CELLMetric

Intelligent infrastructure

# DABGen - DAB+ DAB DMB-R RF COFDM Modulator

## ETI ▶ Modulate ▶ Play

Easy to use

Cost effective

The CellMetric DABGen EN300 401 software modulator is designed to provide cost effective, simple to use COFDM digital modulation and RF transmission for broadcasters, silicon and software developers, sales demonstration and production test systems.

DABGen runs on a standard Windows™ XP or Windows™ 7 PC to convert Ensemble Transport Interface (ETI) DAB streams to I/Q vector files playable by CellMetric's Modus range of RF signal generators.

Ingest file formats include standardised ETSI ETS 300 799 file types ETI (NI) ETI (NI, G703)

Conversion of files from ETI format to I/Q format is fast and simple using a Windows based wizard or a command line utility. Conversion speed (depending on PC) can be very close to real time.

DABGen also generates the Modus Smart Start™ XML file for the Modus which will automatically configure the Modus to the required configuration to play the generated I/Q file.

Supported DAB Modes include:

- ❒ Transmission Mode I
  Band III terrestrial
- ❒ Transmission Mode II
  L Band terrestrial and satellite
- ❒ Transmission Mode III
  Bands <3GHz terrestrial and satellite
- ❒ Transmission Mode IV
  L Band and satellite

### Modus RF Player

Modus 3 and 6 are integrated I/Q vector signal player and RF up-converter which supports generation of radio frequency signals in the VHF, UHF and L Bands.

COFDM modulated transmissions are generated from pre stored I/Q data test patterns for DAB+, DAB & DMB-R. I/Q data files are stored in non-volatile removable Compact Flash memory cards or the internal hard disk.

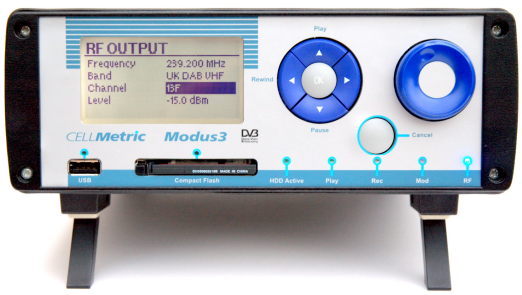
RF Output level can be controlled in the range 0dBm to –110 dBm using the inbuilt attenuator in steps of 0.5 dB.

### Applications

- ❒ Research & Development
- ❒ Trials Systems
- ❒ Production Test
- ❒ Sales Demonstrations
- ❒ Convert World DMB ETI Library to Modus I/Q format

### Features & Benefits

- ❒ Ingests ETI files and generates I/Q files for play out from the Modus RF signal generator range
- ❒ Fully compliant with EN 300 401
- ❒ Supports DAB+ / DAB / T-DMB / DMB-R
- ❒ Highly intuitive user Interface – easy to use
- ❒ Near real time conversion speed with appropriate processor
- ❒ Smart Start™ XML based auto configuration file generated for Modus RF signal generator
- ❒ Cost effective for multiple seat deployment




CellMetric designs and manufactures innovative digital broadcast equipment.

Its products focus on reliability, ruggedness, modularity, intelligence and flexibility using leading edge digital technology.

CellMetric is based close to the centre of the historic university city of Cambridge, UK.

www.cellmetric.co.uk

# *DABGen*

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## CellMetric I/Q Test Streams

I/Q test data can be supplied by CellMetric as either standard DAB +, DAB and DMB-R test streams or custom generated tests. Contact CellMetric for information on custom stream generation. .

## Technical Specification

**Operating Conditions:**

| | |
|---|---|
| **PC Requirements** | Windows™ XP |
| | Windows 7 |
| | 250 to 500 GByte Hard Disk |
| | 2 GByte RAM |
| | Intel processor or compatible |

**Outputs:**

**Modulation:**

| | |
|---|---|
| DAB | EN 300 401 |
| DAB+ | TS102 563 |
| T-DMB | TS 102 427<br>TS 102 428 |
| I/Q samples | 8 bit |
| Modulation Bandwidth | 1.7 MHz |

## About I/Q Data Modulation for RF Systems

Put in its simplest terms, IQ data shows the changes in magnitude and phase of a sine wave. If changes in magnitude and phase of a sine wave are made in predetermined controlled fashion, one can use these magnitude/phase changes to encode information upon a sine wave, a process known as modulation. Modus generates DAB+ and DAB RF signals by feeding I/Q data pairs through two precision 16 bit D/A converters and then up-converting the resultant COFDM analogue waveform to RF.


**Ordering Information**

| | | |
|---|---|---|
| DAB Modulator | | DABGen |
| Options | | |
| | DAB T-DMB Test Streams | TSTRM |
| | DAB+ Test Streams | DAB+ TSTRM |
| | DMB-A Test Streams | DMB-A TSTRM |
| | Custom Test Streams | Contact CellMetric |

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