

Multi-line Tone Remote

BASE STATION CONTROL

- Tone remote control of up to four base stations
- Up to 8 frequency control (F1-F8) plus monitor and other functions
- Audio from each unselected line is summed at an adjustable level
- Separate unselect audio may be routed to an external powered speaker when using 3 or less base stations
- 2-wire line interface for up to four base stations
- 4-wire line interface
- Supervisor control output

USER INTERFACE

- Compact desktop or wall mount unit
- Up to 82 text aliases eliminate operator confusion and simplify training. Each frequency of every line, as well as 50 pagers, may be assigned an alphanumeric name to allow positive confirmation of selection.
- Nine PC programmable keys allow the installer to tailor the unit to the application
- 12/24 hour battery backed clock
- VU meter shows transmit and receive audio levels
- Line select/unselect keys for each base station with LED indicators
- VOX indicators show audio activity for each base station
- Unselect line volume is adjustable per base station
- Unselect mute allows operator to disable nonessential audio
- Handset hookswitch may send function tones when lifted or hung up
- Available functions include:



PARALLEL OPERATION

- Sets the industry standard for parallel remote capacity
- Parallel status feature enables each remote to display the actual radio mode for all base stations
- Line operated transmit light (LOTL) shows actual transmit status of each base station
- Audio may be muted during parallel transmit for selected units to prevent acoustic feedback
- Intercom capability between remotes
- "Privacy" mode may be engaged to mute and lockout other Zetron Model 280 or 284 remotes for sensitive conversations
- Call Decoder feature allows calls to be routed to individual remotes when used in conjunction with a Zetron H.E.A.R. Decoder

Frequency select F1-F8	Coded/Clear	Repeater on/off	2nd receiver mute
PL1	PL2	PL3	PL4
Wildcard #1	Wildcard #2	Supervisor takeover	Alert (beep)
Alert (warble)	Alert (slow siren)	Alert (fast siren)	Alert (steady tone)
Mute (or partial mute)	Unselect mute	Intercom	Privacy
Off-Hook Speaker Mute	Hook Disable	Call Decoder Mute	

HIGH QUALITY AUDIO

- Digital audio processing lets the user begin speaking immediately, even while the function tones are being sent (InstanTalk™ circuit)
- Built-in front panel microphone, and speaker
- PTT handset included for semiprivate conversations
- Accessory audio interface port accommodates external desk mic, PTT footswitch, headset, auxiliary transmit audio, and external powered speakers
- Parallel function tone muting removes annoying chirps from other remotes
- Automatic audio leveling, 600/6000 ohm transformer coupled two or four wire interface

PAGING ENCODER

- Multi-format paging encoder supports Two-tone, DTMF, Five-tone, and Pulse dial selective calling
- Page-by-name database lets the operator scroll through a list of users to initiate paging
- Automatic frequency select when paging from database, uses the selected frequency or a specific frequency to prevent missed calls
- Programmable equalization curves and level per format ensure proper operation on the radio channel
- Selectable alert tones and talk time per format
- Stack page for up to 10 lists of 10 pagers expedite selective calling for critical applications

PROGRAMMABILITY

- Installer programmable keys, functions, tone frequencies and durations

FEATURE COMPARISON		
Category	Model 284	Model 280
Base stations (number of lines)	4	1
Frequencies	F1 - F8	F1 - F8
Keys	9 programmable, transmit, 4 line select keys, and a keypad for optional paging	9 programmable, transmit, and a keypad for optional paging
Alphanumeric display of channel names	yes	yes
Unselect audio	yes, up to 3 lines	no
Parallel status	yes	yes
Parallel function tone muting	yes	yes
Instant transmit (speak during function tones)	yes	yes
Privacy mode	yes	yes
Intercom mode	advanced	advanced
Clock	standard	standard
VU meter for transmit and receive level	yes	yes
Paging encoder, with page by name database	optional	optional
Paging encoder field upgrade	available	available
4-wire line interface, full duplex audio	yes	yes
Handset, speaker, front panel mic	yes	yes
Line operated transmit light	yes, on all lines	yes
Programmable hookswitch functions	yes	yes
Accessory audio port	yes	yes
Selectable dynamic range and mic gain	yes	yes
Alert tones	yes	yes
Call Decoder	yes	yes

GENERAL DESCRIPTION

The Zetron Model 284 Multi-line Tone Remote is a four-line, multifunction, EIA compatible, tone remote radio controller for multiple base station control. It features an available built-in paging encoder for selective calling of tone-only pagers, tone+voice pagers and mobiles. Selective calling supports 2-tone, 5-tone, DTMF, 2805/1500 pulse, stack page, and a 50 user page-by-name database. A PTT handset, built-in microphone and speaker are included. Line select keys include VOX, Transmit, and Select indicators. Audio from the unselected lines is summed at a user adjustable level. For applications with less than 4 lines,

unselect audio may be routed to an external amplified speaker.

The unit is fully configurable via PC by the dealer. It includes nine programmable keys that may be assigned selected functions. The available selections include; Single frequency select (F1-F8), Double frequency select (F1/F2), Coded/Clear, Intercom, Privacy, Repeat on/off, Rx2 Mute on/off, PL1, PL2, PL3, PL4, Wild I, Wild II, Supervisor takeover, Mute, Unselect mute, 5-beep alert, High/lo alert, Siren alert, Fast siren alert, Steady alert, Off-Hook Speaker Mute, Hook Disable, Call Decoder Mute, Monitor, and Transmit.

PROGRAMMABLE ITEMS *(not all items shown)*

Guard tone frequency	2100, 2175, 2325, 2600, 2800, or 2970 Hz. Guard tone notch will follow	Rx audio delay	On/off. Mutes parallel remote function tones
High level guard tone	120 mSec default, selectable 0 to 900 mS. Tx audio delay will follow	Tx audio delay	On/off. Allows user to begin speaking while function tones are sent
Low level guard tone	Continuous during transmit	Text Aliases	16 character names for each frequency select (F1-F8) on each line and for each of up to 50 pager capcodes in database
Function tone duration	40 mSec default, selectable 0 to 250 mSec. Tx audio delay will follow		
Clock display	On / off, 12/24 hour format, time set. Displays Hours:Minutes	PAGING	
VU meter display	On / off. Two selectable bar graph styles	Database	50 entries maximum, 10 digit capcodes, 16 character display labels. Each entry may be any valid capcode and be preset to a specific frequency (F1-F8) or use the selected transmit frequency. Up/Down keys allow operator to scroll through entries
Function frequencies	650, 750, 850, 950, 1050, 1150, 1250, 1350, 1450, 1550, 1650, 1750, 1850, 1950, or 2050 Hz	Stack page	Up to 10 stacks of up to 10 capcodes each
Monitor frequency	Any function frequency	Formats	2-tone 100 call, 2-tone 1000 call, 1 to 8 digit DTMF, 5/6 tone sequential, and pulse dial format
PL strip frequency	Any function frequency	Tone+Voice talk time	5 second default, selectable 1 to 60 seconds. May be extended by holding "transmit" during talk interval, or canceled by pressing "transmit" during talk interval
Function keys	9 programmable keys may be assigned a specific function. The top row of four keys include red and green LEDs to indicate selected status. They would typically be used when more than 4 frequencies (F1-F4) are required. The second row of four programmable keys include a single red led to indicate status. Different function tones may be sent for "toggle" keys such as coded/clear, the LED will show the current selected function. The additional programmable key is typically used for Monitor. The 9 programmable key functions are as follows; Single frequency select (F1), double frequency select (F1/F2), Coded/Clear, Intercom, Privacy, Repeat on/off, Rx2 Mute on/off, PL1, PL2, PL3, PL4, Wild I, Wild II, Supervisor takeover, Mute, Unselect mute, 5-beep alert, High/lo alert, Siren alert, Fast siren alert, Steady alert, Off-Hook Speaker Mute, Hook Disable, Call Decoder Mute, Monitor, or Instant Call.	Keyup delay	750mS default, selectable 250 to 2000 mS
		Stack page gap	500mS default, selectable 250 to 2000 mS
		Paging tones	Selectable gain and equalization curves for each format

SPECIFICATIONS

Power	10.5 - 16 Volts AC or DC, 650mA maximum, 300mA nominal. Optional wall transformer		status is monitored in background and updates when the line is selected
DC Standby Power	Connection for standby power, 11 - 16 VDC, 650mA maximum	Selective calling formats	2-tone, DTMF, Pulse dial, and 5/6-tone. Includes leading digit multi-format selection, strapped digits, alert tones, tone-only or tone+voice per format. Selectable gain and equalization curves per format
Connections	Power supply, standby power, line interface (2 or 4-wire), PTT open drain output, supervisor open drain output, external PTT input, external audio input, external speaker output, ground. Screw terminal connectors	Filters	Tx notch filter removes guard tone components from microphone audio, Rx notch filter removes guard tone from speaker and handset audio. Filters and intelligent audio processing may be enabled so that parallel remote function tones are not heard
Operating Temp.	0° to +60° Celsius. 95% relative humidity @ +50°C (non-condensing)	Tx audio delay	Selectable on/off. When enabled, delays microphone audio during guard and function tone transmission
Size / weight	8.3"W x 4.4"H x 9.5"D. 4 pounds	Rx audio delay	Selectable on/off. When enabled, delays speaker and earpiece audio so that parallel remote function tones may be detected and muted
Adjustments	Transmit level trim for each line	Line type	2-wire or 4-wire leased line voice grade audio circuit, or copper connection
Indicators	2 line by 16 character LCD indicates station status, real time clock, transmit and receive VU, paging capcode entries, and operating prompts (paging, talk, etc.). Text aliases (names) up to 16 digits may be assigned to each frequency of each line (F1-F8 on up to 4 lines, 32 labels). VOX, Select, Transmit and LOTL indications for each line. Master Transmit LED, Monitor LED, programmable LEDs per switch function	Line connector	Screw terminals
Controls	Volume, transmit, monitor, 16 digit keypad for paging, clear, 9 assignable keys	Audio input	600 ohm or 6000 ohm impedance, accommodates line losses up to 20 dB
Microphone/speaker	Built-in electret mic for use with front panel transmit and intercom, front panel speaker active while handset is on-hook. Telephone style handset with PTT switch included for semiprivate conversations. Handset sidetone generated during transmit. Includes automatic gain controls for improved audio levels	Audio output	Adjustable up to +12 dBm into 600 ohm.
Configuration	Via PC with programming adapter, cable, and software (optional)	Distortion	< 2% at full output. Signal-to-Noise > 50 dB. Hum, Cross-Talk all -50 dB at full output
Data retention	Nonvolatile EEPROM	Frequency response	-3 to +1dB from 250 to 3000 Hz (except guard tone notch)
Functions	Assignable function tone frequencies from 650 to 2050 Hz; Single frequency select (F1-F8), Double frequency select (F1/F2), Coded/Clear, Intercom, Privacy, Repeat on/off, Rx2 Mute on/off, PL1, PL2, PL3, PL4, Wild I, Wild II, Supervisor takeover, Mute, Unselect mute, 5-beep alert, High/lo alert, Siren alert, Fast siren alert, Steady alert, Off-Hook Speaker Mute, Hook Disable, Call Decoder Mute, Monitor, and Transmit	Compression	Input level increase of 30 dB above the knee of compression causes < 3 dB output increase
Parallel status	Decodes parallel remote encoded functions and displays current station status of selected line. Unselected line	Tone levels:	
		High level Guard	+3 dB relative to maximum audio level (typically 10 dBm)
		Low level Guard	-30 dB relative to high level guard tone (typically -20 dBm)
		Guard tone Notch	-50 dB, removes guard tone from transmit audio
		Function tones	10 dB below high level guard tone (typically 0 dBm)
		Tone accuracy	0.5 Hz

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See Zetron price list for option pricing.

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