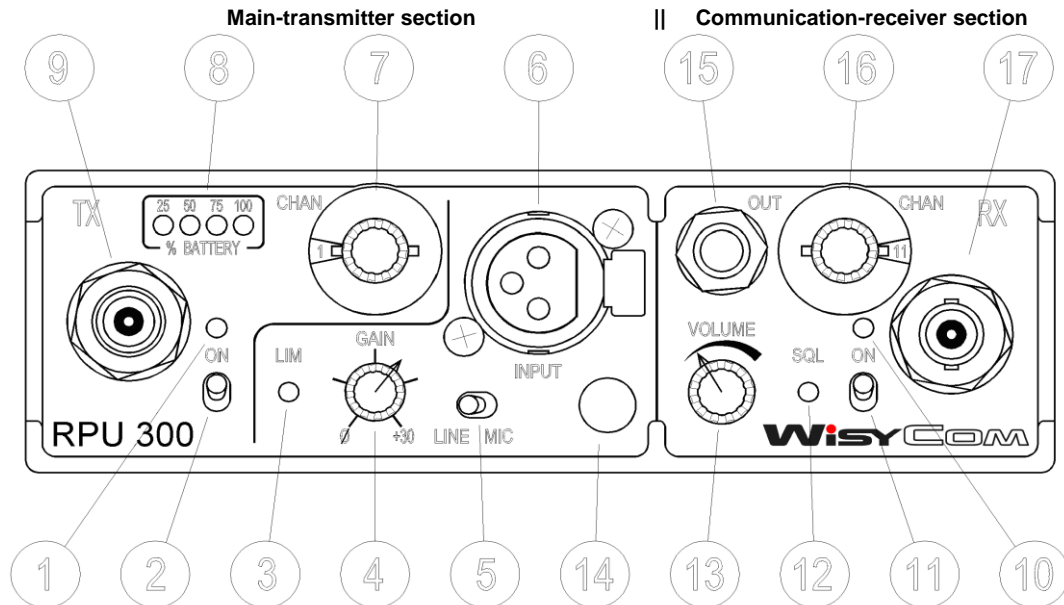


**HIGH-POWER, REPORTAGE WIRELESS-MICROPHONE SYSTEM  
RPU300 - FULL-DUPLEX PORTABLE TRANSCIVER**

■ VHF Main-transmitter - ■ UHF Communications-receiver



**VHF MAIN-TRANSMITTER SECTION:**

- 1) LED INDICATION: TRANSMITTER-ON / LOW-POWER OPERATION (green LED)  
⇒ The LED is on when the transmitter is on.  
⇒ The LED is blinking when the transmitter operates in "low-power".
- 2) SWITCH: TRANSMITTER **On / Off**
- 3) LED INDICATION: LIMITER-ON STATUS (yellow LED)  
The LED is on when the AF input signal exceeds the level suitable for the maximum modulation ( $\pm 55$  kHz).
- 4) ADJUSTMENT: AUDIO INPUT SENSITIVITY  
With switch (5) in **Line** position, the full counter-clockwise position corresponds to 0 dBu AF input level.
- 5) SWITCH: AUDIO INPUT LEVEL ( **Micro / Line** )
- 6) CONNECTOR: AUDIO INPUT (XLR3-F type)  
The audio input is transformer balanced and floating. (• pin 1 = ground; • pin 2 = AF-a; • pin 3 = AF-b).
- 7) SELECTOR: TRANSMITTER CHANNELS (with back-light)
- 8) LED-BARGRAPH: BATTERY RESIDUAL LIFETIME ( **25% - 50% - 75% - 100%** )  
Note: the "**25%** LED" starts blinking when the residual lifetime goes under 12%.  
The battery-lifetime measuring circuit is being pre-set on the correct indication, according to the battery type, by the battery-pack inserted.
- 9) CONNECTOR: ANTENNA (TNC type)

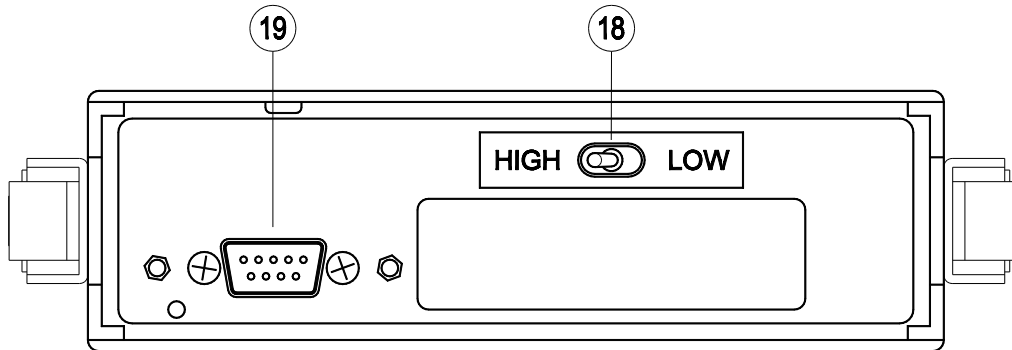
**UHF COMMUNICATION-RECEIVER SECTION:**

- 10) LED INDICATION: RECEIVER-ON (green LED)
- 11) SWITCH: RECEIVER **On / Off**
- 12) LED INDICATION: OPEN SQUELCH  
When the LED is on, the receiver AF signal is fed on the output connector.
- 13) ADJUSTMENT: RECEIVER VOLUME
- 14) PUSH-BUTTON: REMOTE CONTROL (Optional)  
Pushing the button, the audio output of the relevant receiver is switched from the "line output connector" to the "operator output connector". During this state, an acknowledgment tone is superposed to the modulation of the communications transmitter to confirm the correct operation.
- 15) CONNECTOR: AUDIO OUTPUT (standard 6.3 mm, 1/4", stereo-jack connector, mono wired)
- 16) SELECTOR: RECEIVER CHANNELS (with back-light)
- 17) CONNECTOR: ANTENNA (BNC type)



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Bottom panel (view from the battery-pack compartment)



- 18) SWITCH: TRANSMITTER POWER *High / Low*  
When the transmitter is switched to “low power”, the green LED (1) is blinking.
- 19) CONNECTOR: DC (BATTERY-PACK) FEEDING  
In the connector, three pins are dedicated to “battery-pack type” recognition, to correctly pre-set the measuring circuit according to the battery type used.

**WARNING:** we recommend the use of high-quality (“ultra” type) alkaline batteries.

**STANDARD ACCESSORIES:**

- AWT 300-V - VHF whip antenna, tuned over the transmitting range (for TX-section).  
AWB 300 - UHF miniflex antenna with BNC connector, pretuned for RX section  
SLP 300 - Shoulder-belt leather pouch.

**OPTIONAL ACCESSORIES:**

- AMB 00 - UHF magnetic-base antenna, pretuned for RX section  
AMT 00-V - VHF magnetic-base antenna, pretuned for TX section  
ACM300 - Battery charger for LBP300  
LBP300 - Lithium-ion battery pack  
CDE 150 - External 12 Vdc feeding adapter (150 cm cable)  
DBP 300 - Dry battery power-pack (10 x 1.5 V alkaline IEC LR14 batteries)  
DLP 300 - Lead rechargeable-battery power-pack  
BBP300 - Rigid back pack for RPU-xU (complete with antennas and cables)  
PTT 300 - Intercom-operating reporter PTT push-button (It needs ITC300 in the stationary Unit)  
UPK 100 - Working frequencies user programming kit (interface + software)

## RPU 300-VU - TECHNICAL SPECIFICATIONS

### ■ VHF MAIN TRANSMITTER SECTION:

- Switchable channels : 16, preset in the 170 ÷ 260 MHz range [1].
- Switching window : 10 MHz.
- Frequencies : microprocessor controlled PLL frequency synthesizer circuit, with 25 kHz minimum step.  
They are easily user-reprogrammable by DOS-PC and optional "UPK 32 Programming kit".
- RF output power : switchable between 3 W ( $\pm 0.5$  dB) / 300 mW ( $\pm 1$  dB).
- Spurious emissions :  $< -70$  dBc ( $< 250$  nW).
- Antenna connector : TNC type • Output impedance = 50 ohm.
- Modulation : FM, with 50  $\mu$ s pre-emphasis • Nominal deviation =  $\pm 40$  kHz (Peak deviation =  $\pm 55$  kHz).
- Audio input : transformer balanced, floating (XLR3-F connector).
- Audio input level : **Micro / Line** switchable, and adjustable (for nominal deviation) between:  
  - $\Rightarrow$  **Micro** =  $-60 \div -25$  dBu (0.77 ÷ 43 mVrms) • Input impedance =  $> 6$  kohm
  - $\Rightarrow$  **Line** =  $-25 \div +10$  dBu (43 ÷ 2450 mVrms) • Input impedance =  $> 7$  kohm.
- Peak-limiter : automatic, with dynamic range  $> 20$  dB over the level set for the nominal deviation.
- NR system : compander circuits (internally excludable) pre-set to:  
ENR (Wisycom Extended-NR, with independent Attack- and Recovery-time).
- AF bandwidth : 30 Hz ÷ 20 kHz.
- Frequency response :  $\pm 0.5$  dB ( $\pm 0.25$  dB typ.) in the 40 Hz ÷ 20 kHz range.
- Distortion :  $< 0.3$  % (0.15 % typ.).
- SND/N ratio :  $\Rightarrow$  NR system excluded =  $> 70$  dB (74 dB typ.)  
  - $\Rightarrow$  NR system included =  $> 100$  dB (110 dB typ.)
  - referred to the peak deviation, and measured: 22 Hz/22 kHz, RMS, unweighted.
- LED indications :  $\Rightarrow$  transmitter On (green LED is on)  
  - $\Rightarrow$  low-power TX (green LED blinks)
  - $\Rightarrow$  limiter-on status (yellow LED is on)
  - $\Rightarrow$  battery lifetime (4-step bar-graph: **100% - 75% - 50% - 25%** residual lifetime)  
When the battery lifetime goes under 12%, the 25% LED blinks.

### ■ UHF COMMUNICATION RECEIVER SECTION:

- Switchable channels : 16, preset in the 400 ÷ 520 MHz range [1].
- Switching-window :  $> 5$  MHz (others on request).
- Frequencies : with microprocessor controlled PLL frequency synthesizer circuit.  
They are easily user-reprogrammable by PC and optional "UPK 32 Programming kit".
- Channel- raster : 25, 20 or 12.5 kHz [1].
- Antenna connector : BNC type • Input impedance = 50 ohm.
- Modulation : FM • (peak deviation =  $\pm 4.5$ ,  $\pm 3.6$  or  $\pm 2.3$  kHz, depending on the channel-spacing).
- De-emphasis : 750  $\mu$ s (internally excludable). Default pre-setting = excluded de-emphasis.
- RX sensitivity :  $< 0.3$   $\mu$ V, for SND/N = 20 dB (excluded de-emphasis, included NR system, CCITT measured).
- Adjacent ch. selectivity :  $> 76$  dB (measured according to ETS 300 086 norms).
- Intermod. rejection :  $> 72$  dB • IIP3 (Input 3<sup>rd</sup>-order Intercept Point) = +2 dBm.
- Co-channel rejection :  $> -2$  dB. • Desensitisation =  $> 83$  dB.
- Amplitude characterist. :  $< 0.5$  dB ( $+6 \div +110$  dB $\mu$ V).
- Spurious emissions :  $< 0.2$  nW.
- AF output level : max. 3.8 Vrms, with external volume control • AF output impedance = 10 ohm.
- AF output connector : 1/4" (6.3 mm) standard stereo-jack connector (mono wired).
- NR system : NR (Wisycom-NR) compander circuit (internally excludable). Default pre-setting = included NR system.
- AF bandwidth : 250 Hz ÷ 4 kHz ( $-3$  dB) @ 25 kHz channel-raster..
- Distortion :  $< 3$  % (CCITT measured).
- SND/N ratio :  $\Rightarrow > 50$  dB (54 dB typ.), de-emphasis included, NR system excluded  
  - $\Rightarrow > 80$  dB (90 dB typ.), de-emphasis excluded, NR system included
  - referred to the peak modulation, CCITT measured @ 25 kHz channel-raster.
- Squelch : internally adjustable (or excludable). Default pre-setting = 0.5  $\mu$ V.
- LED indication :  $\Rightarrow$  receiver On (green LED is on).  
  - $\Rightarrow$  open squelch (yellow LED is on).

### ■ COMMON SPECIFICATIONS:

- Frequency error :  $< \pm 2$  ppm, in the rated temperature range.
- Temperature range :  $-10 \div +55$  °C.
- Powering :  $\Rightarrow$  rechargeable lead battery-pack (12 V / 3.5 Ah) - DLP300  
  - $\Rightarrow$  optional dry-cell battery-pack, 10 x IEC-LR14 (1.5V alkaline) batteries - DBP300
  - $\Rightarrow$  optional external-feeding adapter (9 ÷ 16 Vdc / 9W max., negative ground) – CDE150.
- Battery lifetime :  $\Rightarrow$  approx. 2.5 hours continuous working, with rechargeable lead battery-pack  
  - $\Rightarrow$  approx. 4.5 hours continuous working, with dry-cell battery-pack.
  - The battery lifetime depends very much on the battery quality.
- Dimensions :  $\Rightarrow$  155 (183) x 47 x 307 mm, with lead battery-pack  
  - $\Rightarrow$  155 (183) x 47 x 277 mm, with dry-cell battery-pack.
- Weight : including dry-cell battery-pack 3.1 Kg, (without batt.), 3.9 Kg. (with batteries)  
including rechargeable lithium-ion battery-pack 3.3 Kg



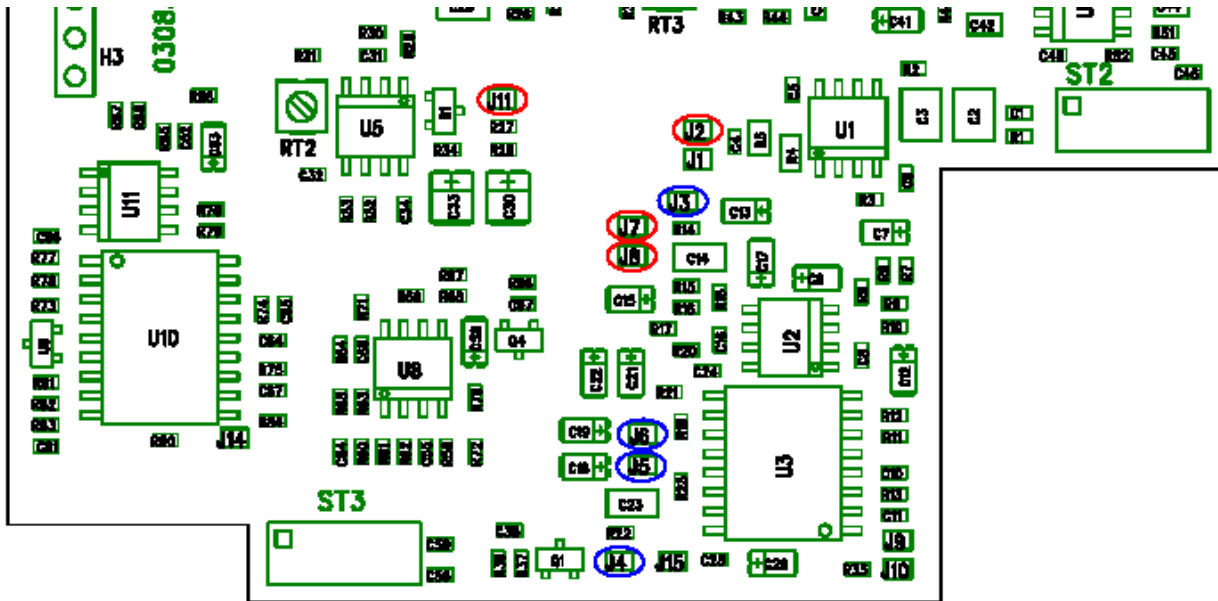
**NOTE [1]:** Or according to local regulations.

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**RPU 300-VU - MAIN TRANSMITTER compander system pre-setting (on board: Rpu300\_txV\_bf1-030853)**

TX COMPANDER circuit - On / Off				
	J2	J7	J8	J11
Compander On	closed	open	closed	closed
Compander Off	open	closed	open	open

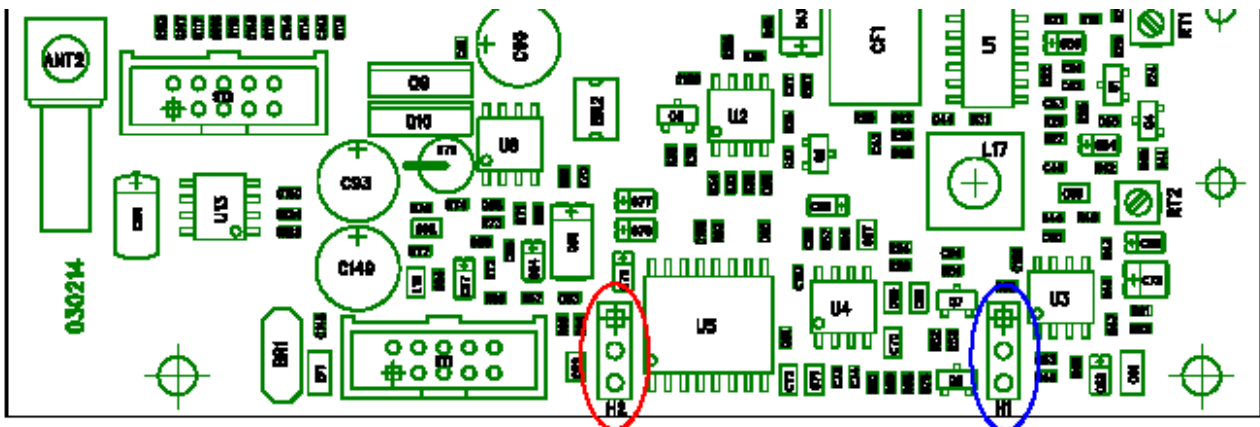
TX COMPANDER circuit - NR / XNR mode				
	J3	J4	J5	J6
NR (Hi-Dyn)	closed	closed	closed	open
XNR (Hi-Dyn Plus)	open	open	open	closed



**RPU 300-VU - TALK-BACK RECEIVER compander system pre-setting (on board: Rpu300\_rxU4-030214)**

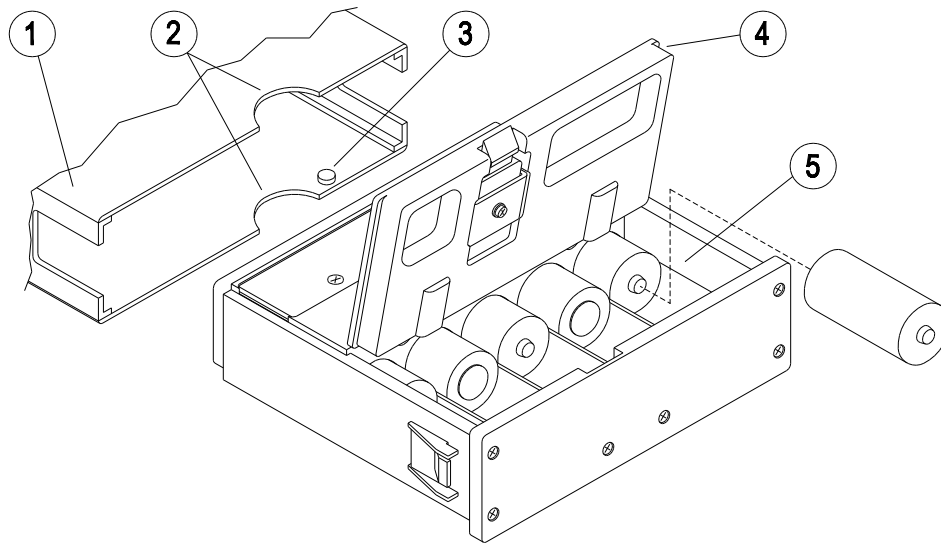
RX DE-EMPHASIS circuit - On / Off	
	H1
De-emphasis On	pins 2+3
De-emphasis Off	pins 1+2

RX COMPANDER circuit - On / Off	
	H2
Compander On	pins 2+3
Compander Off	pins 1+2



**HIGH-POWER, REPORTAGE WIRELESS-MICROPHONE SYSTEM  
RPU 300 - Full-duplex portable transceiver**

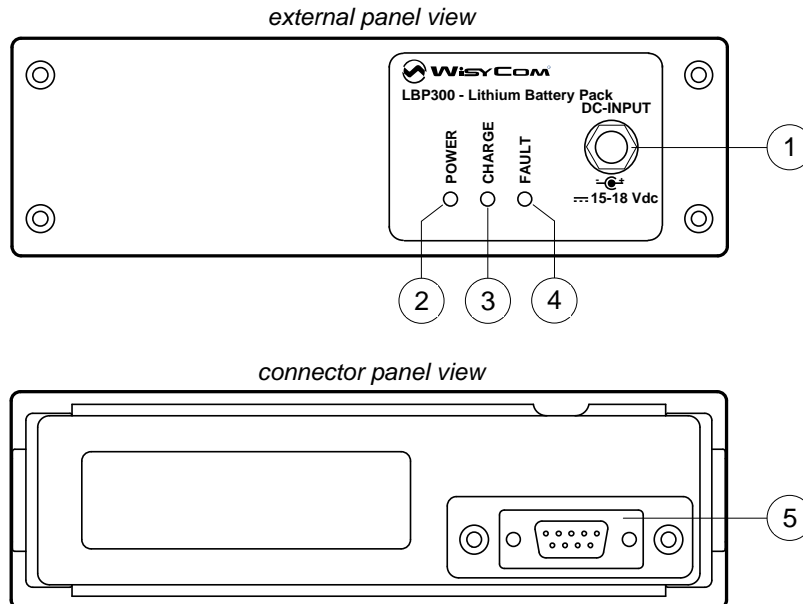
**DRY-BATTERY POWER-PACK**



- 1) APPARATUS HOUSING
- 2) FINGER-HOLES TO PULL OUT THE POWER-PACK
- 3) SAFETY NOZZLE (To prevent the wrong insertion of the power-pack)
- 4) POWER-PACK DOOR
- 5) DRY-BATTERY ROOM (10 x IEC-LR14, 1.5V alkaline elements)
- 6) WEIGHT : 740 gr. ( no batteries)  
1,5 kg. ( batteries included 10 x IEC-LR14, 1.5V alkaline elements)

**WARNING:** we recommend the use of high-quality (“ultra” type) alkaline batteries.

**HIGH-POWER, REPORTAGE WIRELESS-MICROPHONE SYSTEM**  
**RPU300 - FULL-DUPLEX PORTABLE TRANSCEIVER**  
**LBP300 - RECHARGEABLE LITHIUM BATTERY-PACK**



- 1) CONNECTOR: DC-Input connector used to recharge battery pack by an external power supply (15÷18 Vdc / 4A).
- 2) POWER LED (green): led is on while battery pack is connected to an external power supply.
- 3) CHARGE LED (yellow): led is on while battery pack is correctly recharging. It turns off when charge is completed.
- 4) FAULT LED (red): led is on if a problem occurs during recharge. If problem remains, please contact us.
- 5) CONNECTOR: multipole DC-Output connector to supply portable transceiver.
  - pins 1, 2, 3 = +Vdc
  - pins 4, 6, 7, 8 = GND

LBP300 is the latest Wisycom battery pack used with our RPU300 portable transceivers. It employs lithium technology by 3 x 3.6V Li-Ion rechargeable cells, with high specific energy. The battery-pack is protected against voltage overcharging and overloading by internal circuits, guaranteeing batteries' life for more than 1000 cycles. A single charge is fully completed in a time of about 2.5 hours, depending on residual battery capacity.

**TECHNICAL SPECIFICATIONS:**

- Technology : Graphite-based anode / Lithium cobalt oxide-based cathode.
- Li-Ion cells voltage : 3 x 3.6 V nominal.
- Li-Ion cells capacity : 4.6 Ah nominal.
- Ambient charging temp. : 0°C ÷ 50°C.
- Weight : 820 gr.
- Recharging power supply : 15÷18 Vdc / 4A.
- Battery-pack charging time : 2.5 hours.
- Battery-pack duration : more than 4.5 hours used with RPU300.
- Battery-pack life : > 1000 cycles with more than 80% of initial capacity remaining.

If stored for an extended period of time, charge batteries between 20% and 50% state of charge.

