



Digital Wireless Systems

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modification not expressly approved in writing by X Wire may void the user's authority to operate this equipment.

A handwritten signature in cursive script that reads "Alan Heston".

President

Specifications

Overall System

Transmission Format: Xwire proprietary digital audio transmission

Frequency Response: 10 Hz - 20 KHz

Audio Dynamic Range: Greater than 120 dB

Distortion: 2% THD

RF Carrier Frequency: 902 MHz to 928 MHz, FSK

Number of Selectable Frequencies: Five

RF Output Power: 5mw

Transmission Range: 300 feet line-of-sight, 100 to 150 feet adverse conditions

FCC Approval: Part 15 approved, no user-license required

X1905 & XH905 Transmitter

A/D Conversion: 20-bit Linear, 64 times over sampling

Input Impedance: 1 M Ω

Connectors: 1/4" Unbalanced Or Miniature XLR (XH905 (none))

Internal Shielding: Two Aluminumized-J chambers yield 90dB rejection

Controls: Power On/Off, Channel Select

Dimensions: 2.5" W x 4.25" D x 1" H (XH905: 7.33" L x 4.95" H w/ Liometer twin capsule)

Battery Life: Switching power supply 11 hours (4x AA alkaline)

Weight: 8.4 oz. (with 4 AA batteries installed)

XR905 Receiver

D/A Conversion: 20-bit Linear

Output: 4x 3.5V (Unbalanced) 1.5 K Ω , Balanced 150 Ω

Connectors: 1/4" Unbalanced, XLR Terminatorless Balanced

Internal Shielding: 25 Aluminumized-J chambers yield 140dB rejection

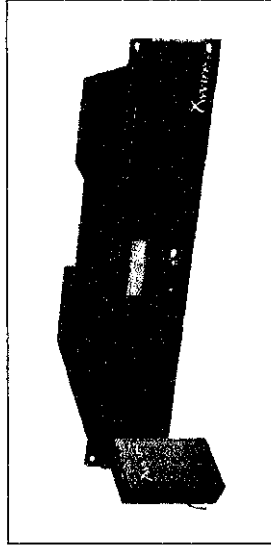
Back-lit LCD: Battery Life, Data Received, Channel Number, Audio dB Meter

Controls: Power On/Off, Channel Select

Dimensions: 1.9" W x 4.8" D x 3.5" H (3.5")

Power Requirements: 1.5V AC 100mA

REFERENCE MANUAL



X905 20-Bit Digital Wireless System
Made in U.S.A.

Xwire
Digital Wireless Systems

PLEASE RE-ORDER YOUR SERIAL NUMBER INDICATED ON THE REAR PANEL FOR FUTURE REFERENCE

Serial No:

Xwire
Digital Wireless Systems

Xwire Corporation

4010 Eagle Creek • Suite 10 • San Francisco, CA 94132, U.S.A.
Voice: (415) 441-1111 • Fax: (415) 441-1111 • Internet: wireless@xwire.com
Xwire Corporation is a trademark of Xwire Corporation.

Welcome to Xwire

Congratulations on your purchase of the Xwire-X905 Digital Wireless System. The Xwire X905 is a state-of-the-art 900 MHz (UHF) digital audio transmission system and is capable of outstanding audio and RF performance in combination with high-grade amplification, mixing and recording systems.

Xwire proudly presents this advanced new standard in audio transmission to musical and audio professionals as proof of Xwire's non-compromising pursuit of the ultimate in RF and audio performance.

Your digital wireless system is designed for superb audio quality and wireless performance as well as continued reliability.

To familiarize you with your new digital wireless system, we suggest that you read through this entire operation manual.

Features

- 20 bit digital converters
- 10 Hz to 20 KHz frequency response
- Greater than 120dB dynamic range
- No compander VC's or switch circuits
- 14" and balanced XLR connectors
- Digital transmission means audio signal is immune to outside interference
- 100 to 150 foot operating range in adverse conditions, 300 foot range line of sight
- Five user-selectable frequencies
- Up to two systems can operate simultaneously
- FCC Legal, no user license required
- Quad diversity for best audio quality
- Swappable power supply in the transmitter
- Backlit LCD display

As you unpack the X905, please check to be sure that along with the X905 receiver the following items are included:

- XT905 or XH905 digital transmitter
- set of four alkaline AA batteries
- a 12W AC or DC power supply
- microphone or audio cable (depending on model purchased)

INFORMATION

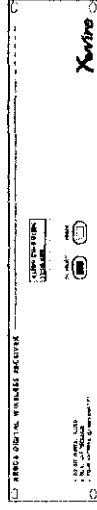
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PATENT PENDING ©1998 XWIRE CORPORATION

Identifying Parts and Controls

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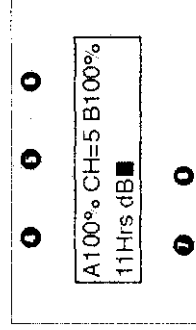
1 Power Switch (POWER)

- Press once to turn the power to the receiver on, and once more to turn the power off.
- Each time the power is turned on, the receiver will display "Xwire Digital Wireless Systems" and go through a four second calibration procedure.

2 Channel Select Button (CH. SELECT)

- Press this button to select one of five operating channels.
- When this button is pressed, the receiver will be set to receive data on the next adjacent channel. Examples: 1-2, 2-3, 3-4, 4-5, etc. then repeats.

3 Display



4 Percentage of Data Indicator

- Indicates the percentage of data currently being received by internal receiver (A).

5 Transmitter Battery Performance Indicator

- Indicates the number of hours that the transmitter will operate with the currently installed batteries (in one hour increments, eleven hours typical).

6 Channel selection indicator

- Indicates the current operating channel selected to receive data sent by the transmitter. Transmitter must be set to the same operating channel as the receiver to operate correctly.

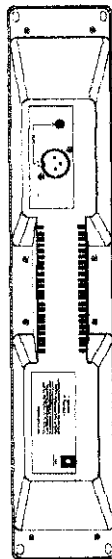
7 Audio Level Indicator

- Indicates audio level on the seven segment display.

8 Percentage of Data indicator

- Indicates the percentage of data currently being received by internal receiver (B).

2



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1 Power Supply Connector

- Connect the power supply (included).
- Power requirements are 12-volt AC or DC.

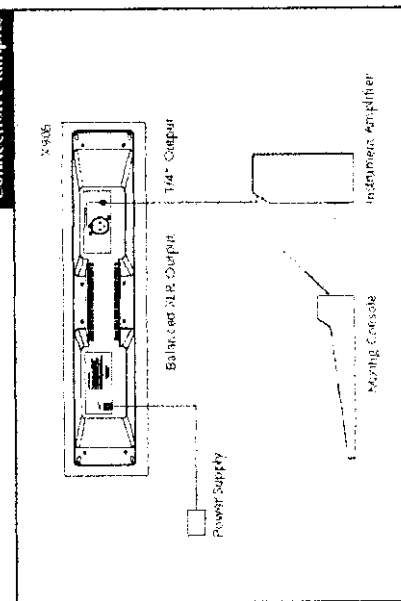
2 Balanced XLR Output Connector

- If the source is a microphone or instrument, connect to balanced microphone input of mixer. If the source is line-level, connect to balanced "line-in" of mixer. Audio signal that originated at the transmitter will be output.

3 Unbalanced 1/4" Output Connector

- Connect to the input of an instrument amplifier. Audio signal that originated at the transmitter will be output.

Connection Examples



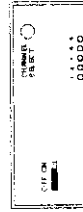
Power Up Procedure

To power up the transmitter, slide the power switch to the on position. One of the channel select LEDs will light to indicate power is on. To power on the receiver, first provide power to the unit using the wall adapter included with the system, then push the power button on the front panel, the LCD display should light up indicating power is on.



Channel Selection

There are 5 different frequency channels which you can choose to transmit and receive data, they are labeled 1-5 on both transmitter and receiver. In order to operate on any one of these channels, you must have both the transmitter and receiver on the same channel number. To select a channel on the receiver, power up the receiver, the current channel selected will be shown on the LCD display (chs 1-5). To change the channel, depress and release the channel selection button located on the front panel, the channel number will advance one indicating a new channel has been selected. After selecting a channel on the receiver, the transmitter frequency channel must then be matched to the receiver's. To select a transmitter channel, power up the transmitter, the current channel selected will be displayed by lighting the LED next to corresponding channel number (1-5). To advance the channel, push the channel select button above the LEDs. When both transmitter and receiver have the same channel number selected, the receiver should then receive data. To verify RF signal reception, the receiver LED will display a percentage of correct data received on both A and B receivers. For proper operation, the percentage of correct data should read between 95% and 100% on the display.

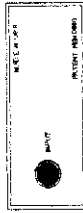


Using Your Wireless

Place the receiver on or near the desired amplification system. FOR BEST RESULTS: PLAY THE RECEIVER HIGH ABOVE ANY OBSTACLES. If the system works best when transmitter and receiver antennas are in line-of-sight,

Using the proper output connector on the receiver, the XLR for low impedance, or the 1/4" jack for high impedance, connect the output of the receiver to the input of your amplification system. Power up the unit and select the desired frequency for receiving data.

Next, connect the output of your instrument into the 1/4" input jack on the transmitter, using the 2' instrument cable provided.



Power up the transmitter and select the proper frequency channel for data transmission. TRANSMITTER AND RECEIVER MUST BE ON THE SAME CHANNEL TO OPERATE CORRECTLY. Attach transmitter to your instrument strap, for best operation keep antenna away from your body and unobstructed.

Communication between transmitter and receiver can be checked by viewing the LCD display on the receiver. The LCD will display the percentage of correct data received, frequency channel number, transmitter battery life, and audio signal strength. The data received should be 95-100%, once data is being received. Input an audio signal into the transmitter using your instrument, the audio meter on the receiver should display audio signal strength. Once you have verified the unit is receiving data, and audio level is being displayed, the unit is ready for operation.

Battery Replacement

The transmitter uses 4 AA alkaline batteries. DO NOT MIX OLD AND NEW BATTERIES. This will cause unpredictable battery life performance and display readings. To remove and install batteries, hold down on the battery release button and slide the cover open. This will expose the battery compartment. For quick removal of batteries, it is easy to snap transmitter battery cover off. A sticker showing the correct battery placement is on the bottom of the battery compartment. After installing the batteries, slide the cover over the batteries until the release button clicks (you should hear a click when it locks). After the batteries have been installed, power the unit on. One of the channel LEDs should light to indicate power is on.

Additional Information

Battery Life Information

Alkaline batteries should last about 11 hours. NiCad rechargeable batteries will only last about 6 hours. Standard batteries may only last 3 to 6 hours. THE BATTERY HOUR DISPLAY WILL ONLY BE ACCURATE FOR ALKALINE BATTERIES. The battery life is calculated inside the transmitter and sent to the receiver and then displayed on the LCD in 1 hour increments. Upon power up the battery info will take 1-5 minutes to stabilize, the battery gauge is accurate within + or - 20 min. Within the one hour mark, LCD BATT will be displayed informing you that the batteries currently installed in the transmitter are nearly depleted. You may use batteries until they are completely drained without affecting the performance of the unit in any way.

Warranty Information

Xwire will repair or replace any defective system within the first two years free of charge. After the initial term, we will continue to repair or replace defective systems for an additional period of three years for a flat fee of \$35.00, including return shipping in the continental United States. This warranty does not cover abused systems and applies only to the original purchaser. Please retain a copy of your dated sales receipt for proof of warranty status should repairs be necessary.

Refer All Servicing to Xwire

We believe that the X405 is one of the most reliable wireless systems that can be made using current technology, and should provide years of trouble-free use. However, should problems occur, DO NOT attempt to service the unit yourself. Service on this product should only be performed by Xwire. THERE ARE NO USER SERVICEABLE PARTS INSIDE.

Obtaining Repair Service

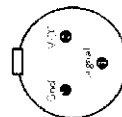
Before contacting Xwire, check over all your connections, and make sure you've read the manual. Your Xwire dealer may be able to offer further assistance. If the problem persists, call Xwire at 1-916-922-XWIRE and request the customer service department. Talk the problem over with one of our technicians; if necessary, you will be given a return authorization (RA) number and instructions on how to return the unit. All units must be shipped prepaid and C.O.D. shipments will not be accepted.

For prompt service, indicate the RA number on the shipping label. Tape a note to the top of the unit describing the problem, include your name and phone number where Xwire can contact you if necessary, as well as instructions where you want the system returned. Xwire will pay for 2nd-day shipping back to you on any repair covered under the terms of this warranty.

Service address for customers in the USA:

Xwire Corporation
4620 Beloit Drive, Suite 10
Sacramento, CA 95835
916 929-9473

If you have purchased a Javalier system and would like to use it with other microphones in your collection, the following wiring diagram will show you how to connect a standard IABT connector onto your microphone cable.



Trouble-Shooting

Symptom	Cause	Solution
No sound.	System not turned on. Improper connection or improper channel selection.	Check that the system is powered on. Check that the transmitter and receiver are set to the same operating channel. Check that the receiver is receiving data. Check that the source is operating correctly. Check that the receiver displays audio level. Check connections.
Intermittent sound or "crockling" performance.	Improper source performance. Improper connection. Multiple transmitters are set to the same operating channel. Transmitter has gone out of range. Transmitting through metal wall. Unknown source of RF in local vicinity.	Check source. Check connections. Turn your transmitter off. Check to see if receiver still displays data being received. If so, locate and either turn off or switch channels on extra transmitter. Adjust receiver positioning closer to transmitter. Consider remote antenna option. Check that other local communication systems are not interfering with your performance. They will most likely be within 100 ft.