

MANUAL

UHF INTERCOMMUNICATION SYSTEM

Overline Systems SERIES SWI



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SWI TX: TRANSMITTER

HF transmission cassette with antenna duplexer (TX/RX on the same antenna), balanced input/output interface 600 ohm 0dBv and 16 selectable transmission channels

Description of the various functions and indicator lamps of the SWI TX ON FRONT PANEL

1. Cassette power supply lamp. If this lamp is off check that the XLR4 plug at the back "POWER IN" is properly pushed in and that the SWI PS3 supply cassette is connected to the mains.
2. Photoresistor which permanently measures the ambient lighting to adjust the display brightness accordingly. Make sure not to block this opening.
3. **Display:** permanently indicates the transmission channel selected.
4. **Set:**
 - a) press the **set** button successively to display the following information: frequency in MHz, TV channel, OVERLINE channel.
 - b) to change transmission channel, keep the **set** button pressed and press the > or < buttons with a pen tip. The channel number will increase or decrease
Caution: if you change the transmission channel, make sure to change the reception channel (RX) on the mobile corresponding to the transmitter
5. Series 54... SWI TX transmitters transmit a power of 2W with the switch in HIGH position; the power drops to 300 mW when the switch is in LOW position
6. **Alarm:** the indicator lamps SWR and RF are not active, the SWI TX permanently checks the temperature; if the temperature is > 50°C the indicator lamp " °C" is lit; in this case the transmission power is automatically reduced to 1/6th -
It is therefore essential to install your OVERLINE system in a rack or place which is not too hot (ambient temperature below 25°).
7. Line in level, external audio input level potentiometer (instruction networks, console) adjustable from - 10dBv to + 10dBv. For the audio signal adjustment, make sure to use the correct screwdriver to avoid damaging the potentiometer
8. Bargraph indicating the audio signal transmitted, from - 20dBv to 9dBv
9. RMS limiter operation indicator lamp. This limiter cuts in if the audio signal is saturated to avoid transmitter overmodulation (range of action >15 dB)
10. Jack socket and potentiometer to adjust the listening level of the audio transmitted by the SWI TX cassette.
You MUST use a 6.35 stereo jack plug.
11. The "mic on" push-button is used to open the internal microphone for transmission
Used to test the Base to mobile link listening on the headset
12. The "call light" push-button is used to activate the indicator lamps on all SWI DP mobiles set to the TX frequency, the lamp is lit while you press on the call light push-button (press more than 5 seconds)

SWI TX: TRANSMITTER

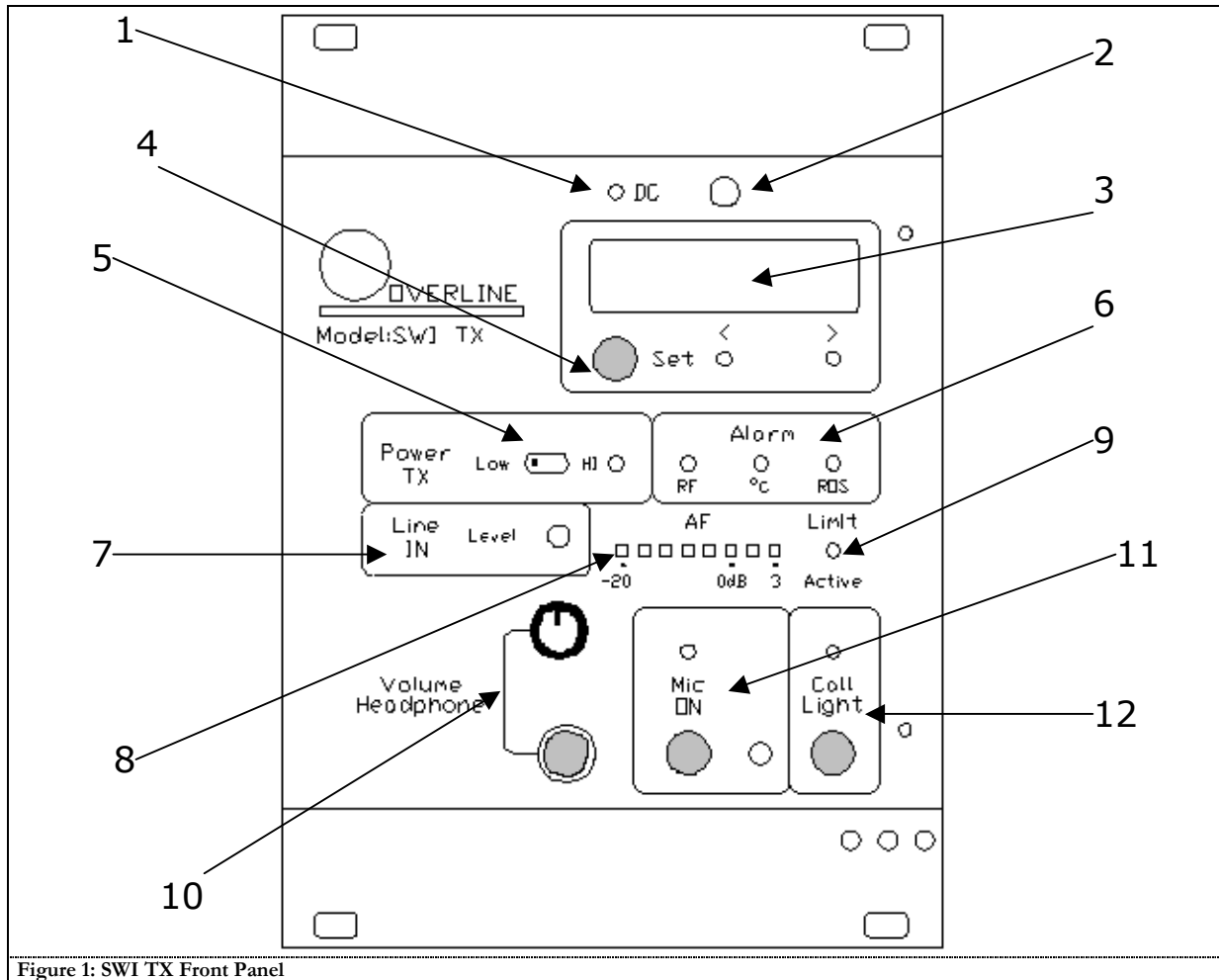



Figure 1: SWI TX Front Panel

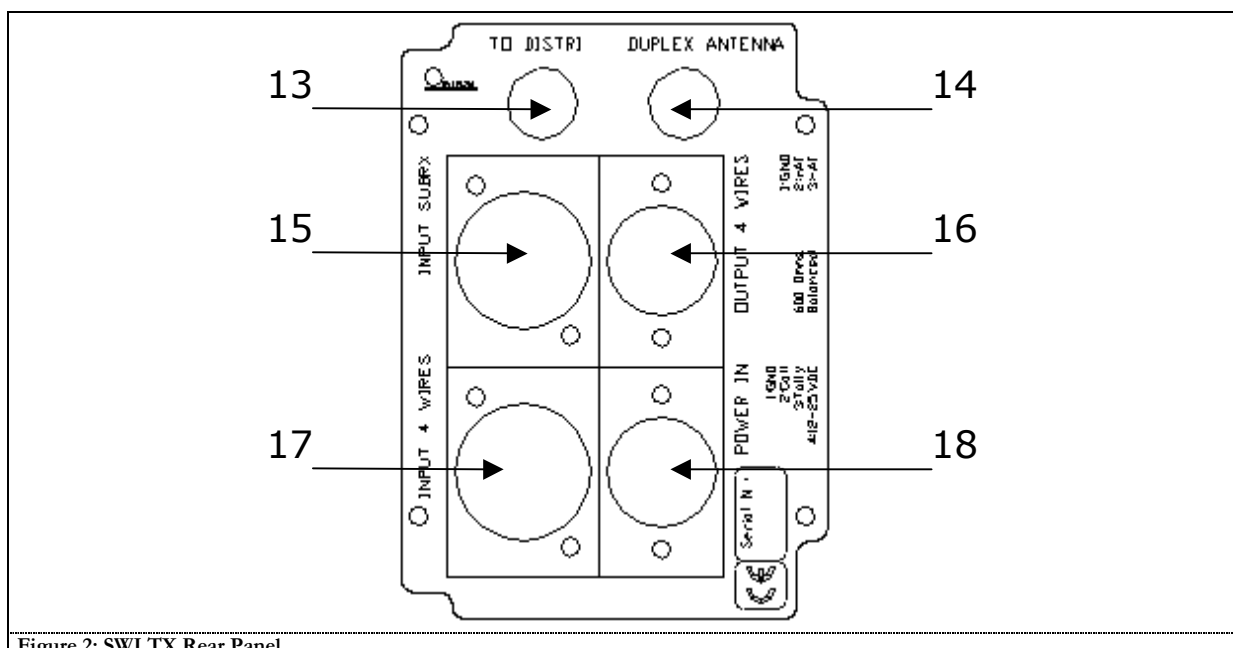
SWI TX: TRANSMITTER

Description of the connectors on the SWI TX REAR PANEL

13. **"TO DISTRI"** TNC connector: duplex antenna output to the SWI CA8, SWI VT4 or SWI D32 multicoupler for distribution to one of the Diversity channels of the SWI RX receivers
Transmitters without built-in duplexers only have one output for the transmission antenna.
14. **"DUPLEX ANTENNA"** TNC connector: duplex antenna input (red ring antenna)
CAUTION: this output includes the transmitter power signal and MUST be connected to the transmission antenna, do not power up the base before making this connection.
15. **"INPUT SUB RX"** female XLR 3 connector: balanced audio input (600 Ohms) of the various SWI RX reception cassettes after summing at 0 dBv. XLR 3 wiring, Pin 1: Ground, Pin 2: Audio+, Pin 3: Audio-
16. **"OUTPUT 4 WIRES"** male XLR 3 connector: output of the balanced audio signal (600 Ohms) for connection on SWI VT4 cassette or on external system, signal output level 0dBv. XLR 3 wiring, Pin 1: Ground, Pin 2: Audio+, Pin 3: Audio-
17. **"INPUT 4 WIRES"** female XLR 3 connector: balanced audio input (600 Ohms) for connection on SWI VT4 cassette or on external system, level of input signal 0dBv adjustable to ± 10 dB. XLR 3 wiring, Pin 1: Ground, Pin 2: Audio+, Pin 3: Audio-

	CAUTION: never connect an analogue wired network (Clear-Com, RTS) directly on your SWI TX . To do this, you MUST have an SWI I24 interface (destructive PARTYLINE power supply).
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18. **"POWER IN"** male XLR4 connector, power supply input between Pin 1: Ground and Pin 4: voltage (between 12 and 20 V DC, 1.3A), command of illuminated call signal by dry contact between Pin 1: Ground and Pin 2: contact, input of "red camera" signal by dry contact between pin 1: Ground and pin 3: contact.
You can power your TX cassette with SWI PS3 or on an external Battery (12 to 25 Vmax)



SWI RX: RECEIVER

Diversity reception cassette, with balanced line output 600 Ohms 0dBv, audio summing input and 16 selectable reception channels

Description of the various functions and indicator lamps of the SWI RX ON FRONT PANEL

1. Cassette power supply lamp. If this lamp is off check that the connection on the "POWER IN" plug at the back is properly pushed in and that the SWI PS3 supply cassette is connected to the mains.
2. Photoresistor which permanently measures the ambient lighting to adjust the display brightness accordingly. Make sure not to block this opening.
3. **Display:** permanently indicates the reception channel selected
4. **Set:**
 - a) press the **set** button successively to display the following information: frequency in MHz, TV channel, OVERLINE channel.
 - b) to change reception channel, keep the **set** button pressed and press the > or < buttons with a pen tip. The channel number will increase or decrease**Caution:** if you change the reception channel, make sure to change the transmission channel (TX) on the mobile corresponding to the receiver
5. The diversity indicator lamps A and B are used to check the antenna which is active in real time for signal reception
6. **RF bargraph** of the field level received on the channel used: used to check the HF reception level of the mobile corresponding to the receiver
7. **AF bargraph** indicating the audio signal received, from - 20dBv to 9dBv: used to adjust the mobile microphone level to obtain audio reception close to 0 dBv.
8. "**SQUELCH**" potentiometer: adjusts the reception sensitivity threshold (increased in anticlockwise direction). Only use in case of accidental operation: squelch factory set to 4 μ V, above the noise threshold, the squelch data avoiding adjustment on site
9. "**CODE**" switch: in the "ON" position, the receiver only transmits the audio signal if it receives the code data from the mobile (which avoids all undesirable noise when the mobile is switched off); in the "OFF" position, the receiver does not take into account the code data to open the audio signal (position for lab. measurement or squelch adjustment)
10. "**AF OUT**" switch: in the "ON" position used to transmit audio on the rear balanced output of the receiver; in the "OFF" position, the audio of this receiver is not transmitted (channel cut).
11. **Head-phone:** jack connector used for audio listening and checking of this receiver (even when AF OUT set to OFF). **You MUST use a stereo jack plug.**

SWI RX: RECEIVER

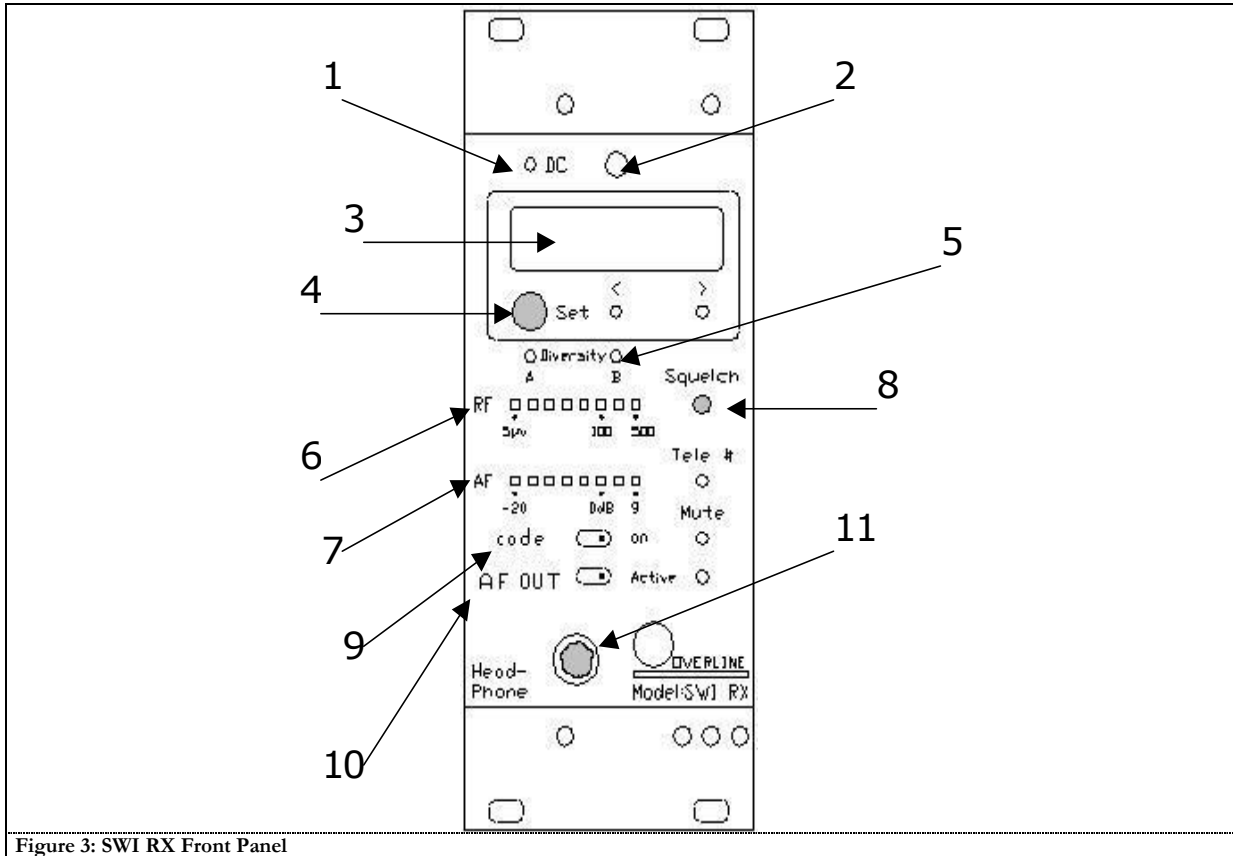


Figure 3: SWI RX Front Panel

SWI RX: RECEIVER

Description of the connectors on the RX REAR PANEL

12. "ANTENNA A" TNC connector: input of a diversity reception antenna distributed by the multicoupler SWI CA8 or SWI VT4, SWI D32 or directly an SWI AT antenna.
13. "ANTENNA B" TNC connector: input of a diversity reception antenna distributed by the multicoupler SWI CA8 or SWI VT4, SWI D32 or directly an SWI AT antenna.
14. "POWER IN" male XLR4 connector: power supply input between Pin 1: Ground and Pin 4: voltage (between 12 and 20 V DC, 350 mA), output of the remote control signal # by dry contact between Pin 1: Ground and Pin 2: contact.
You can power your RX cassette with SWI PS3 or on an external Battery
Never connect an analogue wired network (Clear-Com, RTS) directly on your SWI RX. To do this, you must have an SWI I24 interface
15. "SUB INPUT" female XLR3 connector: balanced audio input (600 Ohms) for audio summing of the previous receiver, input signal level 0dbv, wiring XLR 3, Pin 1: Ground, Pin 2: Audio+, Pin 3: Audio-
16. "AF OUTPUT" male XLR3 connector: balanced audio output (summing the SUB INPUT and this receiver), input signal level 0dbv, wiring XLR 3, Pin 1: Ground, Pin 2: Audio+, Pin 3: Audio-

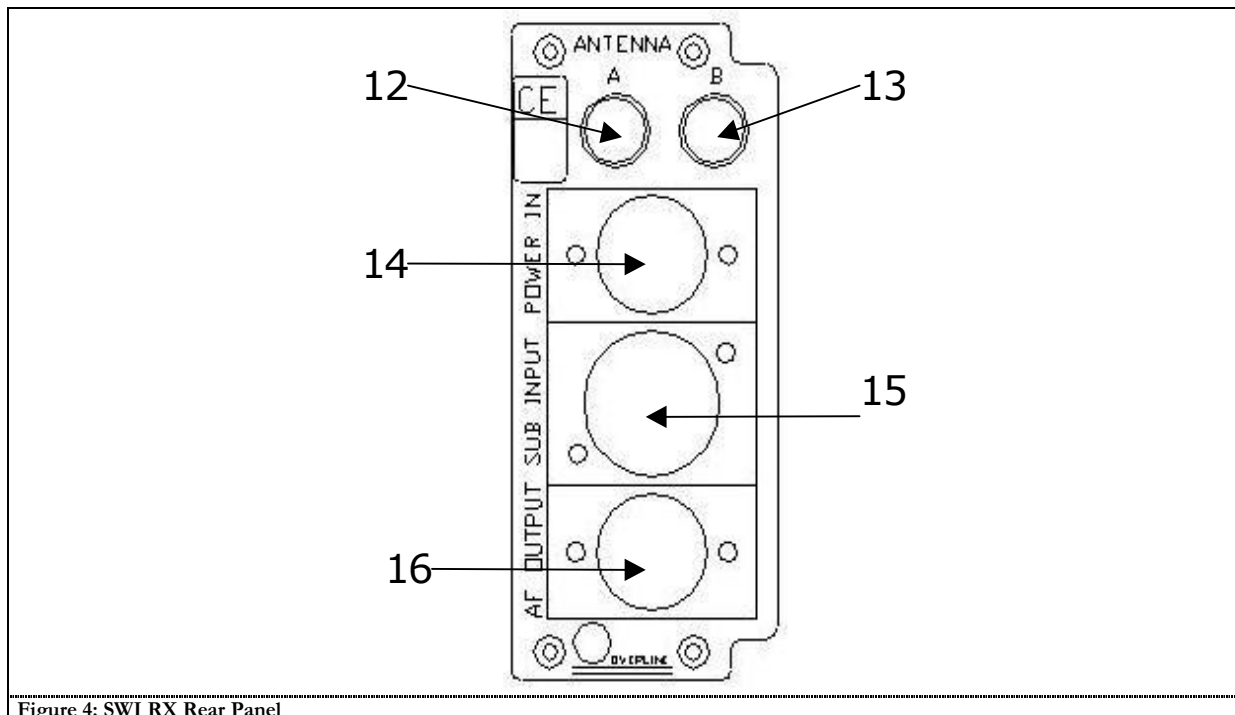


Figure 4: SWI RX Rear Panel

SWI DP: FULL DUPLEX MOBILE

Portable full duplex station with leather belt and case, duplex TNC antenna, 16 switchable transmission frequencies and 16 switchable reception frequencies. 200mW version.

Description of the various functions, indicator lamps and connectors of the SWI DP FRONT PANEL

1. **Display:** used to display the levels and configuration information of the mobile
2. **Set/Volume: - or + keys:** modifies the headphone volume or, in combination with a function on the rear panel, modifies the parameters
3. **"Channel 1 or 2"** keys: used to select one of the 2 transmission or reception channels stored in memory (refer to Nos. 13 and 14 of the rear panel).
4. **"TX"** key switches on the transmission of the mobile:
a short press <0.5 seconds switches the mobile into permanent transmission
with a long press >0.5 seconds, the mobile only remains in transmission while you press
If the mobile is in transmission, the yellow LED is lit
5. **"#"** key: remotely activates the # remote control of the SWI RX receiver.
6. **"call"** lamp: illuminated call lamp controlled remotely by the transmission cassette of the SWI TX base (remotable command)
7. TNC type antenna connector: screw the mobile antenna on this connector
The antenna MUST be installed on the mobile before powering up

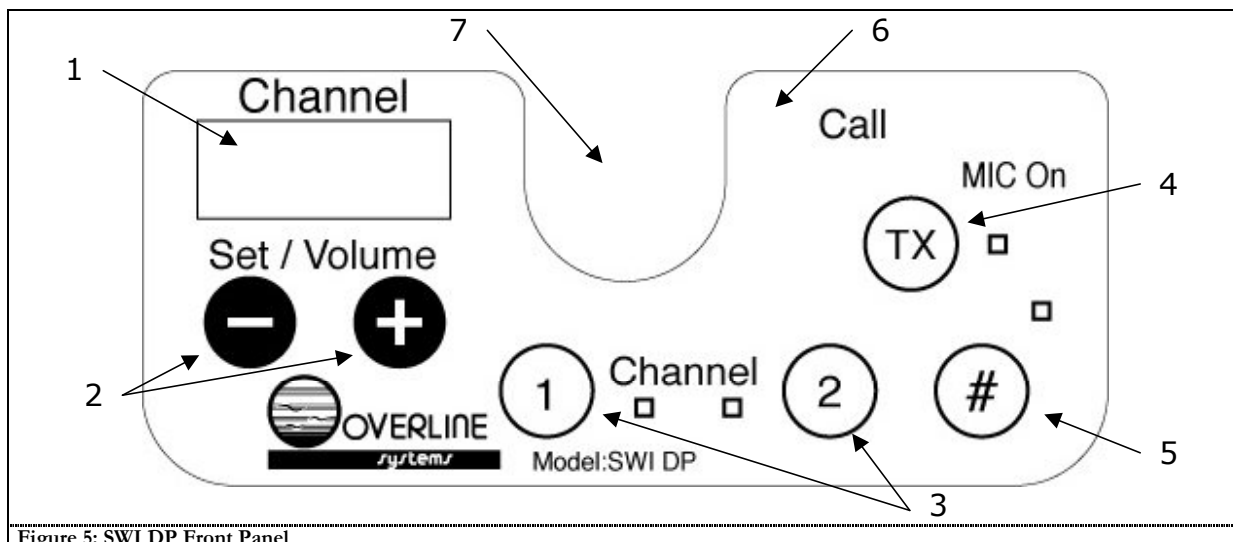


Figure 5: SWI DP Front Panel

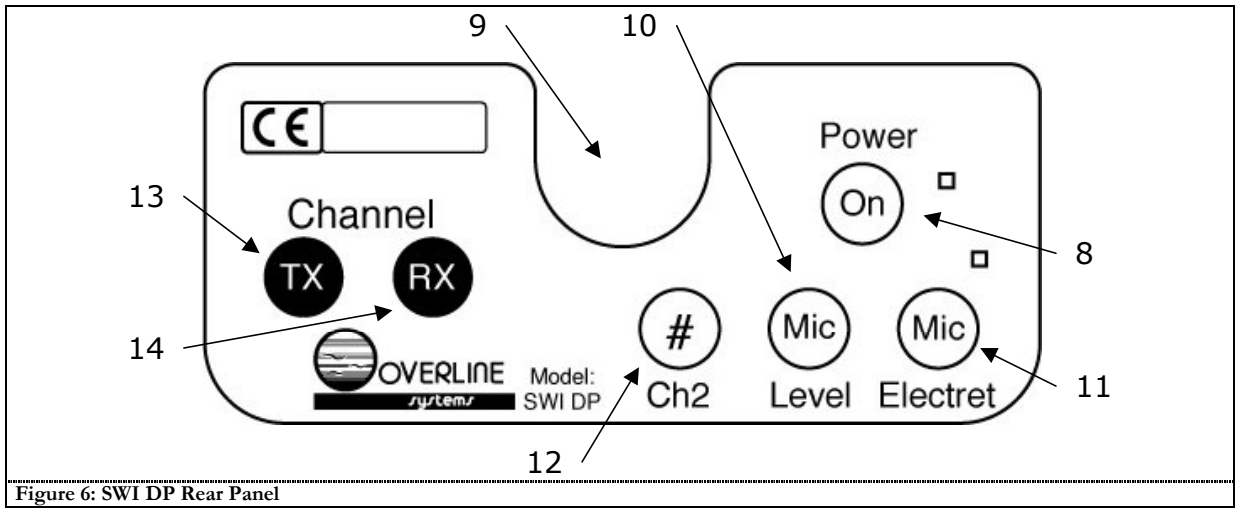
SWI DP: FULL DUPLEX MOBILE

REAR PANEL:

Press the keys on the rear keypad to display the status of the selected function on the front panel. Keep the key on the rear keypad pressed then press the - or + keys on the front keypad to modify the parameters.

8. **"POWER ON"** key : to switch the mobile off and on. To switch on the mobile, press this key for more than 1 second: ON appears on the display. To switch off, press this key for more than 4 seconds: OFF appears on the display.
The mobiles switches off automatically after 5 minutes if no field is received on its reception channel.
9. **FRB connector:**
 - a) to configure the mobile via a PC interface (using a computer program, some keys become inactive, contact us concerning this option.)
 - b) to connect a micro headset wired in FRB.
10. **"MIC LEVEL"** key, used to modify the microphone input level. One pulse gives the microphone level information in dBv. To modify this value, keep this key pressed and change the value with the + or – keys (2) on the front panel of the mobile (from –19 dBv to – 68 dBv)
11. **"MIC ELECT"** key, to use an electret microphone. One pulse gives the status information (ON or OFF). To modify this status, keep this key pressed and change the status with the + or – keys (2) on the front panel of the mobile (for a dynamic microphone this function must be OFF).
12. **"CH2#"** key, used for grouped activation of the # remote control with switching on channel 2 and similarly associates CH2 switching with a pulse on the # key. One pulse gives the status information (ON or OFF). To modify this status, keep this key pressed and change the status with the + or – keys (2) on the front panel of the mobile (optional function).
13. **"CHANNEL TX"** key, used to change the transmission channel of the mobile. One pulse indicates the channel used. To change channel, keep this key pressed and change the value with the + or – keys (2) on the front panel of the mobile (if you change channel, make sure to set the same channel on the SWI RX receiver)
14. **"CHANNEL RX"** key, used to change the reception channel of the mobile. One pulse indicates the channel used. To change channel, keep this key pressed and change the value with the + or – keys (2) on the front panel of the mobile (you must check that this channel corresponds to the transmitter channel of the corresponding SWI TX base)
15. Female XLR 4 connector, micro headset connector, wiring XLR4 (Pin 1: mic -, Pin 2: mic +, Pin 3: audio -, Pin 4: audio, ground Pin of connector = micro braided screening and – of the Electret power supply)

SWI DP: FULL DUPLEX MOBILE



SWI BC1: CHARGER

- Plug in the charger to the mains 220V 50Hz. The green "DC" LED comes on. The charger can also be connected to a low voltage 20 to 28 V DC supply (e.g. 24V vehicle, aircraft, helicopter battery)
 - Connect the battery to the charger via the FRB connector
Make sure that the battery is not stored in a place which is too cold (below -10°) or too hot (above +30°)
1. Red "Fast charging" LED flashing quickly = the charger is analysing the voltage and temperature parameters
 2. RED LED LIT STEADILY = THE CHARGER IS IN FAST CHARGE MODE

In maximum 1h45 the fast charge stops and the green "Ready" LED comes on ⇒ the battery is 90% charged

For a 100% charge: leave the battery connected another 30 minutes.

If the battery does not have to be used it is best to leave it connected to the charger, which will provide a trickle charge to compensate for self-discharge.

CAUTION: The charger power supply must not be switched off, the charge cycles taking place on each "current return".

ANOMALIES

After connecting the battery, the red "fast charging" LED stays flashing:

- the battery is fully discharged and in a few minutes - less than ½ hour of slow charge, the voltage returned to the battery will allow fast charging (red LED lit steadily).
- The battery has 1 or more cells damaged: the charger will not charge the battery
- The battery is outside the temperature parameters (below 10° or above 40°)

The red LED stays flashing or does not come on at all = fault with charging cable or CTN temperature information socket

Change charging cable or change charger to check that the fault is really due to the battery

The red LED is lit but changes too quickly to green "Ready" = the battery cells are unmatched and the charger finds the information - multiple ▲ V and stops too soon: repeat the charge by disconnecting and reconnecting the battery to restart a fast charge cycle ⇒ at end of charge the battery must be warm.

If multiple charges are unsuccessful, try to carry out a reconditioning cycle by pressing the "Discharge" microswitch with the tip of a pen.

If after several reconditioning cycles the charging still stops too soon, change the battery.

RECOMMENDATION

You do not have to discharge NIMH batteries fully after each use cycle, since in principle they do not have memory effect. However, systematic recharging after brief periods of use will shorten the lifetime of the batteries which are designed for 500 theoretical cycles (with 20% capacity loss at end of life)



Batteries should not be left fully discharged for several weeks. It is better to recharge them and take them out of the mobiles (self-discharge) or leave them connected to the chargers powered up (automatic trickle charge)

SWI BCM: CHARGER/TESTER

Charge parameters identical to model SWI BC1

- Connect the battery to the charger for a complete charge
- After the fast charge is finished and the green "Ready" LED comes on, leave for a further 30 minutes to charge the battery to 100%.

Press the "Discharge" microswitch with the tip of a pen

The red LED flashes during discharge and the display increments in real time the capacity consumed during discharge

On reaching the low voltage threshold (4.2V), the charger automatically resumes a fast charging cycle and indicates the true capacity in A/H with a decimal point (tenths of A).

This measurement remains displayed even after complete recharging and connection of a new battery, reset is only carried out deliberately on a new discharge cycle.

Note:

The measurement is carried out during a discharge of 1A/H. It therefore takes about 4H30min. for a 4.5 A SWI B4.8 battery.

SWI CA8: MULTICOUPLER

Active multicoupler cassette with linear amplification and passband filter, 2 inputs to 2 x 8 outputs

Description of the SWI CA8 connectors ON THE SIDE PANEL

1. "ANTENNA A" TNC connector, distributor input of 1st diversity antenna
2. "ANTENNA B" TNC connector, distributor input of the 2nd diversity antenna or of the SWI 'TX TO DISTRI connector (duplex antenna)
3. TNC connectors "1 to 8", output of diversity reception antennae A to be plugged in on the TNC "A" connectors of the SWI RX receivers
4. TNC connectors "1 to 8", output of diversity reception antennae B to be plugged in on the TNC "B" connectors of the SWI RX receivers
5. "POWER IN" male XLR4 connector, power supply input between Pin 1: Ground and Pin 4: voltage (between 12 and 25 V DC). You can power your CA8 cassette with SWI PS3 or on an external Battery

SWI PS3: POWER SUPPLY

Power supply cassette 15 Volts DC, 3A

Description of the SWI PS3 connectors ON THE REAR PANEL

1. Mains power lead 230 Volts AC, 50Hz
2. Seven female XLR4 connectors, power supply between Pin 1: Ground and Pin 4: voltage (15 V DC, 3A)

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TECHNICAL DATA

Wireless audio system including one SWI DP transmitter/receiver, one SWI TX transmitter and one SWI RX receiver.

Frequencies (TX)	534-670 MHz (SWI TX)
	710-862 MHz (SWI DP)
Frequencies (RX)	534-670 MHz (SWI DP)
	710-862 MHz (SWI RX)

The system complies with the following standards:

EN 300 422.1 and EN 300 422.2 dated 08/2000

EN 301 489-1 dated 08/2000 and EN 3001 489-9 dated 11/2001

EN 60950:2000