## **DAT103** DIGITAL TELEVISION SIGNAL ANALYZE

LABGEAR

## MEASUREMENTS PROVIDED:

- → Modulation Error Ratio (MER & Noise Margin) total quality quantification, Full & Expanded Spectrum and Constellation diagram functions
- $\rightarrow$  preBER before Viterbi corrector Bit Error Ratio.
- → postBER after Viterbi corrector Bit Error Ratio.
- → Damaged packet count (RealError), after Reed-Solomon corrector.
- $\rightarrow$  Constellation diagram, a powerful relative signal evaluation tool.
- → Lock signal status indicator.
- $\rightarrow$  Digital Channel Power in dBµV or dBm.
- $\rightarrow$  Extensive Analogue TV measurements.
- → Powers 12V or 24V mast amplifiers whilst measuring current draw and voltage,
- $\rightarrow$  Data Logging and useful PC functions.
- $\rightarrow$  Up to 3 hours of autonomy from the internal Li-ion battery.

## **DAT103 IT tools PC Software**

DAT103 IT tools PC Software provides exemplary graphical and operational functions including:

- Spectrum Analysis, Data Logging, Signal Monitoring and detailed Constellation diagram.
- Export graphics etc. into Excel and Word reports.
- · Channel Plan creation, set up and saving functions.

Samples of DAT103 IT tools screen views on page 2

DAT103 DVB-T Signal Analyze 4 t, ს \* ABGEAR Includes 12 or 24V DC Mast Amp Power

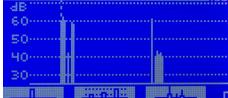
MAIN	MENU



### BER / MER +

6 I 🖴 💢
177.500 + 0.000 MHz
COFDM-QAM64 / Mode=8k
MER =34.6/+15.6dB
preBER =1.0E-08
PostBER =1.0E-08 pass
Real Err=000000 00:00

FULL SCREEN DISPLAY



### DETAILED SIGNAL LEVEL 0 D)



EXPANDED SPECTRUM									
177	. BI	aar	Hz	ļ		0.	3	13	í.
dB 50									
				Ĩ			1	m. m.	
40									
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## CONSTELLATION

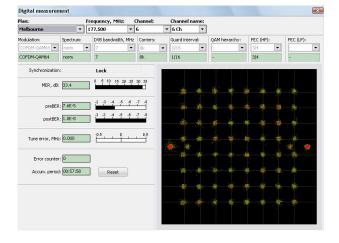


# LABGEAR DAT103 DIGITAL TELEVISION SIGNAL ANALYZER

## SPECIFICATIONS

Radio Frequency operating range		45 – 900 MHz
Frequency Resolution		125 kHz
INPUT PARAMETERS		
Input impedance		75 Ohm
Digital Channel Power signal level m	neasurement range	30 – 110 dBµV
Analogue signal level measurement	range	<u>30 – 120 dBµV</u>
Measurement level resolution		
Accuracy over 30 – 120 dBµV leve	el range (at 23 °C)	±1.5 dB
Signal level indication	4 characters on Li	quid Crystal Display
Frequency indication	6 characters on Li	quid Crystal Display
Channel number indication	3 characters on Li	quid Crystal Display
Channel templates	sele	ect with PC via USB
INPUT SIGNAL MODULATION		
Channel bandwidth		7 or 8 MHz
Channel modulation type		COFDM
Subcarrier modulation type	QPSK,	QAM16 or QAM64
Subcarrier number		8k, 4k or 2k
Guard interval	1/32	2, 1/16, 1/8 or 1/4
Code rate	1/2, 2	/3, 3/4, 5/6 or 7/8
Hierarchical modulation type		<b>a</b> =1, <b>a</b> =2, <b>a</b> =4
MER MEASUREMENT		
MER measurement range (for QAN	164, code rate 3/4)	14 – 35 dB
MER measurement resolution		0.1 dB
MER measurement accuracy at op	erating channel power	±2.0 dB
BER MEASUREMENT RANGE		
pre Viterbi BER		0x10 <sup>-1</sup> – 1.0x10 <sup>-8</sup>
post Viterbi BER	1.	0x10 <sup>-2</sup> – 1.0x10 <sup>-8</sup>

Channel power threshold (post Viterbi BER less than 2x10 <sup>-4</sup> )	
for QAM64, code rate 3/4, SNR=46 dB	.40 dBµV
Automatic Frequency Control (AFC) range±0.	
Masthead amplifier power12 or 24V DC	) @ <3W
POWER INPUT OPTIONS	
Internal Lithium-ion battery, capacity1	500 mAh
Any 10 to 14 V DC external supply, with ripple level less than	0.5 V
Current consumed from battery or external power source less than	0.6 A
AC via 12V/1.2A charger, included90 - 264V, 50	) / 60 Hz
Use continuously with an external power source for less than	24 hrs
Typical battery life per charge (1500 mAh capacity)	3 hrs
Warm-up time to precision measurement<5	
MECHANICAL	
Input connector'F male, use with replaceable 'F female female	e adapter
USB connectorType B, interfaces with a PC for DAT102 IT	tools etc.
DC Input connector5.5mm Ø 2.1mm ø coaxial type S, protrudes	s 9.5mm,
tip positive	
Dimensions193 × 94	x 53 mm
Weight	
ACCESSORIES INCLUDED	
Impact resistant holster	1 piece
Lithium-ion battery, factory fitted	1 piece
"F"—"F" adapter	1 piece
12V/1.2A charger	
Compact disc with IT tools, manuals, firmware etc	1 piece
Quick reference card	1 piece
Operating manual	



## DAT103 IT tools screen views include:

