General Description

The CP52S is a versatile commercial preamplifier designed for use in restaurants, bars, health clubs and offices. The CP52S serves one stereo Zone. One gated Paging Input and four stereo Program Inputs are provided. A Port allows expansion of Page, Program or Zone signals. Three levels of priority are supported:
1. Page
2. Program Priority
3. Non-Priority Program

The Paging Input is summed after Zone Level, Zone EQ and Zone Limiter circuits. If the Page Level Tracks Zone Level switch is *on*, the Page level tracks the Zone Level.

One of four stereo Program Inputs may be selected. Each line level Program Input features an independent Level control.

A gated Program Priority Input is provided. When the rear panel Priority switch is ON and signal is detected at the Priority Input, it overrides any non-priority Program selection. The detector features adjustableDetect Threshold and Release Time controls.

The SCP1S is an optional EQ-slider-only security cover. Any front panel control knobs may be removed and replaced with hole plugs provided with the SCP1S.

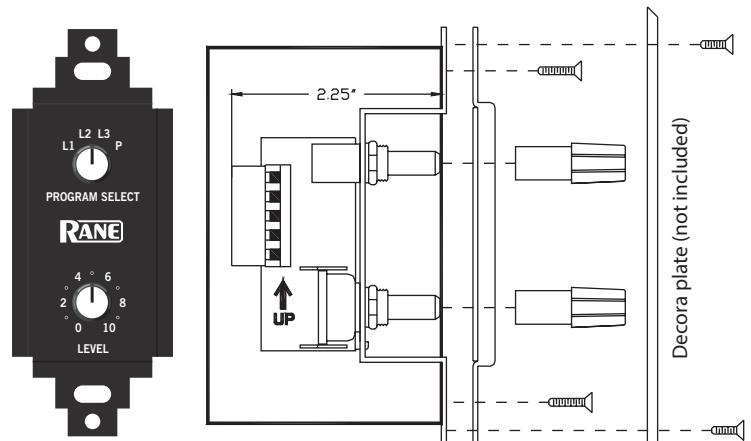SCP1S Equalizer Security Cover

Gated Paging Circuit Features

• Mic/Line Selection with Gain Trim

• Phantom Power Switch

• Low / High Cut Filter Switch

• Adjustable Detector Threshold with Active LED

• Paging Level Control

• Switchable Page Level Tracks Zone Level

• Page Input Servo-Locked™ Limiter

Zone Output Features

• Level Control

• 1 of 4 Program Select

• Ducker On/Off with Depth Control

• Output Servo-Locked™ Limiter

• 7-Band Equalizer (±12 dB)

• Wired Zone Remote Port for Level and Program Selection

Special Features

• Page Initiated Program Ducking

• Gated Stereo Program Priority Input

• Page/Program/Zone Expansion with Level Control

• Universal internal switching power supply (100-240 VAC)

ZR1 Remote Control

The optional ZR1 wired Remote Control allows Zone Level and Zone Program selection of the CP52S from within the Zone area. Remote control is initiated by engaging the RMT switch (located on the CP52S front panel). The ZR1 may be installed in a standard electrical box as shown in the diagram to the right.

The ZR1 connects to the CP52S through a 5-pin Euroblock connector. The remote uses 5 wires with 2 bits for Zone Program selection (active low Gray Code), a common shield/gnd and two wires for ratiometric DC control of Zone Level. Selector logic is active low Gray Code with pull-up provided in the CP52S. Control may be a simple switch closure to GND or 5 volt TTL.

Data Sheet-1

CP52S
COMMERCIAL PROCESSOR

RANE

Parameter	Specification	Limit	Units	Conditions/Comments
MIC/LINE PAGING INPUT				
..........Input Type	Balanced			Instrumentation amplifier
..........RFI Filter	Yes			
..........Gain range	+30 to +60	2	dB	Continuously adjustable
..........Frequency Response	30 to 40k	typ	Hz	Maximum gain, +0, -3 dB
..........Input Referred Noise	-125	1	dBu	Gain: 60 dB, Rs:150 Ω, BW: 20 kHz
..........CMRR	40	min	dB	20 Hz to 20 kHz
..........THD+NS	.05	.01	%	Gain: 30 dB, +4 dBu out, 1 kHz, BW: 80 kHz
..........Phantom Power	+15	4%	VDC	
..........“Mic” Input impedance	500	1%	Ω	Each leg to ground
..........Line Pad	30	1	dB	Defeats phantom power
..........“Line” Input impedance	14.5k	1%	Ω	Each leg to ground
..........Signal Detector Attack	10	typ	msec	Fixed; 10 dB overdrive
..........Signal Detector Release	3	typ	sec	Fixed
..........Overload Detector	+16	1	dBu	4 dB before clipping
..........Low Cut / Hi Cut Filters	100 & 7k	5	Hz	Selectable In/Out
..........Paging Zone Level Adjust	Off to 0		dB	
..........Page Limiter: Threshold Range	-20 to +20	typ	dBu	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
PROGRAM INPUTS				All controls duplicated for each input
..........Number of Inputs	Four			Stereo
..........Input Type	Unbalanced			RCA connector
..........Input Level Adjust	Off to 0		dB	
..........Frequency Response	10 to 50k	typ	Hz	+0, -3 dB
..........Input Impedance	10k	20	Ω	
..........Priority Program Input				
...............Input Detector Range		typ	dBu	On rear panel; factory set to -50 dBu
...............Release Time Range	5 to 20	typ	sec	On rear panel; factory set to 15 seconds
...............Attack Time	50	typ	msec	For a 20 dB step; fixed
OUTPUTS: Type	Balanced			Euroblock connector
..........Zone Out Gain: Program In	16	1	dB	100 kΩ load
...............From Page Inputs	6	1	dB	
..........Expand Out Gain: Zone	16	1	dB	100 kΩ load
...............From Page or Program In	6	1	dB	
..........Frequency Response	10 to 40k	typ	Hz	+0, -3 dB
..........S/N	84	min	dBr	re +4 dBu; BW: 20 Hz-20 kHz
..........THD+N	.1	max	%	+4 dBu, 1 kHz, BW: 80 kHz
..........Crosstalk	-75	max	dB	1 kHz, Rs: 25 Ω, (L/R)
..........Output Impedance	100	1%	Ω	Each leg
..........Zone Maximum Output	20	typ	dBu	RL: 600Ω
..........Expand Maximum Output	24	typ	dBu	RL: 2 kΩ
..........Signal Present	-20	typ	dBu	Maximum

| Parameter	Specification	Limit	Units	Conditions/Comments
..........Overload Detector	+16	typ	dBu	4 dB before clipping
..........Ducker: Depth Range	-50 to -6	typ	dB	Continuously adjustable
...............Ramped Release	10	typ	sec	To full output level
..........Limiter: Threshold Range	-20 to +20	typ	dBu	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
EQUALIZER: Boost/Cut Range	±12	.5	dB	
..........ISO Center Frequencies	1 1/3	typ	oct	
UNIT: Maximum Power	12		W	
..........Universal Line Voltage	100-240		VAC	50/60 Hz
..........Conformity	CE, FCC, cULus			
..........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

CP52S
COMMERCIAL PROCESSOR

RANE
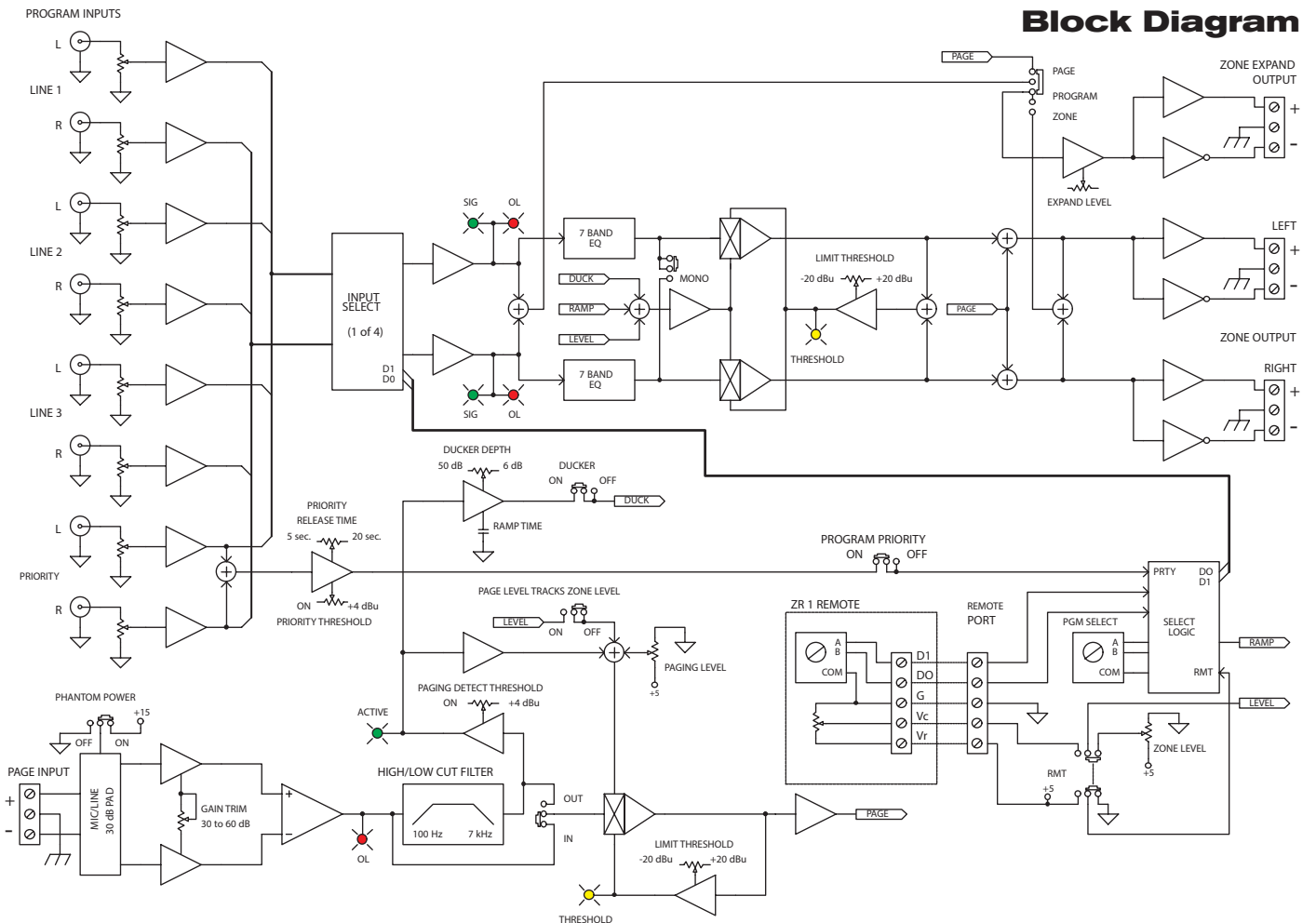
Example System Diagram
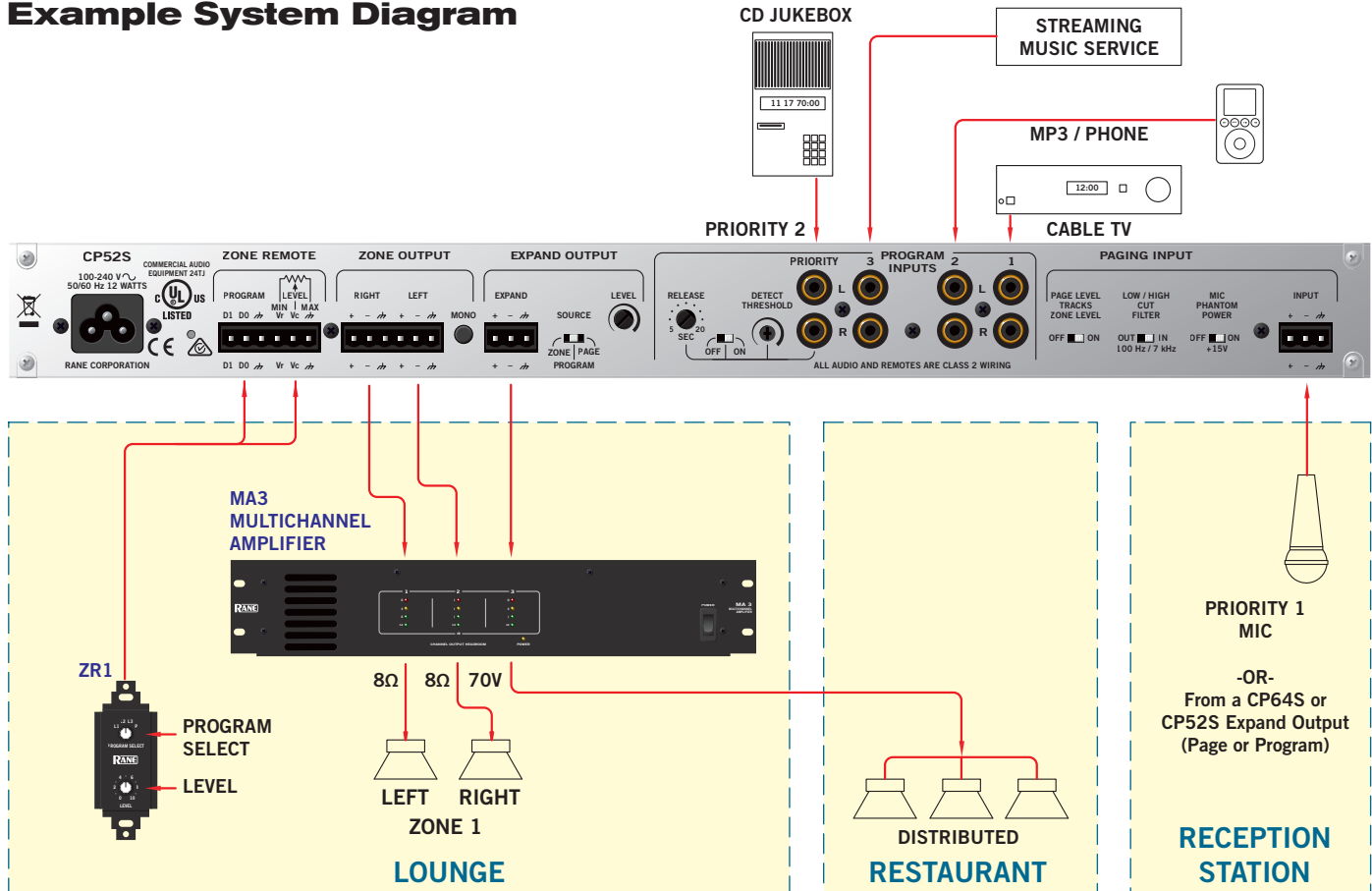
Architectural Specifications

The CP52S Processor shall provide a gated paging input, three line-level non-priority program inputs and one gated line-level priority program input. One stereo zone shall be served. A port with independent level control shall be provided for mono page, program or zone signal output. A wired remote control port shall be provided for zone program selection and level.

The page input shall use a 5-pin euroblock connector. Fully adjustable paging controls shall include page level, switchable phantom power, 30 dB mic/line input pad plus 30 dB gain trim, gate and limiter with threshold controls, low/high cut filter switch, and a switch linking page level to zone level.

Each program input shall have stereo RCA jacks and an independent level control. The gated program priority input shall have adjustable threshold and release time controls.

Zone outputs shall use 5-pin euroblock connectors. Zone controls shall include program select, switchable ducker with depth, graphic equalizer, Servo-Locked™ Limiter with threshold control, and mono output switch.

The ZR1 wired remote port shall use a 5-pin euroblock connector. Remote logic shall be active low gray code 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 (pending). The unit shall be UL and cUL listed (pending). The unit shall be entirely constructed from cold-rolled steel.

The unit shall be a Rane Corporation CP52S Commercial Processor.

Available Accessories

- ZR1 Zone Source/Volume Remote Control
- SCP1S Equalizer section-only Security Cover with Hole Plugs

  (individual control security, 6 provided)

All features & specifications subject to change without notice. 9-2015