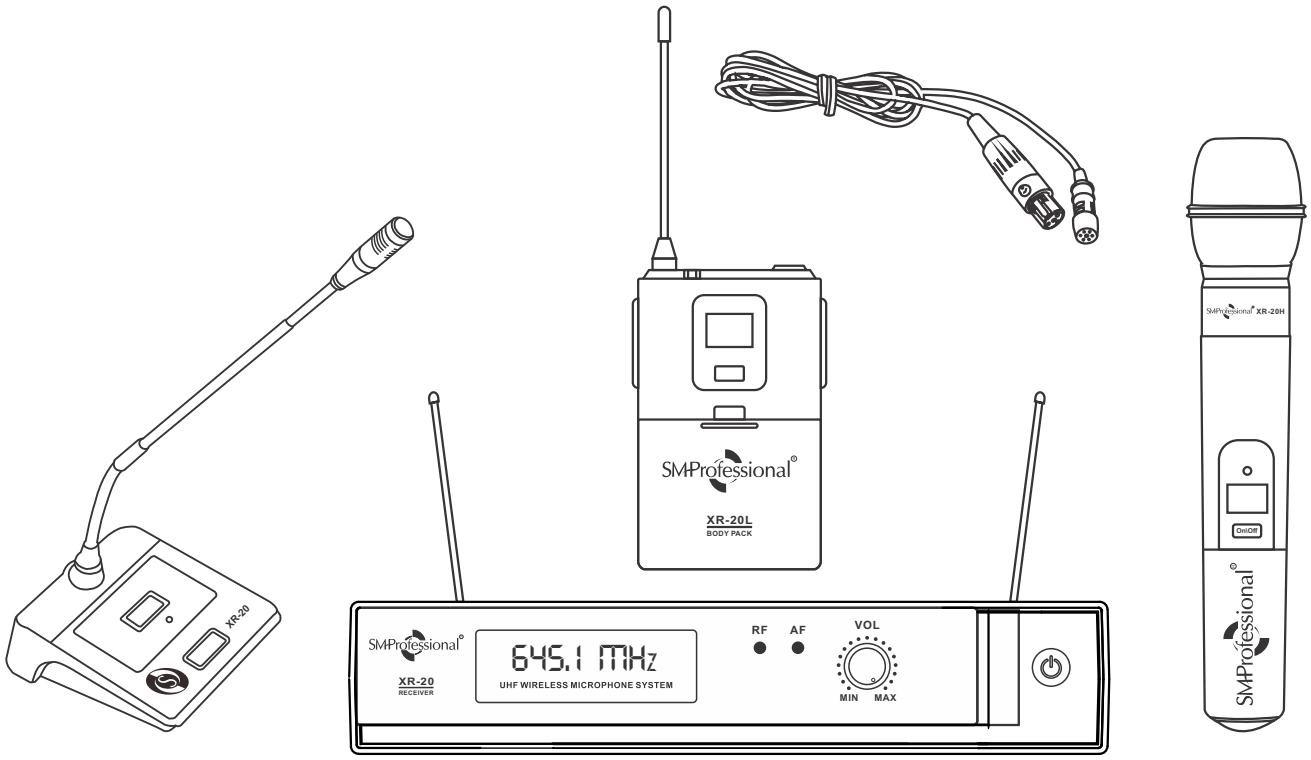
INSTRUCTION MANUAL

SMProfessional®

XR-20

Professional UHF Wireless Microphone System



The SMProfessional XR 20 is a high quality UHF Wireless technology system engineered for the most demanding touring environments & installations. This XR 20 Wireless systems offers unprecedented flexibility & versatility. To ensure optimum performance & safety, please follow this instruction manual carefully. Please retain this manual for future reference. For any complaint, feedback or testimonials please contact our distributor / dealer.

1. Features

- High quality UHF band frequency conference Wireless Microphone System.
- Balanced & Unbalanced output with level control.
- Display for frequency indication.
- LED indicator on the microphone to indicate 'Mic Active' status.

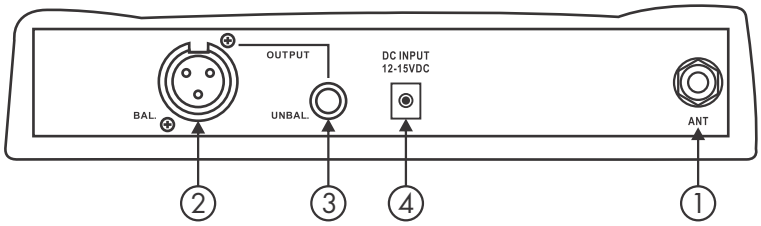
2. System Options

- Model : XR 20C (Receiver + Conference)
- Model : XR 20H (Receiver + Handheld)
- Model : XR 20L (Receiver + Lapel)

3. Operating Instructions

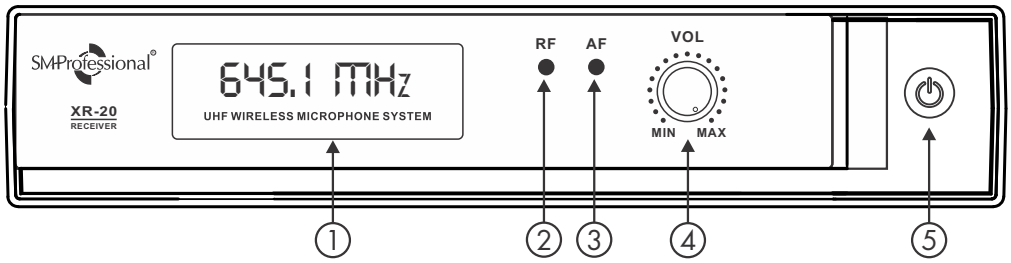
3.1 Receiver Features: Front & Rear Panel

Rear Panel



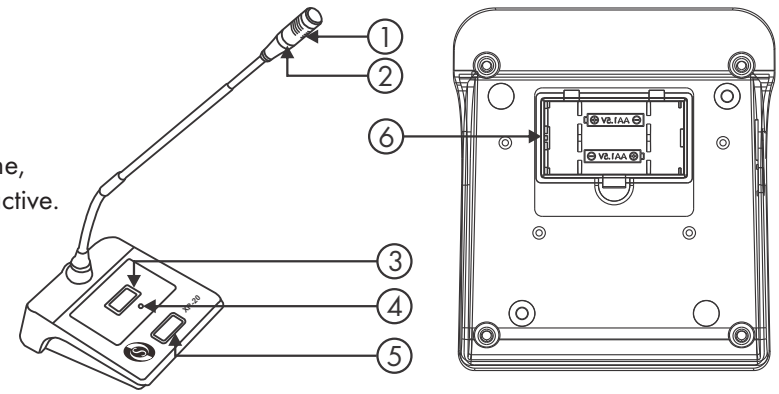
1. Antenna : The antenna receives signals from Transmitter, for better strength keep the antenna fully extended.
2. Balanced Audio Output : 3 Pin XLR female connector is provided to connect Balanced output to the input of the Mixer/ Amplifier/Powered speaker.
3. Unbalanced Audio Output : 1/4" (6.35) Unbalanced TRS Jack is provided to connect unbalanced output to the input of Mixer/Amplifier/Powered speaker.
4. Power Jack : 12V-15VDC Input voltage to power up the unit.

Front Panel



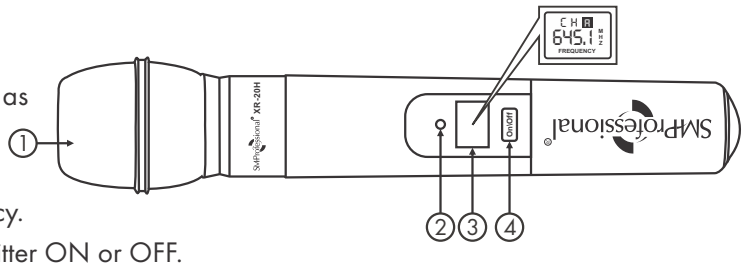
1. LED Screen : It displays frequency (fixed).
2. Channel Select Indication : LED is provided to indicate the Transmitter is ON.
3. Audio Indication LED : This LED lights up when there will be signal reception.
4. Volume Controls : To adjust the Input signal level.
5. Power ON/OFF Switch : To switch ON/OFF the receiver module.

3.2 Conference Transmitter Features



1. Mic Capsule: This high quality microphone is used to pick up the voice of the person speaking.
2. Mic LED : This LED displays the status of the microphone, when the LED lights up it means that the microphone is active.
3. LED Display: It displays fixed frequency.
4. Low Power Indication: When microphone On/Off switch is pressed the LED lights up & goes off. Also when battery goes low the LED becomes brighter.
5. Microphone ON/OFF Switch : This switch is used to switch ON/OFF the conference transmitter.
6. Battery Compartment: The system operates with 2 x 1.5V AA Batteries.

3.3 Handheld Transmitter Features



1. **Grill :** It protects the capsule from damages. Also it acts as an effective wind & pop filter.
2. Power Status & Battery Indication.
3. **LED Screen :** LED screen displays the channel frequency.
4. **Power ON/OFF :** Use This switch to power the transmitter ON or OFF.

Battery Indication:

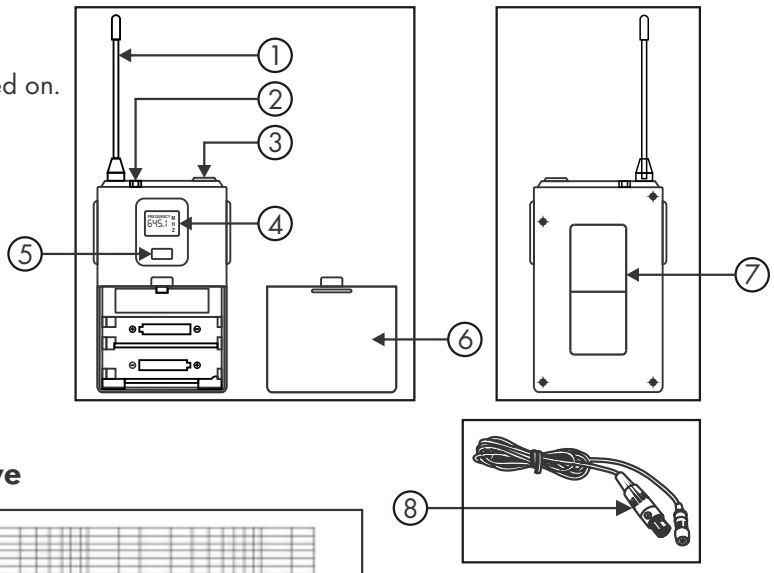
i) **Good /New Batteries:** When the switch is pressed, the Red LED blinks once and goes OFF immediately. The screen remains ON and displays the channel's frequency.

ii) **Weak Batteries:** When the switch is pressed, the Red LED remains ON continuously. The screen remains ON and displays the channel's frequency.

iii) **Dead Batteries:** The ON/OFF switch does not function, the Red LED remains OFF and the screen displays the channel's frequency.

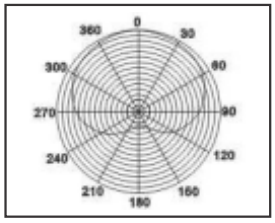
3.4 Body Pack Features

1. **Antenna:** Transmission Antenna.
2. **Power ON LED:** LED light when lapel body is switched on.
3. **Mic Input:** Input socket to connect lapel microphone.
4. **Display :** It display fixed frequency.
5. **Power ON/OFF Switch :** This switch can be used to ON/OFF microphone as required.
6. **Battery Cover:** Slide downward for access to the battery compartment.
7. **Belt Clip:** To hang on belt.
8. Microphone Head (Lapel).

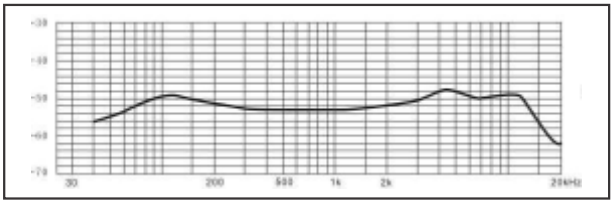


Lapel Microphone

3.5 Polar Pattern & Frequency Response Curve



Polar Pattern



Frequency Response Curve

3.6 How to operate

1. Confirm the connections between receiver & mixer as well as between mixer & amplifier are correct. Turn down the volume on the amplifier or mixer.
2. Turn on the receiver (The receiver will shows Channel Frequency, AF & RF LED will be off because transmitter is off).
3. Turn on the transmitter (Note: When transmitter is turned on the RF LED lights up to indicate availability of Transmitter respectively.
4. Test the transmitters. AF LED lights up to indicate signal reception.
5. Turn up the volume in the amplifier or mixer.

Usage Tips

- Make sure you can always see the receiver antenna from the transmitter position.
- Keep the distance from transmitter to receiver as short as possible
- Avoid obstruction between transmitter & receiver.
- Perform a ''Walk Test'' before performance or presentation. If dead spots are found, adjust location of receiver. If dead spots remain mark spots and avoid that spot.

4. Basic Troubleshooting

Problem	Solution
No Voice; (No signal on receiver)	• Check whether power switches of transmitter & receiver are ON. • Check whether the battery connections are correct & battery polarity is right in transmitter. • Check whether the antenna is properly connected on receiver. • Make sure that there is no obstruction between the antenna & the transmitter.
No Voice; (Signal is normal)	• Check whether the level control of the receiver is set enough. • Check whether the connection between receiver & mixer, mixer & amplifier or amplifier & speaker are connected. Also check mixer or amplifier volumes are ok.
No Voice; (RF signal is normal but AF signal is weak)	• Check whether the transmitter battery is fully charged.
When transmitter is ON, there is noise or interruption in the receiving signal.	• Check whether the battery is charged fully. • Eliminate the RF source of the disturbance nearby which causes interference. • If the signal is too weak, place the receiver closer to transmitter as far as possible.

5. Technical Specifications

RECEIVER

Operating Frequency Range	600~700 MHz
Receiving Frequency	Fixed Frequency
Bandwidth	50MHz
Frequency Response	50Hz-16KHz
Nominal deviation / peak error	± 24KHz / ± 28KHz
Total harmonic distortion	<0.9%
Sensitivity	-98dBm
Adjacent channel selection	> 75dB
Intermediation impedance	> 70dB
Noise filter	> 75dB
Power Requirement	DC 12V

TRANSMITTER

Carrier frequency	600~700 MHz
Frequency stability	+0.005%
Frequency response	50Hz-16KHz
Frequency bandwidth	50MHz
Harmonic radiation	< -55dB
Maximum offset	± 60MHz
Sensitivity	-80 ± 3dB
Use Battery	2 x 1.5V (AA)
RF Power	12W

AVAILABLE FREQUENCIES

Sr. No	Frequency	Sr. No	Frequency
1	645.1 MHz	6	674.0 MHz
2	652.8 MHz	7	683.8 MHz
3	659.8 MHz	8	694.5 MHz
4	668.0 MHz	9	689.2 MHz
5	664.5 MHz	10	689.0 MHz

6. Safety Instructions

- Keep the wireless receiver in a good location to ensure good signal strength.
- Please keep the product away from direct sunrays & rain.
- Please keep the product away from heavy magnetic or electromagnetic fields, it could affect product performance.
- Please switch off when removing the batteries.
- Please remove the batteries/ power supply when the product is not being used for a long time.
- Do not open any of the components yourself, for repairs please contact an authorised Studiomaster Professional dealer.
- Do not use systems with the same frequency at the same place, please separate them by a considerable distance.

* Design and specification are subject to change without notice.

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