15 kHz VHF Wireless Reporter Transmitter for outside broadcast applications

Diport 10/3

Wireless reporter equipment

Most journalists using wireless equipment would argue for lighter and more robust units that are straightforward to use and have a good reach. All of these requirements are met with by the Diport 10/3.
The Diport 10/3 is a VHF reporter-transmitter housed in a small solid one-piece machined aluminium case.
The aluminium material in combination with the built-in 'smart' battery, certainly makes it lightweight.
The aluminium construction guarantees optimum shielding between the transmitter and receiver circuitry, resulting in a unit so rugged and stable that it will withstand any physical damage.
Great care has been taken to ensure simple operation. Four push-buttons on the front of the unit enable access to all functions and 32 available user-presets with pre-defined combinations of RX and TX frequencies.
The reach is determined by the permissible transmission power as well as the sensitivity of the receiver in combination with the type of antenna and the way it is set-up. The best reception is ensured if an optional second receiver is implemented as this achieves true diversity.

Diport10/3: VHF reporter transmitter The Diport 10/3 is a VHF reporter-transmitter with built-in UHF narrowband talk-back receiver. The transmitter has a dbx(™)-type compressor, which together with the plug-in expander in the WLR3-receiver forms a noise-reduction circuit. This feature ensures two things: an acceptable audio signal when the receiver antenna signal is low and under optimal circumstances it boosts the audio quality up to CD-level! The Diport 10/3 is battery operated.The batteries can be charged either internally or using an external charger. Alternatively, the unit can also be powered from an external source.The switch on the microphone enables the P(ush) T(o) T(alk) facility to switch on the RF power. The LCD display monitors all vital functions.

WLR3: Broadband true diversity receiver The WLR3 is a broadband receiver designed to operate in the VHF-band ranging from 170 to 216 MHz, with a 10 MHz switching bandwidth. The use of a dbx(™) companding-system ensures excellent audio quality.
To make the receiver 'true diversity' a second receiver front-end and IF-stage can be added. This eliminates so called 'dead spots', which are present when mobile transmitters generate indirect signals.
The antenna-amplifier compensates for cable loss if the antenna cabling is too long.

Proven concept using state-of-the-art technology!

The Diport 10/3 is available in two different versions:

- Diport 10/3 TR. Equipped with both a VHF transmitter and UHF talk-back receiver.
- Diport 10/3 T. Equipped only with a VHF transmitter.

Options to be installed inside a Diport 10/3:

- T3.01: HiDyn (™) type 1 or 2 expander.
- T3.02: 48V phantom voltage generator.

Options for the WLR3 broadband receiver

- R3.01 audio transformer output
- R3.05 second receiver for true diversity
- R3.07 antenna phantom power generator

Technical Specifications Diport 10/3

TRANSMITTER

RF OUT

Frequency range	170...216 MHz
Frequency switching bandwidth	170...216 MHz
Frequency pre-sets	64
Minimum channel steps	12,5 kHz
Frequency stability	< 2 ppm (-10...+55° C)
Frequency deviation	45 kHz nom. / 75 kHz peak
RF output power maximum	max. 5 Watt (+37 dBm)
RF output power settings	100 mW, 1 Watt and 5 Watt
Spurious suppression	> 80 dBc
Harmonic suppression	> 80 dBc

ANTENNA

Output impedance	50 Ohm
Connector	TNC socket, unbalanced

AUDIO

MIC IN	XLR-5 female
Input sensitivity	- 54 dBm
Input impedance	600 Ohm (transformer balanced)
Input attenuation	16 dB
Gain	14 dB
Phantom power	48 VDC (optional T3.02)
Low pass filter	150 Hz, second order
Compressor (OptionT3.01)	dbx (™), or Hidyn type 1 or 2 (™)

BUILT-IN TALK-BACK RECEIVER

RF IN

Frequency range	410...470 MHz
Switching bandwidth	10 MHz
Frequency pre-sets	64
Minimum channel steps	12,5 kHz
RF sensitivity	< 0.4 µV @ 20 dB SINAD
Reference frequency stability	< 2 ppm (-10...+55° C)
Frequency deviation	1.8 kHz nominal / 2.5 kHz peak
IF1	45 MHz
IF2	455 kHz
IF selectivity	> 70 dB (+/- 20 kHz)
Image rejection	> 80 dB
Intermodulation rejection	> 60 dB
Blocking	> 90 dB (@ 2Vµ emf)

ANTENNA

Input impedance	50 Ohm
Connector	TNC socket, unbalanced

AUDIO

UHF RECEIVER

Frequency range	300 Hz...3 kHz
SINAD	> 35 dB (@ 10µV)
Low pass filter	3 kHz (30 dB down @ 6 kHz)
Hi-Dyn	2 : 1 expander

Headphone out	6,3 mm jack plug
Impedance/power	1 Watt maximum @ 32 Ohm

GENERAL

CONTROL

Communication	RS-232 (19200 Baud)
LCD display	2 x 16 characters
User Pre-set	32

BATTERY OPERATION

Battery	4.5 Ah Li-Ion, or 6 Ah Li-Polymer
Operating voltage range	9 to12 Volt
Discharge	-10° to 50° C
Charging	0° to 45° C
Charging time	4 hours
Weight	450 gram

EXTERNAL POWER SUPPLY OPERATION

Voltage	10...16 Volt
Current	2,5 Am
Connector	DB-9 (all metal connector)

CHARGING POWER SUPPLY

Input voltage	16 Volt (charging only)
Power consumption	2,5 Amp max. (charging only)

POWER CONSUMPTION

TX + RX

Powered down	0.6 mA
Stand-by	200 mA
100 mW RF power	800 mA
1W RF power	1400 mA
5W RF power	2200 mA

DIMENSIONS AND WEIGHT

Front	166 x 74 mm (B x H)
Depth	193,5 mm
Weight (net)	2,4 kg
Weight (incl. battery)	2,9 kg

ENVIRONMENTAL

Shock resistance	MIL STD 81OE for shock & crash hazard, except the front of the Diport 10/3.
Dust and water resistance	IP54 (Diport 10/3 inside carrying bag with front cover on top).

ETSI STANDARDS

Broadband Audio RF Analogue	ETS 300 454
Narrow band RF Analogue	ETS 300 086
EMC	ETS 300 445

Technical Specifications WLR3

(including a second receiver for true diversity)

INPUTS AT BACK

ANTENNA IN (2x)	TNC, 50 Ohm unbalanced

OUTPUT AT FRONT

HEADPHONE	6,3 mm Jack socket
Output impedance/power	2x 1 Watt @ 8 Ohm

OUTPUTS AT BACK

ANTENNA OUT	TNC, 50 Ohm unbalanced
AUDIO MONO dbx (™)	XLR 3-male, balanced
Output impedance	600 Ohm
Maximum output level	+15 dBu
Control	RJ-45

GENERAL

RF

Frequency range	170...216 MHz
Switching bandwidth	10 MHz
Minimum RF channel steps	12,5 kHz
RF sensitivity mono with dbx (™)	3µV @ 60 dB S/N
Reference frequency stability	2 ppm (-10...+55°C)
Frequency deviation	45 kHz nominal / 75 kHz peak
Image rejection	> 50 dB
Intermodulation rejection	> 70 dB (400 kHz spacing)
IF frequency	10,7 MHz
IF selectivity mono dbx (™)	70 dB (+/- 400 kHz)

AUDIO MONO dbx (™)

Frequency range	30Hz...15 kHz
S/N ratio	> 90 dB
Maximum output level	+ 15 dBu
THD + N	< 0,5 %

POWER SUPPLY AC

Voltage	220...240 V ac / 50 Hz
Power	10 W

DIMENSIONS AND WEIGHT

Front	19", 1HE
Depth	215 mm
Weight (net)	2,7 kg

Future developments:

UHF is under development. Your investment in a transmitter is protected, because if you wish to change from VHF to UHF it is only a question of exchanging the boards in the unit!

HECOM
WIRELESS AUDIO EQUIPMENT

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