



Optional SCP2S Equalizer-only Security Cover

## General Description

The CP64S is a versatile commercial preamplifier designed for use in restaurants, bars, health clubs and offices. The CP64S 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 CP64S 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.

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 CP64S 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.

Many options allow the installer to determine exactly which controls are employee accessible. The SCP2S is an optional security cover for the CP64S’s front panel EQ section. Any or all other front panel knobs can be removed and replaced with hole plugs — six are included with the SCP2S. Front panel Ducker Depth controls are screw driver adjust. The remote controls allow blank Decora™ plates to be remote control security covers. The remote knobs can also be individually replaced with hole plugs.

## Features

- Two fully independent gated Mic/Line Paging Inputs
- Paging Priority Assign
- Page Ducking
- Page / Program / Zone Expansion
- Three stereo Program Inputs
- One gated stereo Priority Program Input
- 7-Band graphic EQ for each Zone
- Servo-Locked-Limiter™ for each Zone
- Optional SCP2S Security Cover for EQ section only
- Optional PR2 Remote Page Assign Remote
- Optional ZR1 Remote Zone Level/Program Select Remote
- Universal Internal Power Supply (100-240 VAC)



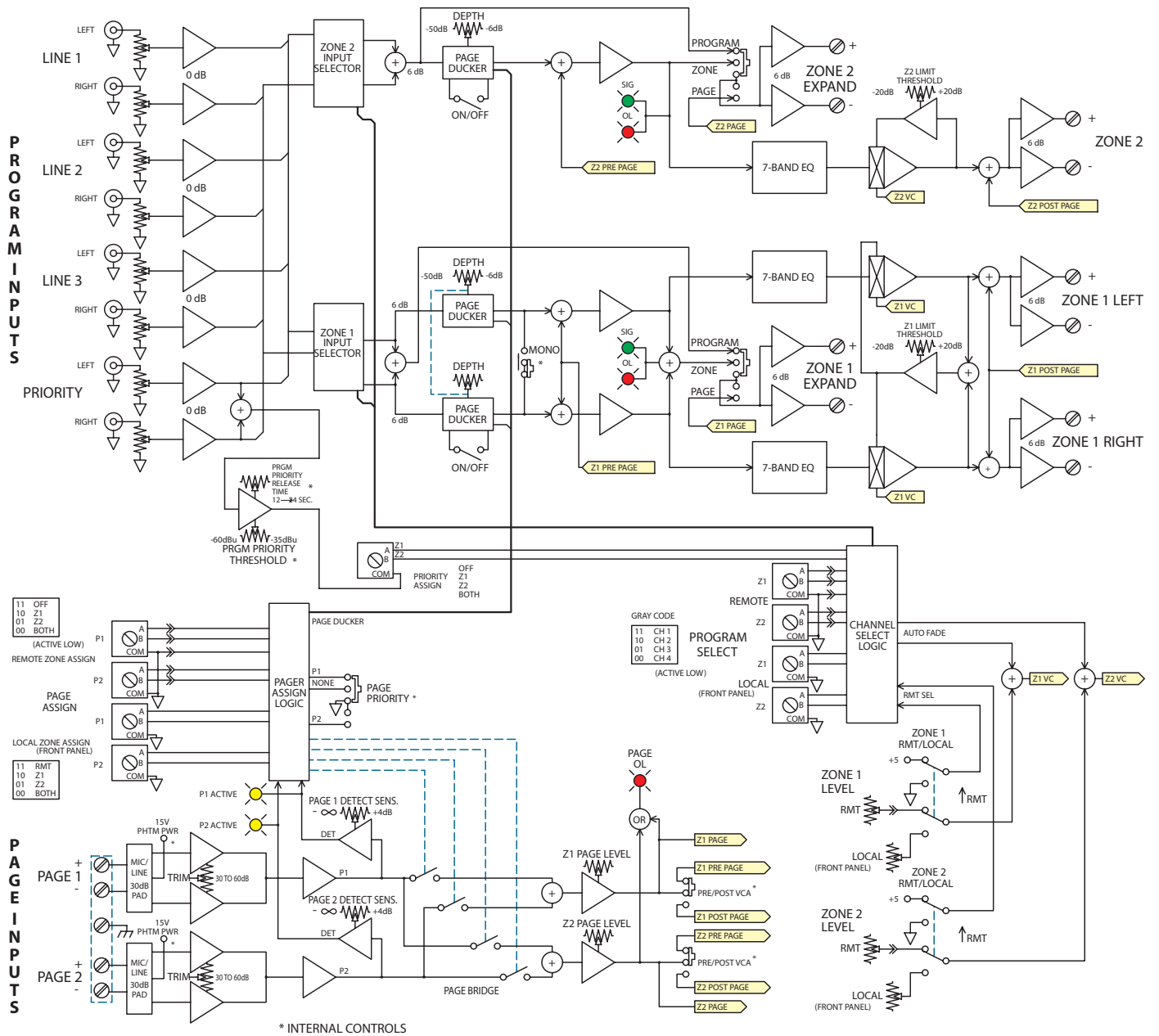
**Features and Specifications**

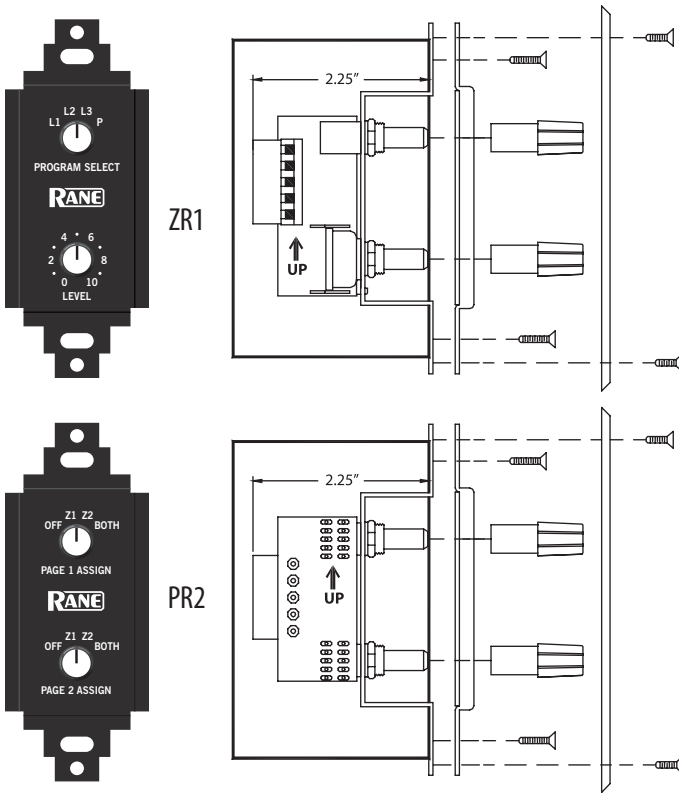
| Parameter                     | Specification   | Limit | Units | Conditions/Comments   |
|-------------------------------|---|-------|-------|---|
| <b>MIC/LINE PAGING INPUTS</b> | Two mono  |       |       | All controls duplicated for both inputs   |
| .....Input Type               | Euroblock   |       |       | 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;<br>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)<br>NO (none)<br>P2 (Page 2)                       | 1     | dBu   | Priority pager overrides non-priority pager only<br>in assigned zones; Selecting NONE allows the<br>two pagers to mix.                    |
| .....Paging Zone Level Adjust | off to 0  |       | dB    | Independent for each Zone   |
| .....Page Remote Selector     | 11 = Off<br>10 = Z1 (Zone 1)<br>01 = Z2 (Zone 2)<br>00 = Both | 1     | dBu   | Internal pull-up. Active low;<br>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<br>Program only<br>Page only                             |       |       | Note: If a Page signal is summed Post-VCA, it<br>is not present on the Expand Zone output. It is<br>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 $\Omega$ , ch/ch   |
| .....Output impedance                 | 100  | 1%    | $\Omega$ | Each leg   |
| .....Maximum Output                   | +24 dBu  | typ   |          | Ri: 2 k $\Omega$   |
| <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 $\Omega$ , (L/R or ch/ch)  |
| .....Output impedance                 | 100  | 1%    | $\Omega$ | Each leg   |
| .....Maximum Output                   | +20  | typ   | dBu      | Ri = 600 $\Omega$  |
| .....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<br>10 = L2<br>00 = L3<br>01 = P                      |       |          | Internal pull-up. Active low.<br>Switch closure to ground or 5 volt TTL.<br>Gray Code logic.       |
| .....Zone RMT Volume<br>(RMT engaged) | Attenuation = 64 mV/dB<br>Range 0 V to +5 V (0 dB to -78 dB) |       |          | Control element: 2 k $\Omega$ pot, reverse-log taper;<br>Or any ground referenced 0-5 VDC control. |
| .....Off Isolation                    | -80  | typ   | dB       | 1 kHz, Rs: 25 $\Omega$   |
| <b>EQ CIRCUITS</b>                    |  |       |          |  |
| .....Boost/Cut Range                  | +12 to -12   | .5    | dB       |  |
| .....ISO Center Frequencies           | 40, 100, 250, 630, 1.6k,<br>4k, 10k                          | 3%    | Hz       | Zone 1: Stereo 7-band.<br>Zone 2: Mono 7-band.   |
| .....Filter Bandwidth                 | 2  | 3%    | oct      |  |
| <b>UNIT: Conformity</b>               |  |       |          |  |
| .....Universal Line Voltage           | 100-240 VAC, 50/60 Hz  |       |          | 12 watts   |
| .....Construction                     | All Steel  |       |          |  |
| .....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

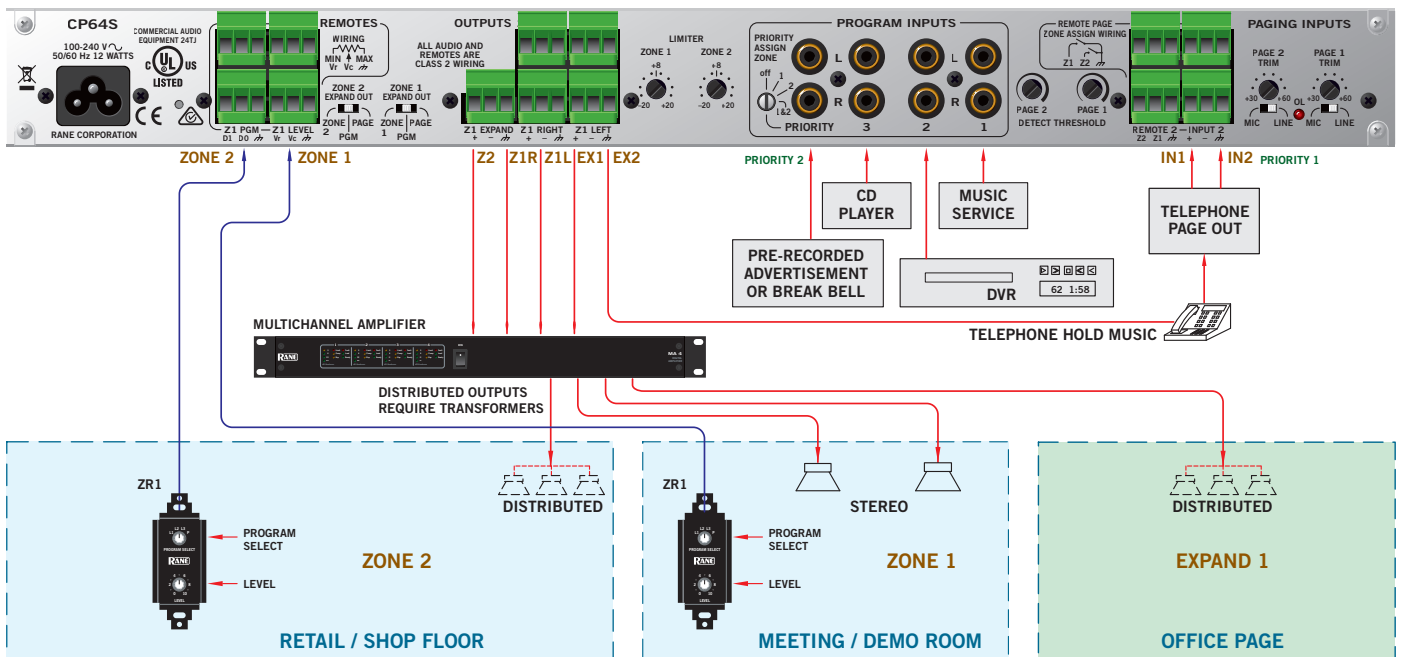
Two optional wired remote control units are available. The PR2 allows remote control of Page 1 and Page 2 Zone Assign selection. The ZR1 allows remote control of Zone Level and Zone Program selection. One PR2 and two ZR1 remotes may be used with each CP64S. The PR2 and ZR1 may be installed in standard electrical boxes (minimum depth 2.25"). The remotes connect to the CP64S through Euroblock connectors.

The PR2 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 CP64S. 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.

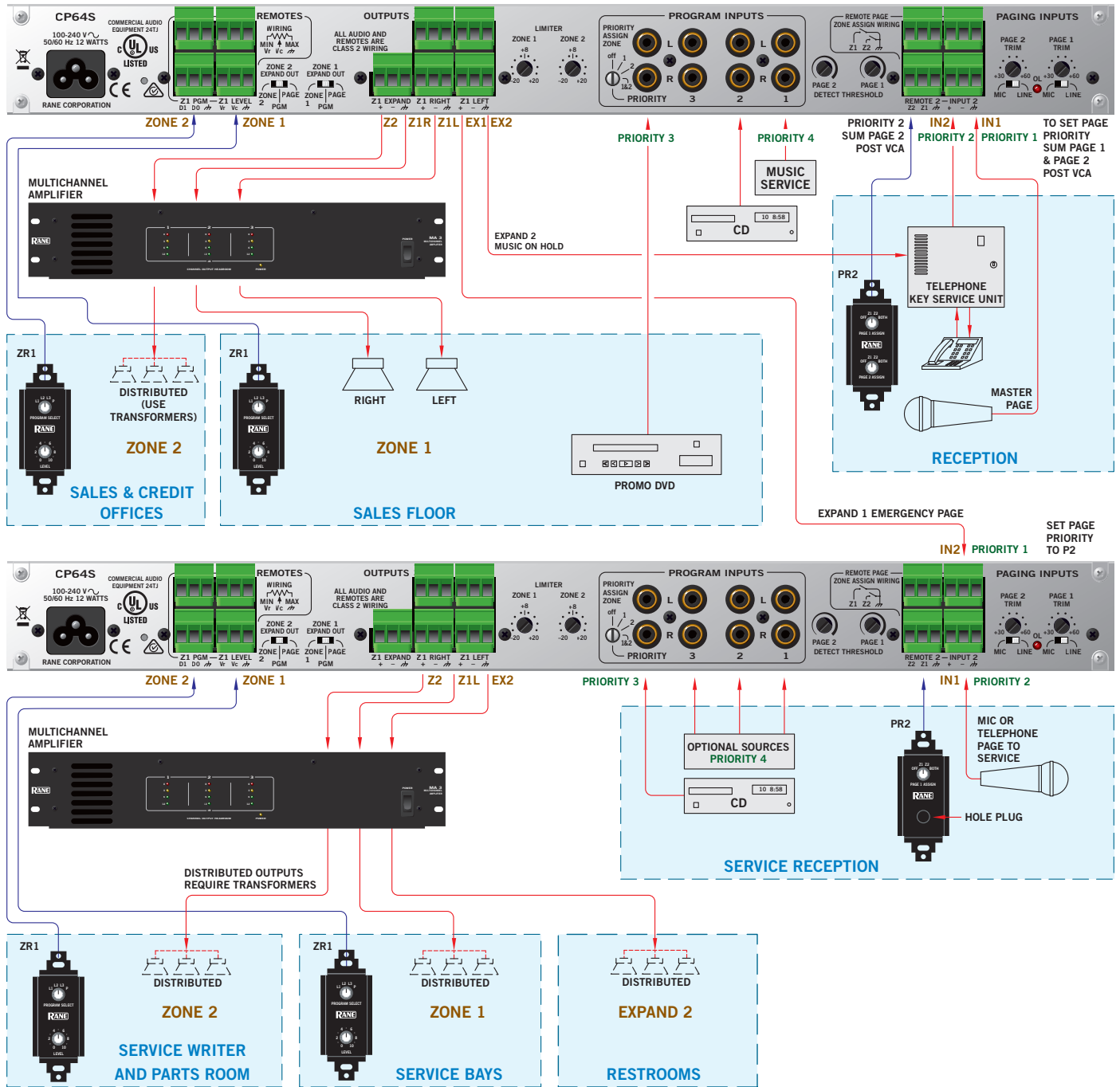
The ZR1 is a 5-wire remote with 2 bits for Zone Program selection (active low Gray Code), a common shield/ground and two wires for ratiometric DC control of Zone Level. Zone 1 and Zone 2 ZR1 remote ports may be paralleled so that a single remote controls both Zones. Selector logic is active low Gray Code with pull-up provided in the CP64S. 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.

For installations that require a volume remote but don't need the program selection of the ZR1, Rane makes the model VR1 Volume Remote.

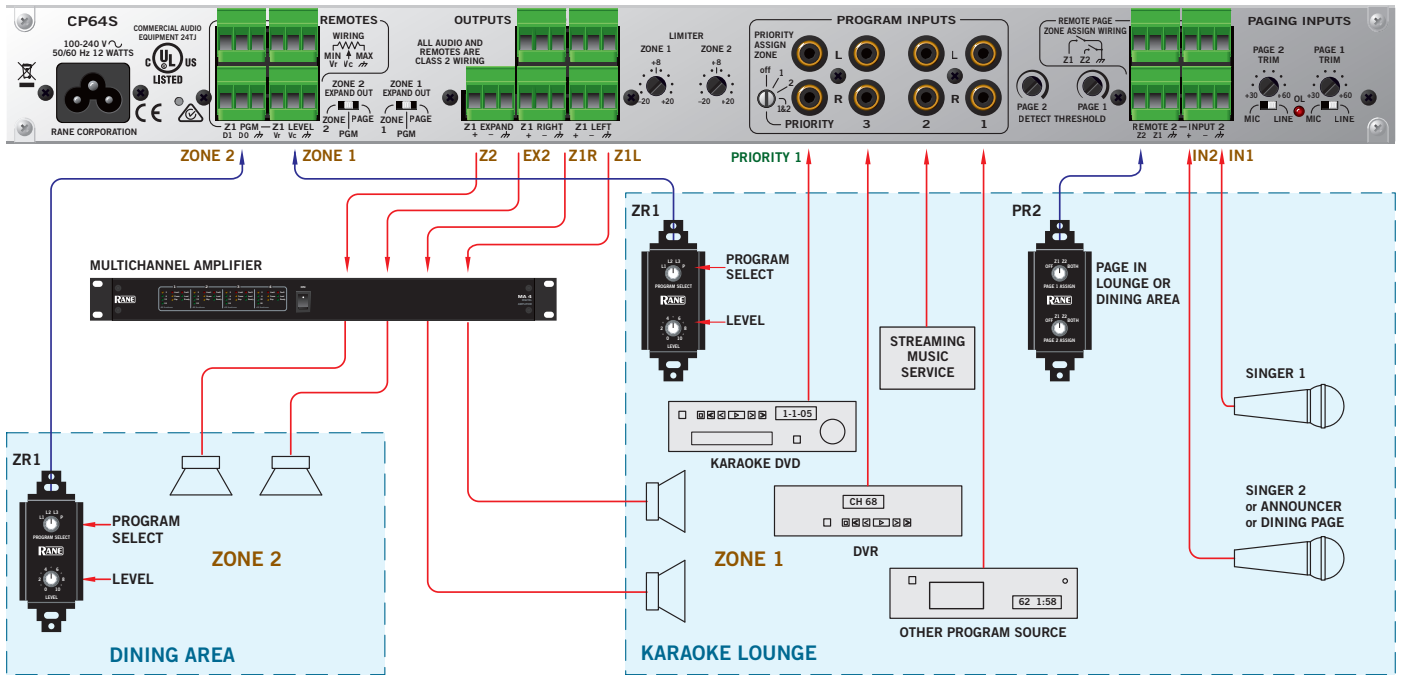
### Example System: Retail Store



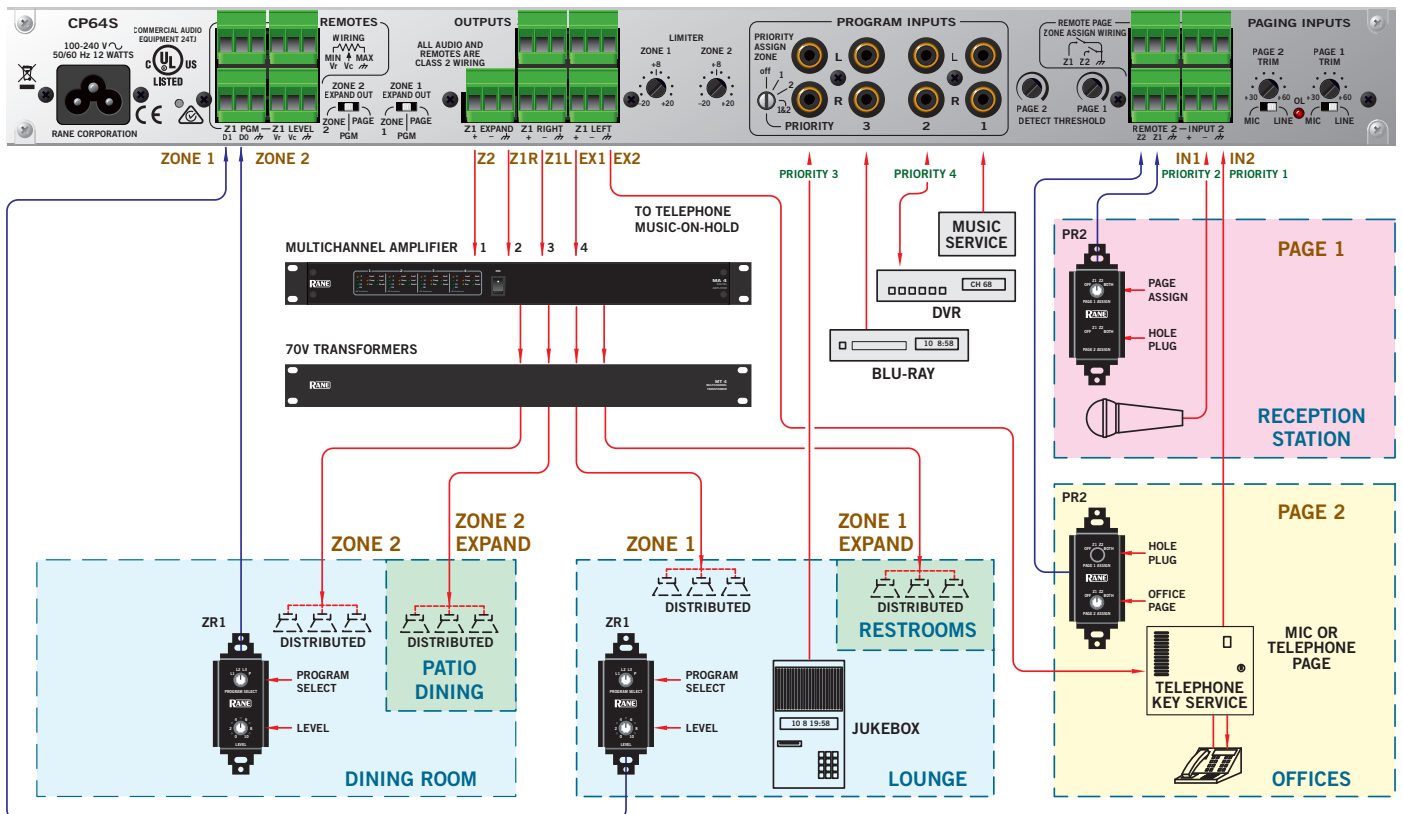
**Example System: Auto Dealer and Service**



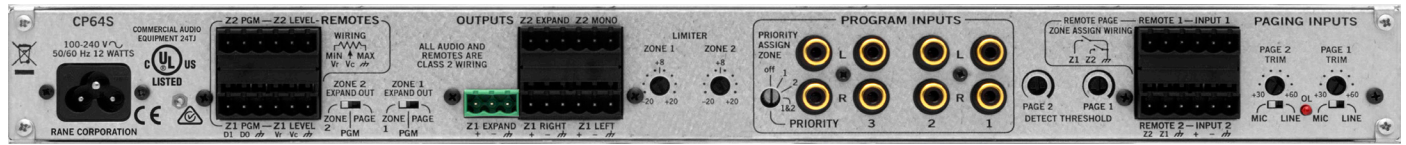
## Example System: Karaoke Diner



## Example System: Restaurant



**Rear Panel**



**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 CP64S Commercial Processor.*

**Available Accessories**

- SCP2S Security Cover (for EQ section)
- PR2 Page Assign Remote Control
- ZR1 Zone Source/Volume Remote Control
- VR1 Volume Remote Control
- Hole Plugs (6 Provided with SCP2S)