

DATONG DX SYSTEM - 300

DATA SHEET

The Datong series of DX products are primarily designed to provide Law Enforcement and the Military with a comprehensive toolkit of functionality in the increasing battle against mobile communications technology.

The DX series is primarily intended for

- Hard identification of mobiles in a given area
- A mechanism to enable a tracking signal from a "target" mobile
- Providing an interface for monitoring target mobile originated calls and SMS's
- The protection of personnel and real estate from injury, harm or damage where mobile communications equipment have been known to be used to remotely trigger incendiary devices.

Hardware

The products are bespoke pieces of cellular networking equipment designed specifically for Military and Government Agencies to integrate with commercial GSM/UMTS network equipment and systems.

Options

Upon detection, a variety of options are available. In Target Mode, select '*targets*' where the system will not release the *MS back on to the '*real*' network. This effectively renders a *MS inoperable without giving any indication that the communications channel has been restricted.



MODES OF OPERATION

Features available on the DX Series are as follows:

- **Interrogate Mode** - Used to collect information on MS's within range of the DX Unit.
- **Target Mode** - Used to selectively target *MS's.
- **Firewall Mode** - Used to catch and hold *MS's within the range of the DX Unit.
- **'Feels Like' function** - Allows the operator to present a '*feels like*' TX power to MS's to attract them to the DX system whilst the DX unit is running on a much lower actual power.
- **In-network calling** - All *MS's active on the DX Unit have in-network calling ability.
- **Voice Option** - For intercepting calls from target *MS's.
- **SMS Intercept** - For intercepting SMS messages from target *MS's.

*MS – Mobile Station

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KEY FEATURES

- Compact device integrated into customized Pelicase, capable of operation in Vehicle or a static location.
- Dimensions - W 20-11/16" x D 17-3/16" x H 8 9/16", 44lbs.
W 525mm x D 436mm x H 217mm, 20Kg.
- Power - Vehicle battery, 11-30V DC, or mains via an AC adaptor.
- Contains three fully functional "commercial grade" BTS transceivers (2x 20W GSM, 1x 5W UMTS).
- Available in 900/1800/2100, 850/1900/2100 Mhz, or any custom combination. (UMTS 850, UMTS1900 and UMTS2600 under development).
- Built-in "environment monitor" to assess:
 - The number of GSM/UMTS networks in an area
 - The respective Base Stations and Neighbour lists
 - Provides information to automatically configure the BTS modules for optimum effect.
- Full identification of IMSI, IMEI and TMSI information.
- Supports high speed acquisition of handsets (up to 800 per minute), across up to three simultaneous networks.
- Optional SMS and "Man In the Middle" Voice decode/record and forward.
- Optional "In Network Calling" allowing calls to be made within the DX system.
- Compatible with Datong's DF10CX Direction-Finding system.
- Excellent RF performance in high multi-path environments.
- Each transceiver is independently configurable for all Network parameters
 - Can transmit between 130mW and its maximum power in 2dB steps.
 - Uses BCCH manipulation to give a "virtual power" effect of up to several thousand watts, or priority channel override for UMTS.
- Full support for GPS logging.
- Downloadable Java Client for use on alternate PC.
- Downloadable PDA Client for use on Windows.net Mobile.
- Comprehensive database featuring handsets cross referenced against IMEIs, and networks against PLMNs.
- Built-in 802.11 Wireless Access point supporting full remote control.
- Uplink port for connection to a WAN facilitating remote diagnostics and simple software upgrading.
- Future developments include Mapping, Handset Measurement Reporting and full integration of DF equipment to facilitate a one-stop solution to target acquisition and location.



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Feature	Details	Specification
3GPP Specifications	Specification Version	3GPP Release 5 December 2004 (One exception—Local Area Cell Specifications from TS25.104 V6.8.0 2004-12)
	Mode	FDD
	Cell Category	Local Area Cell
Radio Bearers	SRB	3.4kbs SRB bi-directional only
	Supported Combinations	4 SRBs
L3 Features	Protocol Support	RRC, NAS
	RRC States Supported	Idle mode, CELL_DCH, CELL_PCH, CELL_FACH
	MM States	All MM states supported
	CC States	All CC states supported
	SM States	All SM states supported
L2 Features	Logical Channels	DTCH, DCCH, CCCH, BCCH, PCCH
	MAC	Full MAC support for R99 channels
	RLC	RLC-TM, RLC-UM, RLC-AM
L1 Features	R99 Physical Channels	CPICH, SCH, P-CCPCH, S-CCPCH, DPDCH, DPCCH, PRACH, AICH, PICH
	Transport Channels	BCH, DCH, PCH, RACH, FACH
	Scrambling Codes	All Scrambling Codes supported
	Dynamic Power Control	Closed loop on UL and DL DPCH
RF Features	Frequency Band	UMTS Band 1 Receive: 1920-1980 MHz Transmit: 2110-2170 MHz
	Maximum Tx Power	37dBm (5 Watts)

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