary radio interface, this will handle one group.

**IP Network Gateway (2 or 4 ports)**

This will allow DT-2000 system to send voice through IP Network (VoIP). This option has Ethernet Interface and can be plugged into a DSL or ISDN modem and router.

**BASIC FUNCTIONS:****Protocol Support – Repeater**

Includes LTR, Conventional, CTCSS & D-TRK.

**Protocol Support – Radio**

Includes APCO25, Smart Net, EDACS, Smart Zone, Privacy Plus & others.

**Frequency Support**

Low Band, High Band, VHF and UHF, 800Mhz and 900Mhz.

**Repeater/Radio Support**

Up to 40 Channels/Radios, maximum of 20 radios per trunk group.

**Digital Switch Design**

Non-blocking, up to 96 simultaneous voice paths. Any radio communicating through the switch has access to any other radio on the switch or to any phone or network resource.

**Telephone Line/Network Line Support**

Up to 96 phone lines or network links in any combinations.

**RF Channels**

The system can support up to 40 repeaters.

**Billing Records**

The DT-2000 records call information such as Call Type, Start Time, Disconnect Time, Time Usage by ID, etc. for billing purposes.

**Local Interconnect Calls**

Radio to PSTN & PSTN to Radio. The backbone system is full duplex. Radios, either half-duplex or full duplex are permitted by the system manager to initiate or receive calls through the local telephone system.

**Security Access**

To protect the integrity of the system, System Operator Functions and access to records on the system are can be accomplished only through a log in with assigned user names and passwords. Read and Read/Write Privileges are available.

**Network Manager DT2000MGR**

The Network Manager is used to remotely control the daily operational functions of the DT-2000 switch. It may be located at the switch site or remotely.

**CALL TYPES SUPPORTED:****Local Dispatch Call**

Through the use of a half duplex radio, the user keys the microphone (Push to Talk-PTT) and the system collects all the radios with the same group to participate in conversation.

**Multi-Site Dispatch Call**

Through the use of a LMR radio, the user keys the microphone (Push to Talk-PTT) and the system collects all the radios in the network sites (2 – 32) that have been defined to participate in the conversation. These calls are transmission trunked, thus maximizing the RF system resources of the network.

**Cross Trunked Dispatch Call**

Calls can be set up and made by radios of different frequencies and different protocols thus providing True Interoperability between different radio systems. This can be set up in

advance or can be made dynamically done by radios with DTMF capabilities.

**Direct Connect Call**

Through the use of the DTMF pad, a user of a half duplex radio can make a private transmission trunk call to another radio.

**Selective Call**

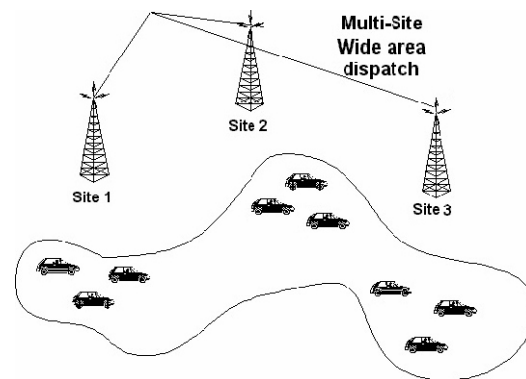
Through the use of the DTMF pad, a full or half-duplex radio can be patched to a telephone resource in the switch to make and receive telephone conversation trunk calls.

**Call Routing**

Calls originating within the switch can be routed through the system to specific phone and network resources.

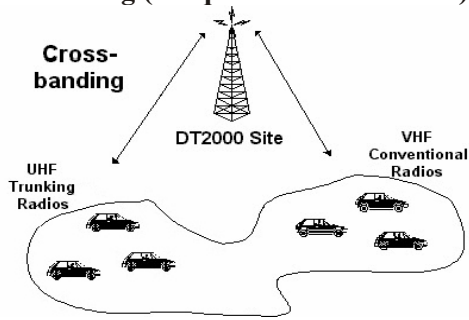
**Dynamic Call Set Up**

Through the use of DTMF a radio may dynamically on demand set up calls between different radio trunk groups on the system. These radios may be of different frequencies and/or protocols.

**APPLICATIONS:****Wide Area Dispatch**

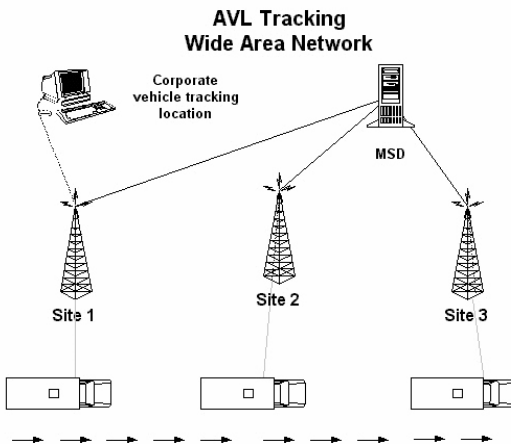
*The DT-2000, when coupled with the MSD can bring together radios from 2 to 32 sites to participate in a dispatch call as if they were in the same site and provide wide area coverage.*

**Cross Banding (Frequencies & Protocols)**



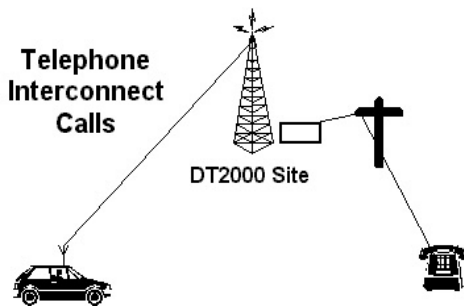
Through the use of cross-band, the DT-2000 can bring together groups of radios with different frequencies to become part of the same group.

**Wide Area AVL**



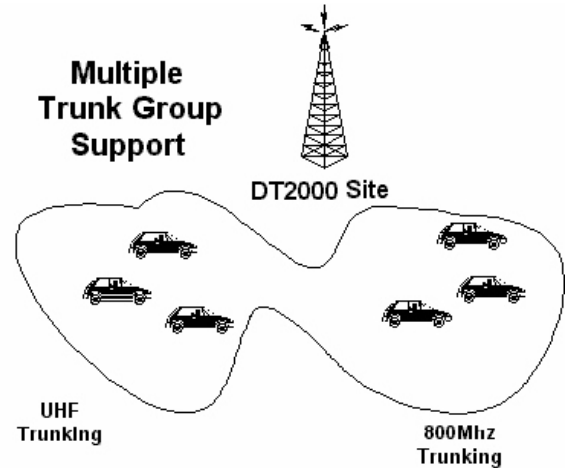
By using the networking capabilities of the DT-2000 and the MSD, companies can now use AVL and Data terminals to track and communicate their fleets of vehicles over wide areas.

**Telephone Interconnect Calls**



Radios with DTMF capabilities can initiate and receive telephone calls. These calls can be routed across a multi-site network.

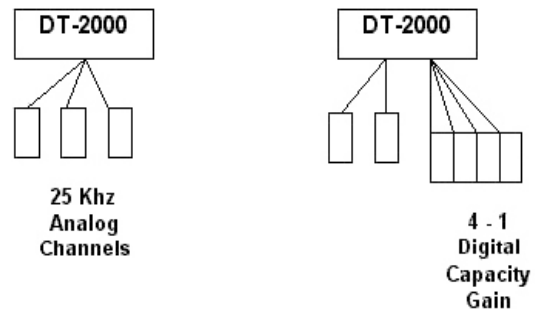
**Multiple Trunk Groups**



The DT-2000 can support multiple trunk systems on the same switch. Radios from one trunk group can communicate with radios from a different trunk group.

**Migration to Digital**

**Migration to Digital**



The DT-2000 can allow an operator to migrate to digital one channel at a time. When converting one 25Khz channel, you get an increase in channel capacity of 4 to 1.

Specifications subject to change without notice.  
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