

# 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
<b>3GPP Specifications</b>	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
<b>Radio Bearers</b>	SRB	3.4kbs SRB bi-directional only
	Supported Combinations	4 SRBs
<b>L3 Features</b>	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
<b>L2 Features</b>	Logical Channels	DTCH, DCCH, CCCH, BCCH, PCCH
	MAC	Full MAC support for R99 channels
	RLC	RLC-TM, RLC-UM, RLC-AM
<b>L1 Features</b>	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
<b>RF Features</b>	Frequency Band	UMTS Band 1 Receive: 1920-1980 MHz Transmit: 2110-2170 MHz
	Maximum Tx Power	37dBm (5 Watts)

## US OFFICE

Datong Electronics Inc  
4451 Brookfield Corporate Drive, Suite 111, Chantilly VA 20151, USA  
T 001 703 263 2417 F 001 703 263 2490  
E [sales@datongelectronics.com](mailto:sales@datongelectronics.com) [www.datong.co.uk](http://www.datong.co.uk)

## UK HEAD OFFICE

Datong PLC  
1 Low Hall Business Park, Horsforth, Leeds LS18 4EG, UK  
T +44 (0)113 239 5350 F +44 (0)113 239 5360  
E [sales@datong.co.uk](mailto:sales@datong.co.uk) [www.datong.co.uk](http://www.datong.co.uk)