



Optional SCP 2 Equalizer-only Security Cover

## General Description

The CP 64S is a versatile commercial preamplifier designed for use in restaurants, bars, health clubs and offices. The CP 64S is capable of serving two independent Zones. Two gated Paging inputs and four Program inputs are provided. Ports are provided for expansion of Page, Program or Zone signals. Four levels of priority are supported:

- Priority Page
- Non-Priority Page
- Priority Program
- Non-Priority Program

The versatility of the CP 64S allows a wide variety of system configurations while providing simple and intuitive controls.

Two gated Paging Inputs capable of receiving mic or line level input are provided. Each features independent Mic/Line Pad, Gain Trim, detector Threshold, Zone Assign and Zone Level controls. Internally selectable phantom power is provided for each input. Each Paging input may be summed Pre- or Post-Zone Level control to allow setting Paging Level independent of Zone Level. An internal Paging Priority switch allows a “master” pager to override non-priority paging in its assigned zones, while allowing true dual zone independent paging. If no Paging Priority is selected, the Paging inputs mix together for applications like karaoke.

## Features

- Two fully independent gated Mic/Line Paging Inputs
- Three stereo Program Inputs
- Paging Priority Assign
- Page Ducking
- One gated stereo Priority Program Input
- Page / Program / Zone Expansion

Four stereo Program inputs are provided with independent Input Level controls. Any one of the four Program inputs may be independently assigned in each Zone. One of the Program inputs is a gated Priority Program input. When signal is detected at its input, it overrides any non-priority Program selection in the assigned Zones. The Priority detector features internal, adjustable Threshold and Release-Time controls.

The CP 64S has two Zone outputs: Zone 1 is stereo: Zone 2 is mono. Each Zone features independent:

- Level
- Program Select
- Ducker On/Off
- Ducker Depth
- Servo-Locked-Limiter™
- 7 Band EQ ( $\pm 12$  dB)

Versatile wired remote control interface ports are provided for Paging assignment, Zone Level and Zone Program source selection. Paging Zone and Source/Volume remote controls are available as accessories.

An optional security cover is available for the CP 64S’s front panel. Front panel Ducker Depth controls are screw driver adjust. *All other front panel knobs can be removed and replaced with hole plugs.* The remote controls allow blank Decora™ switch covers to act as remote control security covers. The remote knobs can also be replaced with the included hole plugs.

- 7-Band graphic EQ for each Zone
- Servo-Locked-Limiter™ for each Zone
- Optional SCP 2 Security Cover for EQ section only
- Optional PR 2 Remote Page Assign Remote
- Optional ZR 1 Remote Zone Level/Program Select Remote
- NEW! Universal Internal Power Supply (100-240 VAC)



**Features and Specifications**

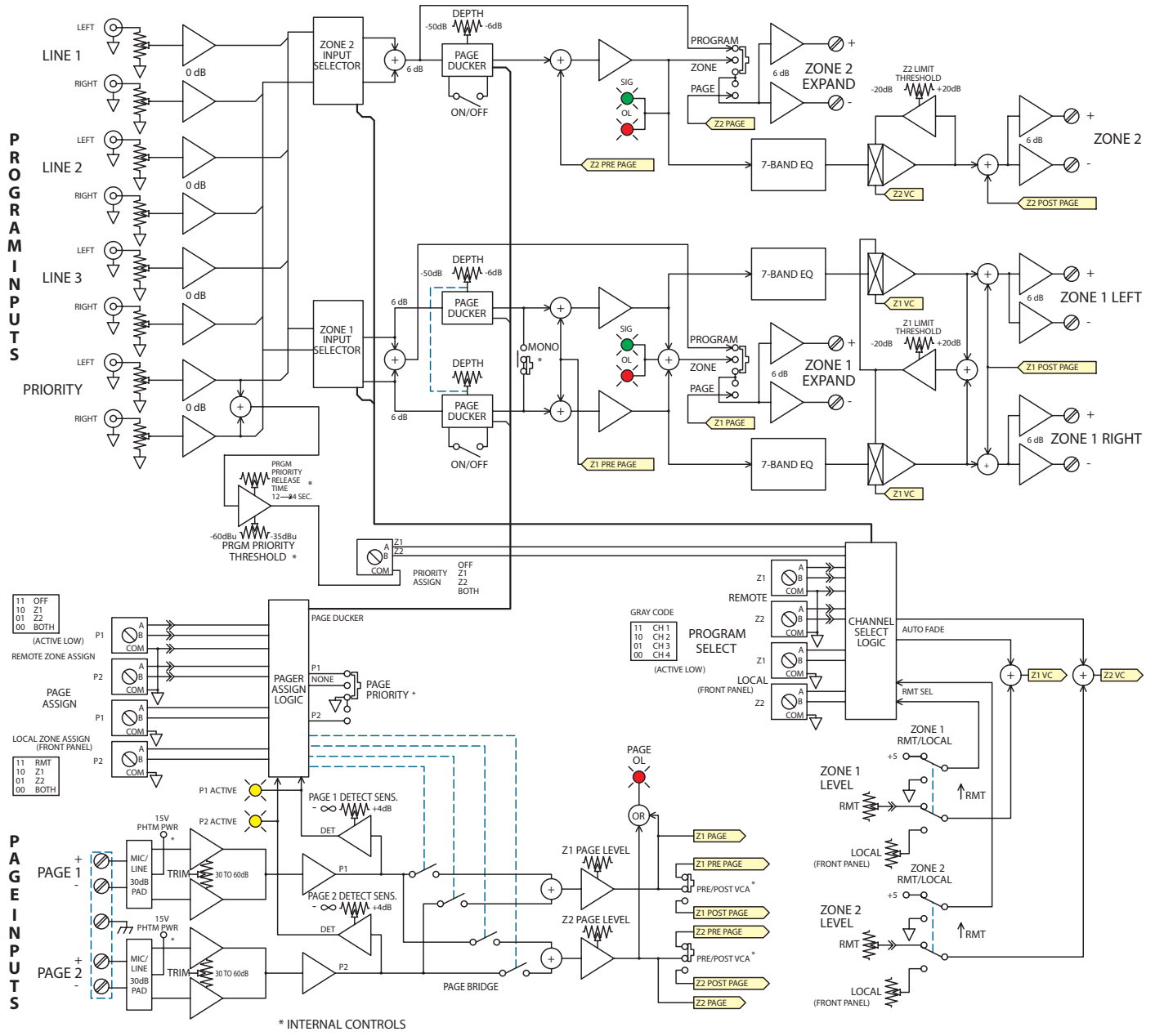
Parameter	Specification	Limit	Units	Conditions/Comments
<b>MIC/LINE PAGING INPUTS</b>	Two mono			All controls duplicated for both inputs
.....Input Type	Euroblock			Balanced; Instrumentation amplifier
.....RFI Filter	Yes			
.....Gain range	+30 to +60	2	dB	Continuously adjustable
.....Frequency Response	30 Hz to 40 kHz	+0/-3	dB	Maximum gain
.....Input Referred Noise	-125	1	dBu	Gain: 60 dB, Rs: 150 Ω, BW: 20 kHz
.....CMR	40	min	dB	20 to 20 kHz
.....THD+N	.05	.01	%	Gain: 30 dB, +4 dBu out, 1 kHz, BW: 80 kHz
.....Phantom Power	+15	4%	VDC	Internal switch
.....Mic Input impedance	500	1%	Ω	Each leg to ground
.....Line Pad	30	1	dB	
.....Line Input impedance	14.5k	1%	Ω	Each leg to ground. Defeats phantom power
.....Signal Detector Range	off to +4	typ	dBu	Continuously adjustable
.....Signal Detector Attack	.5	typ	msec	Fixed
.....Signal Detector Release	3	typ	sec	Fixed
.....Overload Indicator	+16	1	dBu	4 dB before clipping.
.....Front Panel Zone Assign	Remote, Z1, Z2, Both			Z1 = Zone 1; Z2 = Zone 2
.....Remote Zone Assign	Off, Z1, Z2, Both			Internal pull-up; Active low; Switch closure to ground or 5 volt TTL logic.
.....Pre/Post Paging assign	Summed with program Pre VCA or Post VCA via Internal switch			
.....Page Priority Assign	P1 (Page 1) NO (none) P2 (Page 2)	1	dBu	Priority pager overrides non-priority pager only in assigned zones; Selecting NONE allows the two pagers to mix.
.....Paging Zone Level Adjust	off to 0		dB	Independent for each Zone
.....Page Remote Selector	11 = Off 10 = Z1 (Zone 1) 01 = Z2 (Zone 2) 00 = Both	1	dBu	Internal pull-up. Active low; Switch closure to Ground or 5 volt TTL logic.
<b>PROGRAM INPUTS</b>	Four stereo			All controls duplicated for all four inputs
.....Input Type	RCA			Unbalanced
.....Input Level adjust	off to 0		dB	
.....Frequency Response	10 Hz to 50 kHz	+0/-3	dB	
.....Input impedance	10 k	20%	Ω	
.....Priority Program Input				
.....Input Detector Range	off to -35	typ	dBu	Internal trim, factory set to -50 dBu
.....Release Time Range	5 to 20	typ	sec	Internal trim, factory set to 12 seconds
.....Attack Time	50	typ	msec	For a 20 dB step; Fixed.
.....Assign	OFF, Z1, Z2 or Both			
<b>EXPAND OUTPUTS</b>				All controls duplicated for both zones
.....Number of Expand Outputs	Two			Z1 & Z2, both mono
.....Expand Selector	Zone Program only Page only			Note: If a Page signal is summed Post-VCA, it is not present on the Expand Zone output. It is available for the Expand Page output.
.....Output Type	Balanced			Cross-coupled; Euroblock connector
.....Gain: Zone	12	1	dB	
.....Page/Program	6	1	dB	
.....Frequency Response	10 Hz to 50 kHz	+0/-3	dB	



Parameter	Specification	Limit	Units	Conditions/Comments
.....S/N	-84	1	dBr	re +4 dBu. BW: 20 Hz-20 kHz
.....THD+N	.05	.01	%	+4 dBu, 1 kHz, BW: 80 kHz
.....Crosstalk	-75	max	dB	1 kHz, Rs: 25 Ω, ch/ch
.....Output impedance	100	1%	Ω	Each leg
.....Maximum Output	+24 dBu	typ		Ri: 2 kΩ
<b>ZONE OUTPUTS</b>				
.....Number of outputs	Two			Zone 1 Stereo, Zone 2 mono
.....Output Type	Euroblock			Balanced; Cross-coupled
.....Gain: From Program Inputs	12	1	dB	
.....From Page Inputs	6	1	dB	
.....Frequency Response	10 Hz to 50 kHz	+0/-3	dB	
.....S/N	-84	1	dBr	re +4 dBu. BW: 20 Hz-20 kHz
.....THD+N	.05	.01	%	+4 dBu, 1 kHz, BW: 80 kHz
.....Crosstalk	-75	max	dB	1 kHz, Rs: 25 Ω, (L/R or ch/ch)
.....Output impedance	100	1%	Ω	Each leg
.....Maximum Output	+20	typ	dBu	Ri = 600 Ω
.....Signal Present Indicator	-20	typ	dBu	Maximum
.....Overload Indicator	+16	typ	dBu	4 dB before clipping
.....Ducker: Enable	ON/OFF			Independently defeatable for each Zone
.....Depth Range	-50 to -6	typ	dB	Continuously adjustable
.....Limiter: Threshold Range	-20 to +20	typ	dB	Continuously adjustable
.....Attack Time	20	typ	msec	For a 10 dB step; Fixed.
.....Release Time	250	typ	msec	For a 10 dB step; Fixed.
.....Ratio	15:1	typ		Soft knee.
<b>PROGRAM SELECTION</b>				
.....Local (Front Panel)	L1, L2, L3 or P (priority)			Independent for each Zone
.....Zone RMT Selector	11 = L1 10 = L2 00 = L3 01 = P			Internal pull-up. Active low. Switch closure to ground or 5 volt TTL. Gray Code logic.
.....Zone RMT Volume (RMT engaged)	Attenuation = 64 mV/dB Range 0 V to +5 V (0 dB to -78 dB)			Control element: 2 kΩ pot, reverse-log taper; Or any ground referenced 0-5 VDC control.
.....Off Isolation	-80	typ	dB	1 kHz, Rs: 25 Ω
<b>EQ CIRCUITS</b>				
.....Boost/Cut Range	+12 to -12	.5	dB	
.....ISO Center Frequencies	40, 100, 250, 630, 1.6k, 4k, 10k	3%	Hz	Zone 1: Stereo 7-band. Zone 2: Mono 7-band.
.....Filter Bandwidth	2	3%	oct	
<b>UNIT: Agency Listing</b>				
.....Universal Line Voltage	100-240 VAC, 50/60 Hz			UL/cUL/CE
.....Construction	All Steel			12 watts
.....Size	1.75"H x 19"W x 8.5"D			1U (4.4 cm x 48.3 cm x 21.6 cm)
.....Weight	5 lb			(2.3 kg)
Shipping: Size	4.5" x 20.3" x 13.75"			(11.5 cm x 52 cm x 35 cm)
.....Weight	9 lb			(4.1 kg)

Note: 0 dBu = 0.775 Vrms

Block Diagram

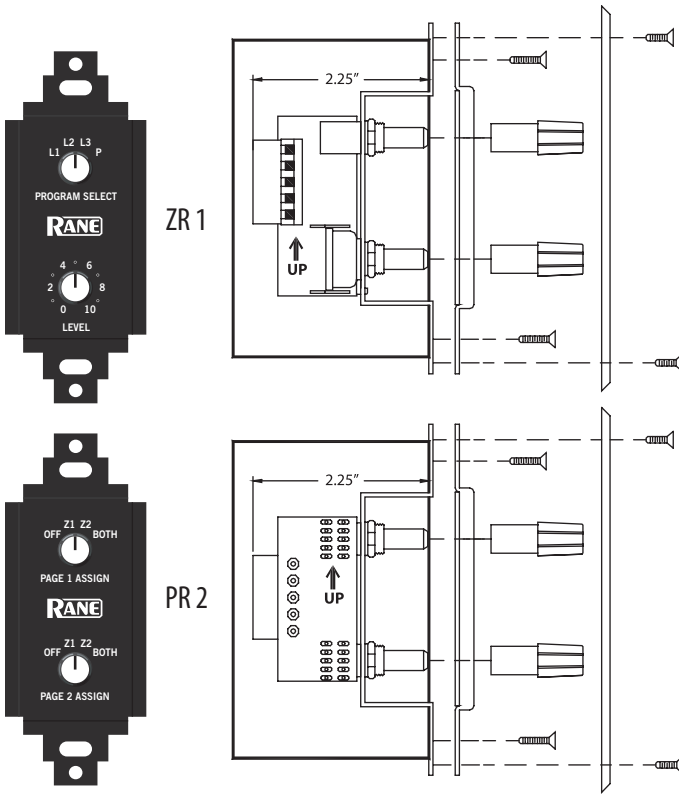


### Remote Controls

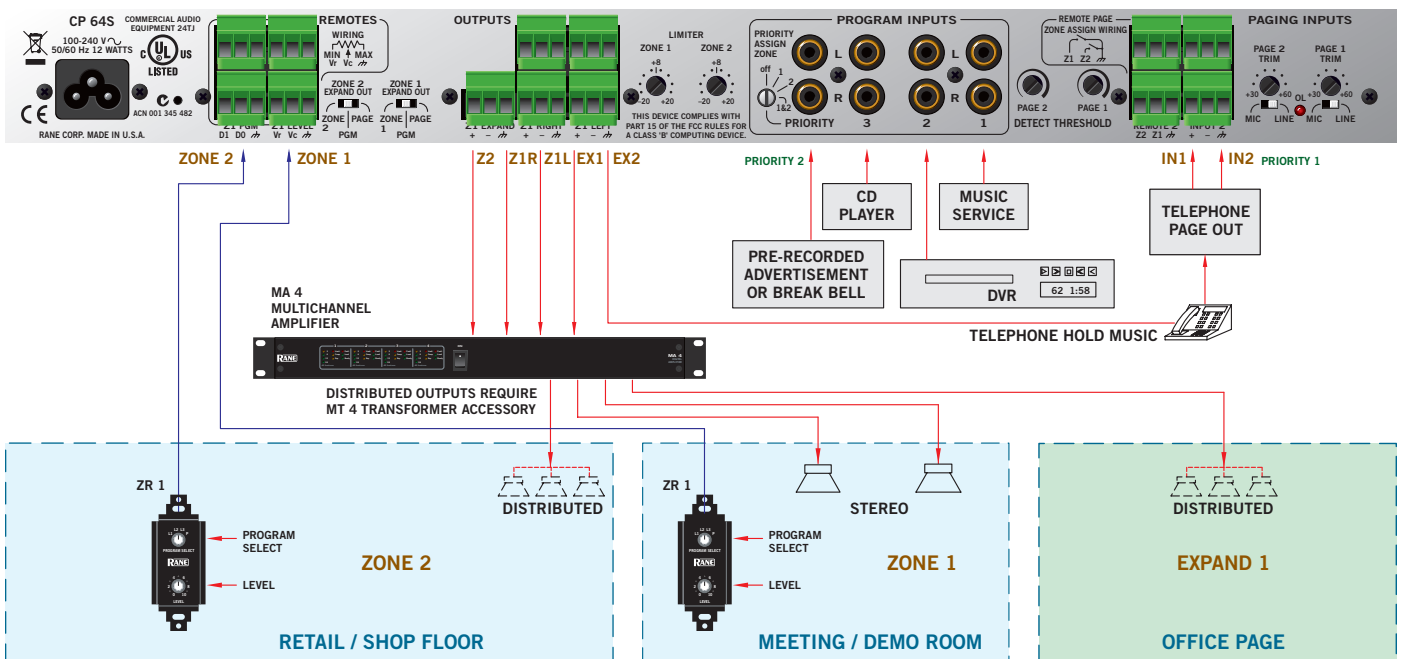
Two optional wired remote control units are available. The PR 2 allows remote control of Page 1 and Page 2 Zone Assign selection. The ZR 1 allows remote control of Zone Level and Zone Program selection. One PR 2 and two ZR 1 remotes may be used with each CP 64S. The PR 2 and ZR 1 may be installed in standard electrical boxes (minimum depth 2.25"). The remotes connect to the CP 64S through Euroblock connectors.

The PR 2 is a 5-wire remote with 2 bits to select Page 1 Assign, one wire for shield/gnd and 2 bits for Page 2 Assign. Selector logic is active low BCD with pull-up provided in the CP 64S. Control may be a simple switch closure to ground or 5 volt TTL. Page 1 and Page 2 bits may be paralleled so that one switch controls both Page Assigns. Remote control is initiated by setting the front panel Paging Zone Assign selector to RMT.

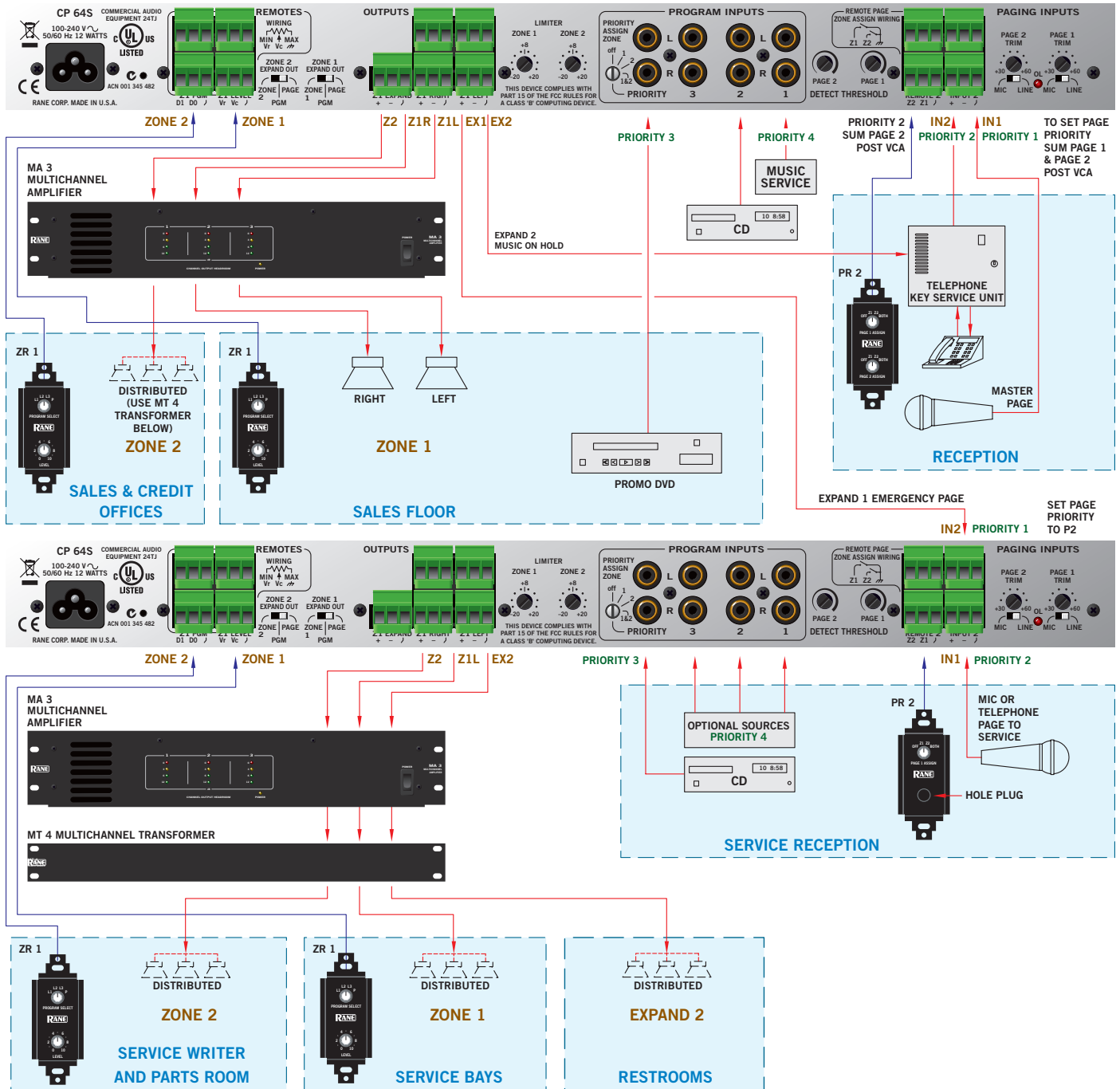
The ZR 1 is a 5-wire remote with 2 bits for Zone Program selection (active low Gray Code), a common shield/ground and two wires for ratiometric DC control of Zone Level. Zone 1 and Zone 2 ZR 1 remote ports may be paralleled so that a single remote controls both Zones. Selector logic is active low Gray Code with pull-up provided in the CP 64S. Control may be a simple switch closure to ground or 5 volt TTL. Remote control for each zone is initiated by engaging the RMT switch (located on the front panel) for that Zone.



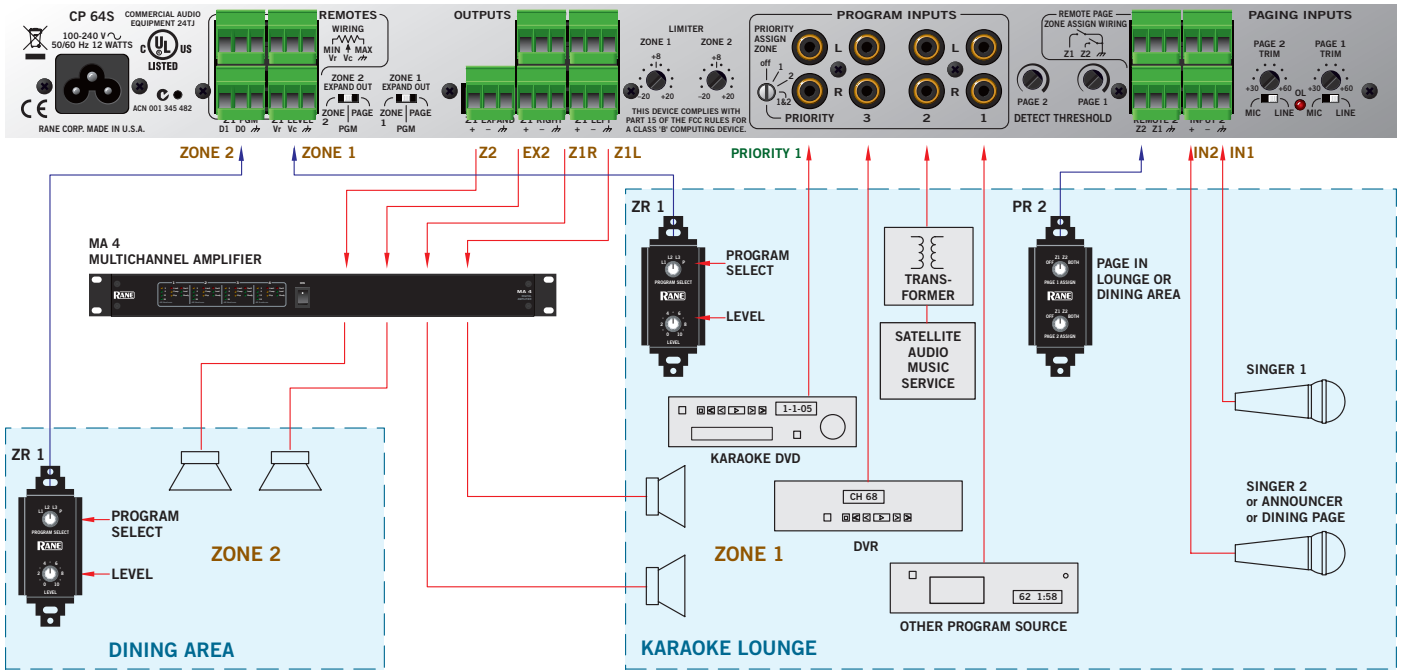
### Example System: Retail Store



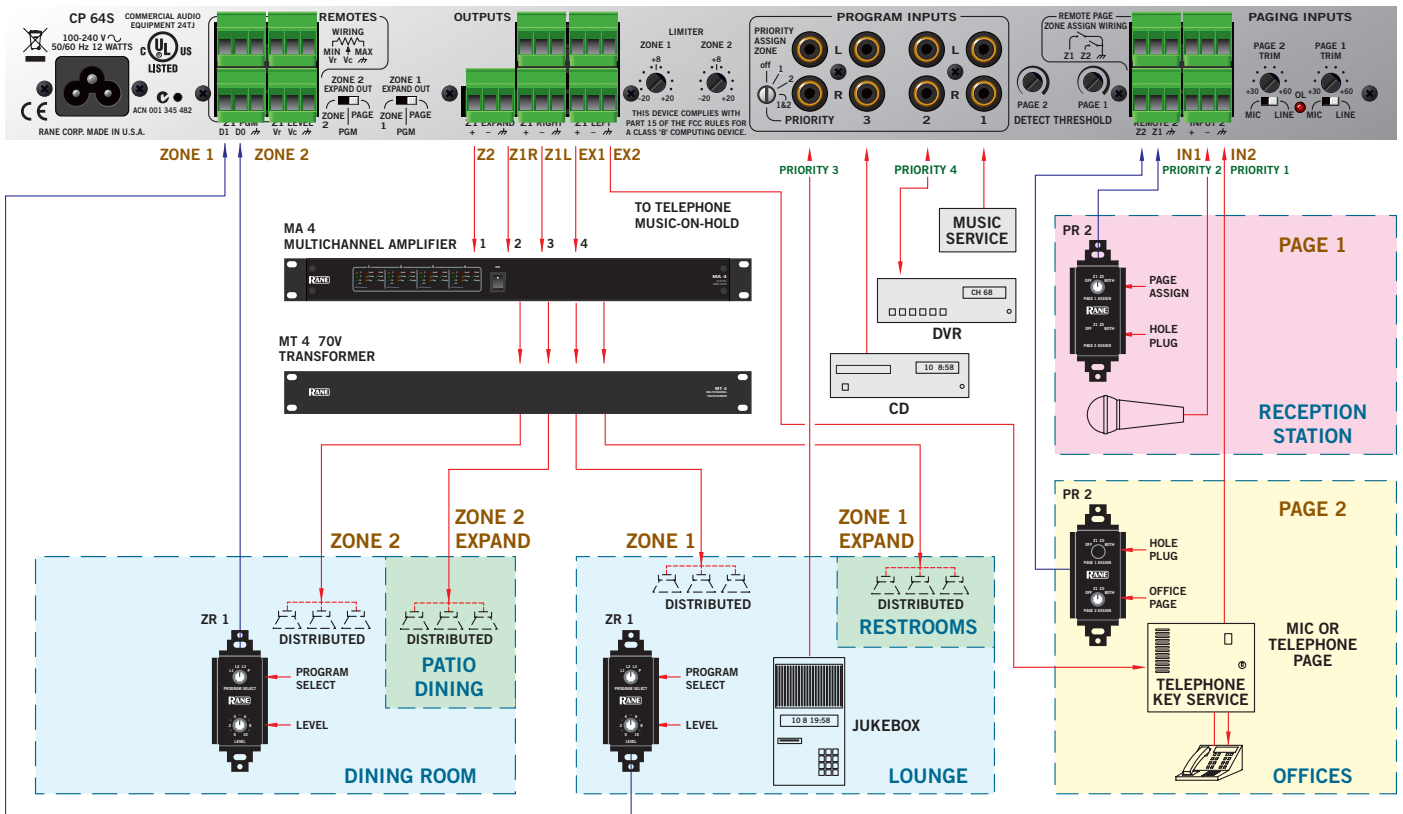
### Example System: Auto Dealer and Service



**Example System: Karaoke Diner**

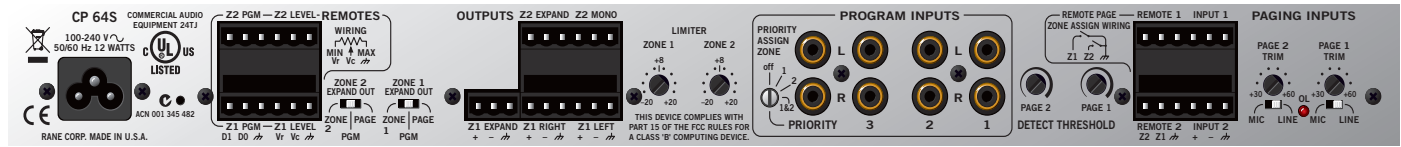


**Example System: Restaurant**





**Rear Panel**



**Euroblocks are included, removed here for visibility.**

**Architectural Specifications**

The processor shall provide two fully independent gated paging inputs, three line-level non-priority program inputs and one gated line-level priority program input. Two zone outputs shall be served. Zone 1 shall be a stereo zone with balanced, cross-coupled outputs. Zone 2 shall be a mono zone with a balanced cross-coupled output. Mono expansion ports for page, program or zone signals shall be provided for each zone. Wired remote control ports shall be provided for paging zone assign, zone program select and zone level.

Page inputs shall use a 5-pin Euroblock connector. Paging controls shall include:

- 30 dB mic/line input pad.
- Input gain trim range of 30 dB to 60 dB.
- Mic gate threshold (range -∞ to +4 dBu).
- 15 volt phantom power (internal switch).
- Paging priority (page 1, none, page 2; internal switch).
- Pre- or post-zone level summing (internal switch).
- Front panel paging zone assign (Remote, Z1, Z2, Both).
- Remote paging zone assign (Off, Z1, Z2, Both).
- Paging zone level.

Each Program input shall have stereo RCA input jacks and independent input level control. The priority program assign switch shall provide priority program override to zone 1, zone 2, both, or neither (off). The gated priority program input shall have internally adjustable threshold and release time controls.

Zone outputs shall use 3-pin Euroblock connectors. Zone controls shall include:

- Ducker on/off
- Ducker depth (-6 to -50 dB)
- Program select (L1, L2, L3, P)
- Zone level
- 7-band graphic equalizer (±12 dB)
- Servo-Locked-Limiter™ threshold (-20 to +20 dBu)
- Mono switch for Zone 1 (internal)
- Remote engage switch

Wired remote ports shall use 3-pin Euroblock connectors. Remote logic shall be active low with internal pull-up. Remote level control shall be ratiometric DC control with 5 volt reference.

The unit shall be capable of operation by means of its own built-in universal power supply operating at 100-240 VAC and meet CE requirements. The unit shall be UL and cUL listed. The unit shall be entirely constructed from cold-rolled steel.

Reliability and efficiency are to be primary design considerations.

*The unit shall be a Rane Corporation CP 64S Commercial Processor.*

**Available Accessories**

- SCP 2 Security Cover (for EQ section)
- SC 1.7 Security Cover (for entire front panel)
- PR 2 Page Assign Remote Control
- ZR 1 Zone Source/Volume Remote Control
- Hole Plugs (6 Provided)