UHF SYNTH SERIES

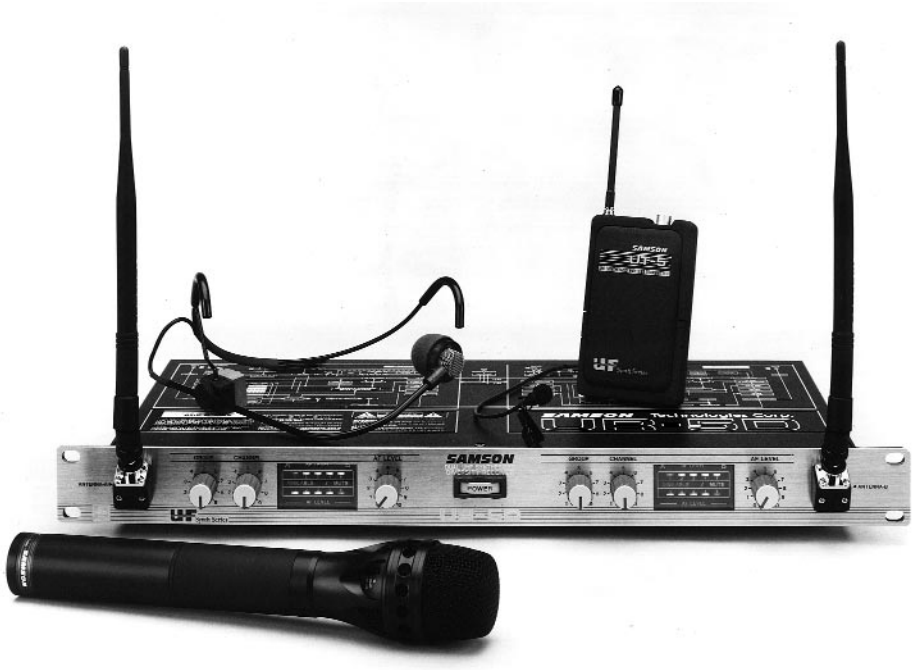
TRUE DIVERSITY

WIRELESS SYSTEMS

FEATURING DBX® NOISE REDUCTION

UHF 794 MHz — 806 MHz

SAMSON®



- 74 available channels organized in 10 different groups, with up to 11 channels available for simultaneous use.
- Dielectric filtering circuitry provides extra narrow RF bandwidths further reducing interference.
- True Diversity technology extends the effective range of the system.
- Built-in dbx® noise reduction circuitry.
- An easy-to-read visual display shows receiver muting, audio output level, and an RF level display for locating the clearest frequency in crowded wireless environments.
- Automatic tone squelch feature prevents the reception of unwanted signal generated by outside sources.
- Balanced and unbalanced outputs.
- Supplied pair of tuned coaxial receiver antennas are specially designed to maximize the effective range of the wireless link.
- Knockouts allow optional rear-mounting of the receiver antennas.
- Automatic current and voltage-sensing circuitry enables receiver to accept any AC power from 100 - 250 volts at 50-60 Hz.
- Less crowded UHF band minimizes potential interference problems and provides better signal-to-noise ratio and improved frequency response.
- All-metal 1U space receiver chassis in a professional format 19″ rack design.
- Available in single or dual-receiver configuration.
- Transmitters powered by standard 9-volt alkaline batteries.
- "Popless" muting in the transmitters turns off the audio signal while leaving the carrier (radio signal) on.
- Extremely lightweight beltpack transmitters—less than 4 ounces with a 9-volt battery installed.
- Beltpack transmitter provides phantom powering for compatibility with condenser lavalier and headset microphones.

Contact:

Samson Technologies Corp., P.O. Box 9031, Syosset, NY 11791-9031 • Phone: (516) 364-2244 • Fax: (516) 364-3888 • www.samsontech.com

UHF SYNTHESIZED SERIES PRODUCT DESCRIPTION

The Samson UHF Synthesized True Diversity Wireless System combines a single or dual-receiver with a beltpack or handheld transmitter in a single-space rack-mount package. Utilizing dbx® noise reduction and operating on 74 available selected UHF channels organized in 10 different groups (with up to 11 channels available for simultaneous use), it is an ideal system for multi-user environments such as stage productions and live musical performance. It is particularly well-suited for traveling installations that need to operate in adverse RF environments such as highly populated urban areas, where large numbers of radio transmissions occur simultaneously over broad bandwidth areas.

The UR-5 and UR-5D receivers utilize True Diversity technology with special dielectric filtering circuitry (based on cellular phone technology) in order to reduce interference and maximize the effective range of the system, with the virtual elimination of interference and phase cancellation problems. The receivers also provide a tone squelch feature that prevents the reception of unwanted RF signal generated by outside sources while the transmitter is off. Utilizing automatic current and voltage-sensing circuitry, the receivers can be powered from any AC voltage from 100 - 250 volts, without the need to change a selector switch, and is housed in a 19″ metal chassis. The front panel features RF and AF level displays as well as LEDs to indicate power, antenna switching, audio muting, and available channel status, along with an output volume control and group and channel select switches. The rear panel provides both balanced XLR and unbalanced 1/4″ audio outputs. The UR-5D dual-channel receiver (for the reception of two monophonic signals) is functionally identical to the UR-5 but adds an output mixing switch so that the outputs from both channels can be optionally mixed together equally into a single monophonic signal which appears at both sets of balanced and unbalanced outputs—utilized when using audio mixers with limited numbers of channels.

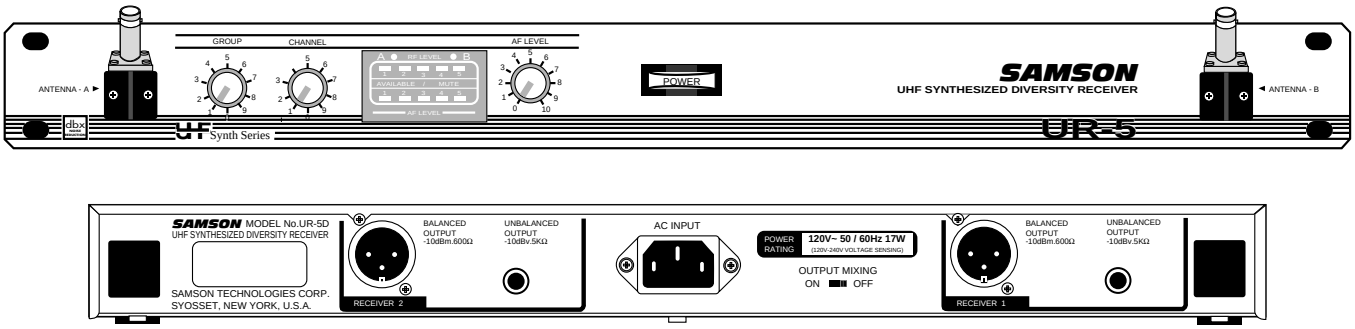
The UHF Synthesized system also includes either a UT-5 belt-pack transmitter (for lavalier microphone, headset microphone, and instrument applications) or a UH-5 hand-held microphone transmitter (available with a selection of Samson and microphone capsules). Both transmitters are powered from standard 9-volt alkaline batteries and feature adjustable input sensitivity controls, “popless” muting, battery strength LEDs, and “Unavailable” LEDs to indicate frequencies that are included in the channel plan. In addition, the UT-5 provides phantom power, making it compatible with a wide range of professional condenser microphones.

SAMSON UHF SYNTHESIZED FREQUENCY CHART

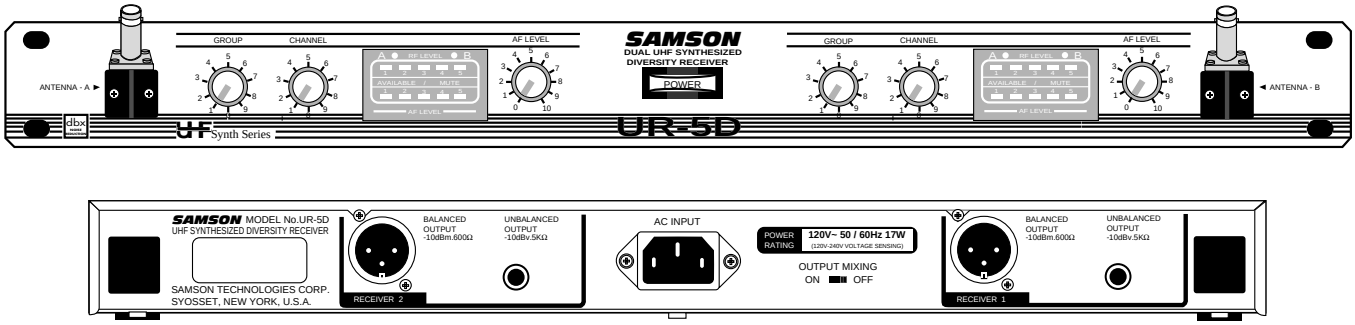
GROUP \ CHANNEL	0	1	2	3	4	5	6	7	8	9	*
0	805.875	804.750	802.375	800.500	799.500	798.000	797.750	NA	NA	NA	NA
1	805.750	804.625	802.250	800.375	799.375	797.875	797.625	NA	NA	NA	NA
2	805.125	804.000	801.625	799.750	798.750	797.250	797.000	NA	NA	NA	NA
3	805.000	803.875	801.500	799.625	798.625	797.125	796.875	NA	NA	NA	NA
4	804.500	804.250	803.250	800.875	799.125	796.625	796.250	NA	NA	NA	NA
5	804.375	804.125	803.125	800.750	799.000	796.500	796.125	NA	NA	NA	NA
6	803.000	802.625	800.125	798.375	796.000	795.000	794.750	NA	NA	NA	NA
7	802.875	802.500	800.000	798.250	795.875	794.875	794.625	NA	NA	NA	NA
8	805.375	802.125	799.875	797.500	795.750	794.500	794.125	NA	NA	NA	NA
9	805.500	805.250	804.875	804.000	802.250	801.750	800.125	799.375	797.375	796.000	*G7 CH5

NOTE: WHEN USING MULTIPLE SYSTEMS SIMULTANEOUSLY EVERY FREQUENCY (CHANNEL) MUSY BE WITHIN THE SAME GROUP. USE OF TWO OR MORE DIFFERENT GROUPS AT THE SAME TIME MAY CAUSE INTERMODULATION INTERFERENCE.

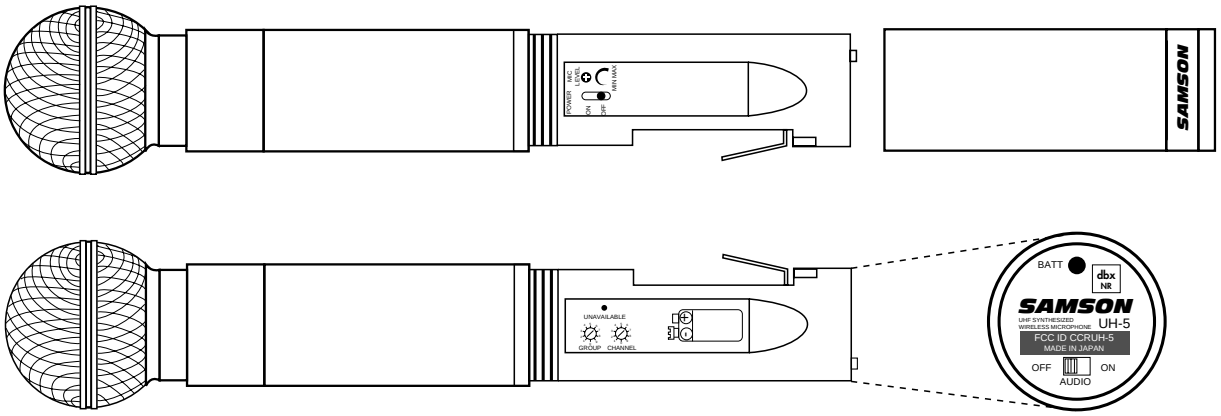
***GROUP 9 HAS TEN SELECTABLE CHANNELS - GROUP 7 CHANNEL 5 MAY BE ADDED FOR 11 SIMULTANEOUS CHANNELS.**



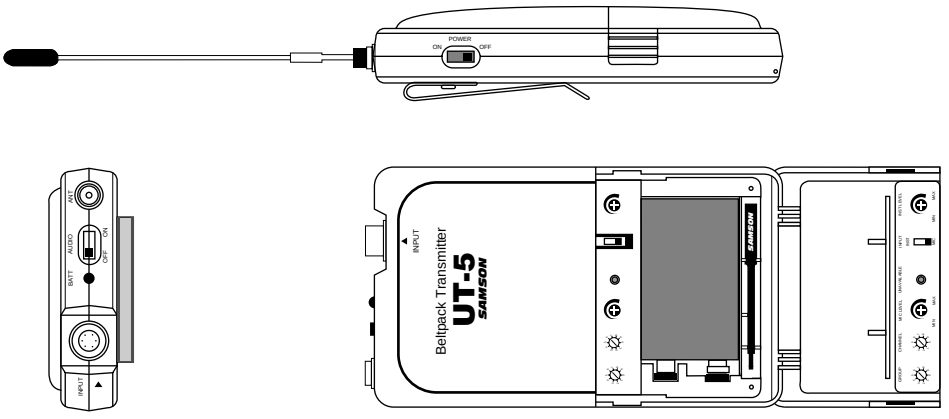
The UR-5 True Diversity Receiver:



The UR-5D Dual True Diversity Receiver:



The UH-5 Handheld Transmitter:



The UT-5 Beltpack Transmitter:

ARCHITECT'S & ENGINEER'S SPECIFICATION

The Samson UHF Synthesized True Diversity Wireless System shall be of a multi-channel, crystal-controlled PLL synthesized oscillator type operating on 74 selected UHF frequencies in 10 groups from 794.125–805.875 MHz. The System shall include a beltpack or handheld Transmitter and a single- or dual-channel Receiver, and shall allow operation of up to 11 simultaneous systems on separate channels. The Transmitter and Receiver shall incorporate dbx® compander circuitry for noise reduction and maximum dynamic range.

The single-channel Receiver shall provide a balanced microphone-level output on a male XLR-type connector and an unbalanced microphone-level output on a 1/4″ phone connector. The dual-channel Receiver shall provide two balanced microphone-level outputs on male XLR-type connectors and two unbalanced microphone-level outputs on 1/4″ phone connectors, and shall provide an output mixing switch. The audio output level shall be adjustable with a variable attenuator and rotary controls shall be provided for selecting group and channel. The Receiver shall incorporate LEDs for power, antenna switching, frequency availability, and muting, and shall provide 5-segment ladder displays for audio level and radio frequency strength. The Receiver shall have a tone squelch circuit operating at 38.4 kHz. The Receiver shall incorporate True Diversity circuitry for automatic antenna switching. The Receiver shall use two 9 Vdc powered 1/2-wave removable antennas on BNC connectors. The Receiver shall be powered by 100–250 VAC, with automatic current and voltage sensing circuitry. The Receiver shall be notified under FCC rules, Part 15, and DOC certified under RSP 121. The Receiver shall be of a rack-mount type. Dimensions of the Receiver shall be 19″ (480 mm) wide, 8.3″ (210 mm) deep and 1.7″ (44 mm; 1 rack space) high. Weight of the single-channel Receiver shall be 5.5 lb. (2.5 kg). Weight of the dual-channel Receiver shall be 6.2 lb. (2.8 kg).

The beltpack Transmitter shall provide a microphone-level or instrument-level input on a Hirose P6 multi-pin input connector, with a selectable input source switch. The beltpack audio input sensitivity or handheld microphone output level shall be adjustable with a variable attenuator. The Transmitter shall have a mute switch and selectable group and channel switches. The Transmitter shall incorporate LEDs for battery strength and frequency unavailability. The beltpack Transmitter shall provide +48 V Phantom Power for operation of condenser microphones. The beltpack Transmitter shall use a removable 1/2 wave whip antenna and the handheld Transmitter shall use an internal antenna. The Transmitter shall be powered by a 9 V alkaline battery. The Transmitter type shall be accepted under appropriate FCC rules. Dimensions of the beltpack Transmitter shall be 2.6″ (66 mm) wide, 4.3″ (110 mm) deep and 0.9″ (22 mm) high. Weight of the beltpack Transmitter shall be 3.9 oz. (111 g). The System shall carry a three-year warranty.

The System shall be a SAMSON UHF SYNTHESIZED TRUE DIVERSITY WIRELESS SYSTEM.

UHF SYNTHESIZED SERIES SPECIFICATIONS

RF Frequency Range:	794.125–805.875 MHz
Frequency Response:	40 Hz to 16 kHz ±3 dB
Tone Squelch Frequency:	38.4 kHz
Antenna Terminals (Receiver):	50 Ω, BNC input connector, powered 9 VDC 25 mA max.
Antenna Type:	
Receiver:	1/2 λ sleeve dipole
Transmitter (UT-5):	1/2 λ whip
Transmitter (UH-5):	Internal loop
Antenna Gain:	< 2.14 dB
Bandwidth Selectivity:	± 150 kHz @ 60 dB
	Audio Outputs (Receiver):
Unbalanced:	(-10 dB, 5 kΩ, 1/4″ phone type connector)
Balanced:	(-30 dBm, 600 Ω, XLR type connector)
Input Power (Receiver):	
(UR-5):	100–250 Vac 11 W, automatic current/voltage sensing
(UR-5D):	100–250 VAC 17 W, automatic current/voltage sensing
RF Sensitivity:	15 dBu @ s/n 60 dB
Signal To Noise Ratio:	> 103 dB (IHF-A weighted)
Dimensions:	
Receiver (w/o antennas):	19″ (w) x 8.3″ (d) x 1.7″ (h) 480 mm (w) x 210 mm (d) x 44 mm (h)
Transmitter (UT-5):	2.6″ (w) x 4.3″ (d) x .9″ (h) 66 mm (w) x 110 mm (d) x 22 mm (h)
Weight:	
Receiver (UR-5):	5.5 lb. / 2.5 kg
Receiver (UR-5D):	6.2 lb. / 2.8 kg
Transmitter (UT-5):	3.9 oz. / 111 g
Transmitter (UH-5):	varies with mic type