

# FM 557 Systems

FM 557 systems are complete turnkey solutions. These systems feature the cutting edge PPA T55 transmitter with multiple digital audio input options, and an OLED display with easy-to-manage navigation, both FM and Wi-Fi transmission, and network control features.

Each PPA R37 receiver features a seek button channel selection with access to 17 selectable wideband frequencies between 72.1-75.9MHz. The system is expandable, accommodating any number of listeners. This system complies with 2010 ADA guidelines for hearing assistance all for nearly the same cost as traditional FM systems.

**NOTE: The FCC requires this device to be used with approved, FCC 15.203 compliant antennas and be professionally installed. Refer to Williams AV's 72 MHz Antenna Selection Install Guide for compliant antennas for this product.**

## Systems

<b>FM 557</b>	(1) FM T55 transmitter (4) PPA R37N receivers (4) EAR 022 surround earphones (2) NKL 001 neckloops (1) IDP 008 ADA wall plaque.	<b>FM 557-12 PRO D</b>	(1) FM T55 D transmitter (12) FM R37 receivers (12) EAR 022 surround earphones (3) NKL 001 neckloops (1) CHG 3512 12-bay charger (12) BAT 026-2 AA NiMH rechargeable batteries (1) ANT 005 remote coaxial antenna (1) IDP 008 ADA wall plaque (1) RPK 005 rack panel kit
<b>FM 557 PRO</b>	(1) FM T55 transmitter (4) PPA R37N receivers (4) EAR 022 surround earphones (2) NKL 001 neckloops (2) BAT KT6 two-bay chargers and rechargeable batteries (1) ANT 005 remote coaxial antenna (1) IDP 008 ADA wall plaque (1) RPK 005 rack panel kit.	<b>FM 557-24</b>	(1) FM T55 transmitter (24) PPA R37N receivers (24) EAR 022 surround earphones (6) NKL 001 neckloops (1) IDP 008 ADA wall plaque.
<b>FM 557 PRO D</b>	(1) FM T55 D transmitter (4) PPA R37N receivers (4) EAR 022 surround earphones (2) NKL 001 neckloops (2) BAT KT6 two-bay chargers and rechargeable batteries (1) ANT 005 remote coaxial antenna (1) IDP 008 ADA wall plaque (1) RPK 005 rack panel kit.	<b>FM 557-24 PRO</b>	(1) FM T55 transmitter (24) PPA R37N receivers (24) EAR 022 surround earphones (6) NKL 001 neckloops (2) CHG 3512 12-bay chargers (24) BAT 026-2 AA NiMH rechargeable batteries (1) ANT 005 remote coaxial antenna (1) IDP 008 ADA wall plaque (1) RPK 005 rack panel kit.
<b>FM 557-12</b>	(1) FM T55 transmitter (12) PPA R37N receivers (12) EAR 022 surround earphones (3) NKL 001 neckloops (1) IDP 008 ADA wall plaque	<b>FM 557-24 PRO D</b>	(1) FM T55 D transmitter (24) PPA R37N receivers (24) EAR 022 surround earphones (6) NKL 001 neckloops (2) CHG 3512 12-bay chargers (24) BAT 026-2 AA NiMH rechargeable batteries (1) ANT 005 remote coaxial antenna (1) IDP 008 ADA wall plaque (1) RPK 005 rack panel kit
<b>FM 557-12 PRO</b>	1) FM T55 transmitter (12) PPA R37N receivers (12) EAR 022 surround earphones (3) NKL 001 neckloops (1) CHG 3512 12-bay charger (12) BAT 026-2 AA NiMH rechargeable batteries (1) ANT 005 remote coaxial antenna (1) IDP 008 ADA wall plaque (1) RPK 005 rack panel kit.		



FM T55

<b>Dimensions</b>	8.45" W x 8.25" D x 1.72"H (21.5 cm x 21 cm x 4.4 cm)
<b>Weight</b>	Transmitter: 3.2 lbs (1.45 kg)
<b>Color</b>	Black/Silver with silver legends on the front, white legends on the back
<b>Rack Mount</b>	Standard 19" Rack, one EIA rack space high, 1/2 space wide 1-2 units can be mounted in a single rack space with optional RPK 005 (single) or RPK 006 (double) Rack Mount Kits
<b>Power Supply</b>	Desktop Style Transformer (TFP 062); Input: 100-240 VAC, 50/60 Hz. IEC Line Cord; Output: 24 VDC, 750 mA, 18W. 2.5mm ID center positive barrel connector
<b>Power ON Indicator</b>	Push On/Push Off latching power button, backlit green indicates power ON, backlight off indicates power OFF, fading from bright to dark indicates Sleep Mode.
<b>Temperature Range</b>	Operating: +32° F to +122° F (0° C to 50° C); Storage: -4° F to +158° F (-20° C to 70° C)
<b>Ethernet</b>	RJ-45 on back of unit supports CAT 5e cable lengths up to 328 feet (100 meters); 10/100 Base-T IEEE 802.3 compliant, unique MAC address
<b>Dante</b>	Only available on FM T55 D
<b>User Interface</b>	3.12" High Resolution OLED display with selections via buttons. Hosted Web page. Remote control and monitoring.

RF Section

<b>Operating Frequencies</b>	72.1-75.9 MHz , 17 wideband channels (selectable)
<b>Frequency Accuracy</b>	± 2 ppm stability, 0-50° C
<b>Deviation</b>	± 75 kHz maximum
<b>Pre-Emphasis</b>	75 µsec
<b>RF Field Strength</b>	Does not exceed 80 mV/m at 3 m
<b>Compatible Antennas</b>	ANT 005, ANT 021, ANT 024, ANT 025, ANT 028, or ANT 034 <i>Refer to Williams AV's 72 MHz Antenna Selection Install Guide for FCC-compliant antennas for this product.</i>
<b>Transmission Range</b>	Up to 1000 ft (304 m) with ANT 005 coaxial antenna mounted on rear chassis connector
<b>RF Outputs</b>	(1x) #10-32 stud connector in center of unit (pcb mounted) (1x) F-connector on rear chassis
<b>RF Transmit Indicator</b>	1 Green LED On Air Indicator
<b>RF Power</b>	Full, Medium, Low or OFF indicated by menu icon.
<b>RF Time Out (sleep mode)</b>	30 min. duration, 4 hr. duration, or Always On selected via menu. Starts when audio is below -18 dB level with no button pressed for selected duration.

Audio Section

<b>Audio Processor Functions</b>	DSP based; Compression: 1:1, 1.5:1 or 2:1; High-pass and Low-pass Filter Frequency control, Music, Voice and Hearing Assistance Audio Presets
<b>Frequency Response</b>	31-16000 Hz, ±3 dB (re: 1 kHz, ±3 dB) ("Music" Audio Preset)
<b>Signal-to-Noise Ratio</b>	67 dB (typical) Transmitted RF

<b>Total Harmonic Distortion</b>	Less than 0.25% @ 1 kHz (RF output)		
<b>Common Mode Rejection</b>	>57 dB @ 1 kHz, Mic or Line		
<b>Audio Inputs</b>	(1x) Combination 3-pin XLR, 1/4" (TRS) jack for balanced or unbalanced line level, or balanced or unbalanced microphone with selectable phantom power		
<b>Audio Input Gain Adjust</b>	In menu, adjustable to 0 to -50 dB, in 1dB steps		
<b>Phantom Power</b>	14.4 VDC applied through 2.2 kΩ resistors to analog combo jack: Pin 2 and Pin 3 on XLR jack, or tip and ring on 1/4" TRS jack		
<b>Audio Level Indicators</b>	10-LED array that reads -18 to +9 dB at 3 dB intervals. 7 Green, 2 Amber, and 1 red LED. Green LEDs indicate normal operating audio level peaks, Amber LEDs indicate close to overload peaks, Red LED indicates overload peaks		
<b>Headphone Output</b>	1/4" TRS stereo jack, mono signal, 14.85 mW at +9 dB, maximum in 33 Ω (level adjustable in menu 0 to -40 dB in 2 dB steps)		
<b>Line Output</b>	RCA jack (black), -10 dBV (.32 VRMS); Output impedance 100 Ω at +9 dB		
<b>Input Levels (Bal or Unbal) (at Audio Input Gain = 0dB)</b>	<b>Nominal (1st Amber LED)</b>	<b>Overload Warning (Displayed On Screen)</b>	<b>Absolute Max. Rating*</b>
<b>Microphone</b>	-55 dBV (1.7 mV RMS)	-22 dBV (80 mV RMS)	+20 dBV (10.0 V RMS)
<b>Line</b>	-25 dBV (55 mV RMS)	+16 dBV (6.3 V RMS)	+20 dBV (10.0 V RMS)
<b>Approvals</b>	FCC, RoHS3, WEEE, Industry Canada		
<b>Warranty</b>	2-year parts and labor		

NOTE: Specifications are subject to change without notice. \* Stresses above these ratings may cause permanent damage or degrade reliability.



ANT 005

<b>Connector type</b>	F-connector
<b>Cable type</b>	RG 59 coax
<b>Nominal Impedance</b>	75 Ohm
<b>Total Cable Length</b>	22 ft
<b>Active Antenna Length</b>	80 in



CHG 3502 (Included in BAT KT6)

<b>Dimensions:</b>	4-7/8" x 3-7/8" x 2" (12.4 cm x 9.8 cm x 5.1 cm) (LxWxH)
<b>Shipping Weight:</b>	1.1 lbs (0.5 kg)
<b>Enclosure:</b>	Black, ABS plastic

<b>Charger Power:</b>	Input: 6 VDC, 300 mA, Center Positive Output: 100 mA per bay
<b>Power Supply:</b>	Williams Sound TFP 041 Input: 100-240 VAC 50-60Hz, 0.5-0.3 A Output: 6 VDC, 1.5A
<b>Charging Time:</b>	16 hours nominal, based on Williams Sound BAT 026-2 NiMH battery
<b>Unit Capacity:</b>	2 Units
<b>Indicators:</b>	2 Red LEDs - one for each bay. LEDs are lit when charging.
<b>Warranty:</b>	1-year
<b>Approvals:</b>	CE, FCC, RoHS



CHG 3512

<b>Size</b>	9.5"L x 7.4"W x 1.7"H (24.1 cm L x 18.8 cm W x 4.3 cm H)
<b>Weight</b>	1.2 lbs (.54 kg), excluding power supply
<b>Color</b>	Black ABS
<b>Power Supply Input</b>	90 - 240 VAC input
<b>Power Supply</b>	TFP 037 Switching AC adapter, 5 VDC - 4A output
<b>Charging Rate</b>	16 Hour Charge: 140 mA Pulse/Maintain: 140 mA
<b>Charging Time</b>	16 hours nominal
<b>Unit Capacity</b>	12 Units
<b>Indicators</b>	Individual Charging Indicators: Red LEDs. LEDs blink when batteries are charged
<b>Warranty</b>	1 year (cables and power supply warrantied for 90 days)
<b>Approvals</b>	CE, WEEE, RoHS



EAR 022

<b>Style</b>	Around-ear speaker
<b>Plug</b>	3.5mm mono
<b>Cord</b>	39"
<b>Driver Size</b>	23 mm
<b>Nominal Impedance</b>	32Ω
<b>Freq. Response</b>	20 - 20kHz
<b>Weight</b>	15g
<b>Max Power Input</b>	30 mW
<b>Sensitivity</b>	118 dB @ 1kHz



IDP 008

Size

10-3/8" (L) x 6-1/4" (W) x 1/8" (H)



PPA R37

<b>Dimensions</b>	4.1" x 2.85" x 1.38" (104 x 72 x 35mm)
<b>Weight</b>	4.6oz (130g) with batteries. 2.6oz (73g) without batteries
<b>Color</b>	Black
<b>Battery Type</b>	(2) AA Alkaline or 2 x AA NiMH
<b>Battery Life</b>	Two (2) AA non-rechargeable alkaline batteries (BAT 001), approx. 50 hrs (2) AA rechargeable NiMH batteries (BAT 026), 1500 mAh, approx. 32 hrs
<b>Current Consumption</b>	52mA nominal
<b>Temperature Range</b>	- 0 to 50C
<b>Channels</b>	17, accessed via seek button in battery compartment
<b>Operating Freq.</b>	72.1, 72.2, 72.3, 72.4, 72.5, 72.6, 72.7, 72.8, 72.9, 74.7, 75.3, 75.4, 75.5, 75.6, 75.7, 75.8, 75.9 MHz*
<b>Intermediate Freq.</b>	75 kHz
<b>FM Deviation</b>	75 kHz
<b>De-Emphasis</b>	75 μS
<b>LED Indicator</b>	Power: Green; Low Battery: Flashes Green
<b>AFC Range</b>	± 120 kHz
<b>Sensitivity</b>	2 μV at 12 dB Sinad with squelch defeated
<b>Input Overload</b>	100 mV
<b>Frequency Response</b>	200 – 15 kHz
<b>Modulation</b>	FM, +/- 75 kHz peak deviation
<b>Signal-to-Noise Ratio</b>	65 dB min @ 100 uV
<b>Receive Antenna</b>	Integral with earphone/headphone cord
<b>Audio Output</b>	35 mW max, peak into 16 ohms
<b>Output Connector</b>	3.5 mm stereo/mono phone jack
<b>Earphone</b>	Earbud-type with foam cushion, 3.5 mm plug, 32 Ω
<b>Auto Shut-off</b>	Enters sleep mode after approx 6 mins of no RF signal
<b>Approvals</b>	FCC, Industry Canada, RoHS, WEEE
<b>Warranty</b>	Lifetime PLUS Limited Warranty, 90 Days on most accessories.



Wireless Access Point

<b>Dimensions</b>	9.3" x 7" x 1.65" (236cm x 178cm x 42cm)
<b>Weight</b>	1.8 lbs. (0.82 kg)
<b>Standards Compliance</b>	2.4GHz: IEEE802.11n, IEEE802.11g, IEEE 802.11b; 5.xGHz: IEEE 802.11n, IEEE 802.11a; 802.11ac IEEE802.3, IEEE802.3u, IEEE802.3ab
<b>Interface</b>	One 10/100/1000M WAN Port (Auto MDI/MDIX); Four 10/100/1000M LAN Ports (Auto MDI/MDIX); One USB 3.0 Port
<b>Antenna</b>	Four 5dBi Detachable Omni-Directional Antennas
<b>Power</b>	Input: 12VDC @ 3A
<b>Max Power Consumption</b>	35W
<b>Wireless Speed</b>	2.4GHz: 1000Mbps; 5GHz: 2167Mbps
<b>Frequency</b>	Concurrent 2.4GHz and 5GHz
<b>Wireless Security</b>	WPA/WPA2-PSK, WPA/WPA2, AES
<b>Warranty</b>	Three (3) year, parts and labor
<b>Approvals</b>	CE, FCC, RoHS, IC, RCM