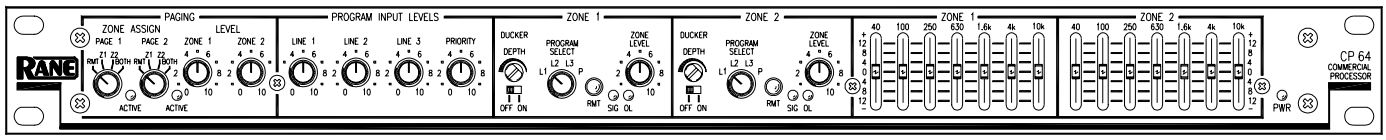


General Description

The CP 64 is a versatile commercial preamplifier designed for use in restaurants, bars, health clubs and offices. The CP 64 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 64 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 CP 64 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 (±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 64'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.

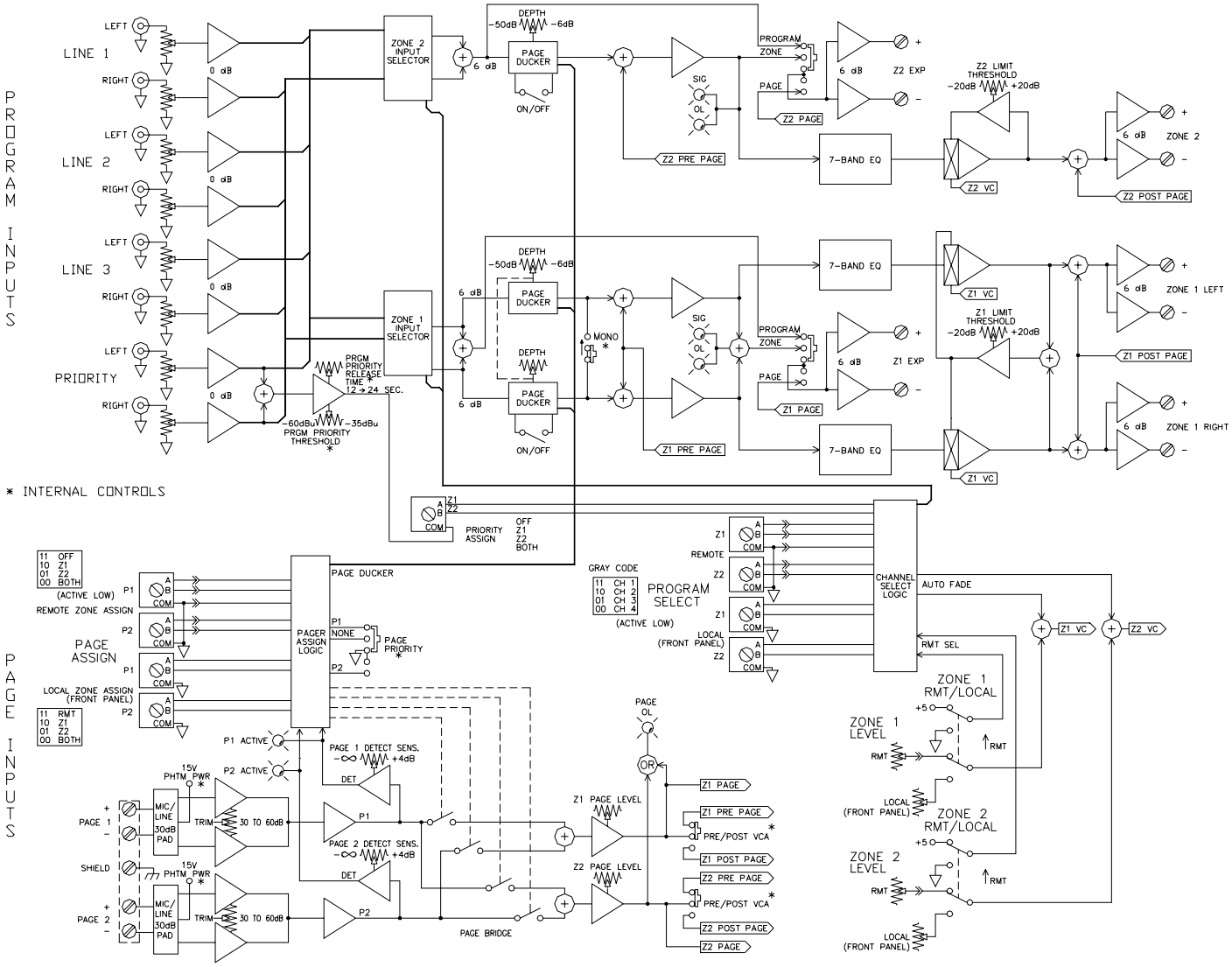
Features

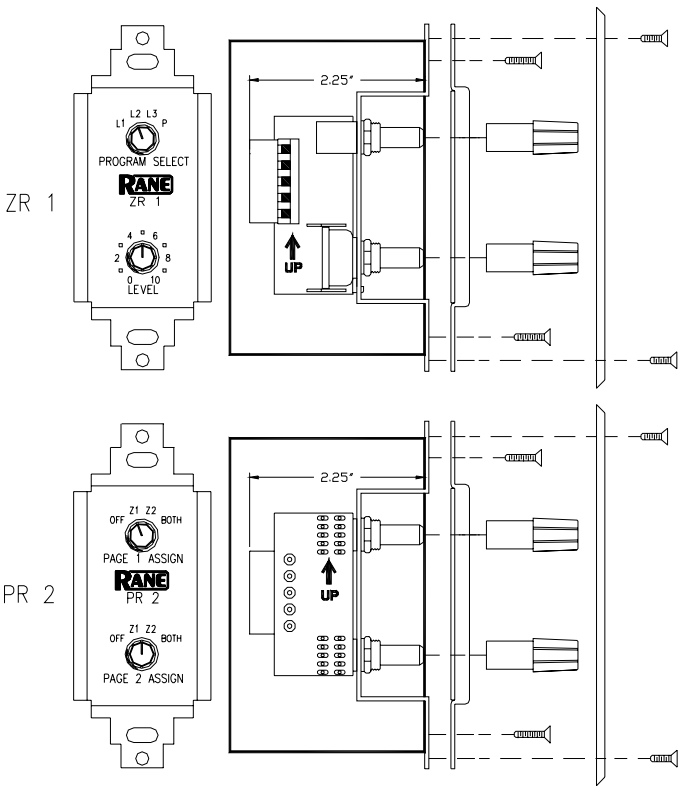
- *New!* Faster Page Mic Detection (.5 ms)
- Two fully independent gated Mic/Line Paging Inputs
- Paging Priority Assign
- Page Ducking
- Three Stereo Program Inputs
- One gated Stereo Priority Program Input
- Page/Program/Zone Expansion
- 7-Band Graphic EQ for Each Zone
- Servo-Locked-Limiter™ for Each Zone
- PR 2 Remote Page Assign Controller Available
- ZR 1 Remote Zone Level/Program Select Controller Available
- UL/CSA/CE and 100/120/230 VAC Remote Power Supplies

Parameter	Specification	Limit	Units	Conditions/Comments
MIC/LINE PAGING INPUTS				All controls duplicated for both inputs
.....Number of inputs	Two			Input connector: Euroblock
.....Input Type	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 ohms, 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%	ohms	Each leg to GND
.....Line Pad	30	1	dB	
.....Line Input impedance	14.5k	1%	ohms	Each leg to GND. 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 GND or 5 volt TTL logic.
.....Pre/Post Paging assign	Summed with program Pre VCA or Post VCA			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 GND or 5 volt TTL logic
PROGRAM INPUTS				All controls duplicated for all four inputs
.....Number of inputs	Four			Stereo
.....Input Type	Unbalanced			RCA input connector
.....Input Level adjust	off to 0		dB	
.....Frequency Response	10 Hz to 50 kHz	+0/-3	dB	
.....Input impedance	10 k	20%	ohms	
.....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			
EXPAND OUTPUTS				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	
.....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: 25W, ch/ch
.....Output impedance	100	1%	ohms	Each leg
.....Maximum Output	+24 dBu	typ		Ri: 2 k ohms

Parameter	Specification	Limit	Units	Conditions/Comments
ZONE OUTPUTS				
.....Number of outputs	Two			Zone 1 Stereo, Zone 2 mono
.....Output Type	Balanced			Euroblock connectors; 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 ohms, (L/R or ch/ch)
.....Output impedance	100	1%	ohms	Each Leg
.....Maximum Output	+20	typ	dBu	Rl = 600 ohms
.....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
PROGRAM SELECTION				
.....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 GND 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: 2k ohm pot, reverse-log taper; Or any GND referenced 0-5 VDC control.
.....Off Isolation	-80	typ	dB	1 kHz, Rs: 25 ohms
EQ CIRCUITS				
.....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	
Unit: Agency Listing				
.....120 VAC model	Class 2 Equipment			National Electrical Code
	UL			Exempt Class 2 equipment
	CSA			Exempt Class 2 equipment
.....230 VAC model	CE-EMC			EMC directive 89/336/EEC
	CE-Safety Exempt			Per Article 1 of LVD 73/23/EEC
Power Supply: Agency Listing				
.....120 VAC model	UL			File No. E88261
	CSA			File No. LR58948
.....230 VAC model	CE-EMC			EMC directive 89/336/EEC
	CE-Safety			LVD directive 73/23/EEC
Power Supply Requirements	18 VAC w/ center tap	.1	Vrms	RS 1 (see data sheet)
Maximum Current	750		mA	RMS current from Remote Supply
Unit: 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 (w/o power supply)			(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				

CP 64 Block Diagram





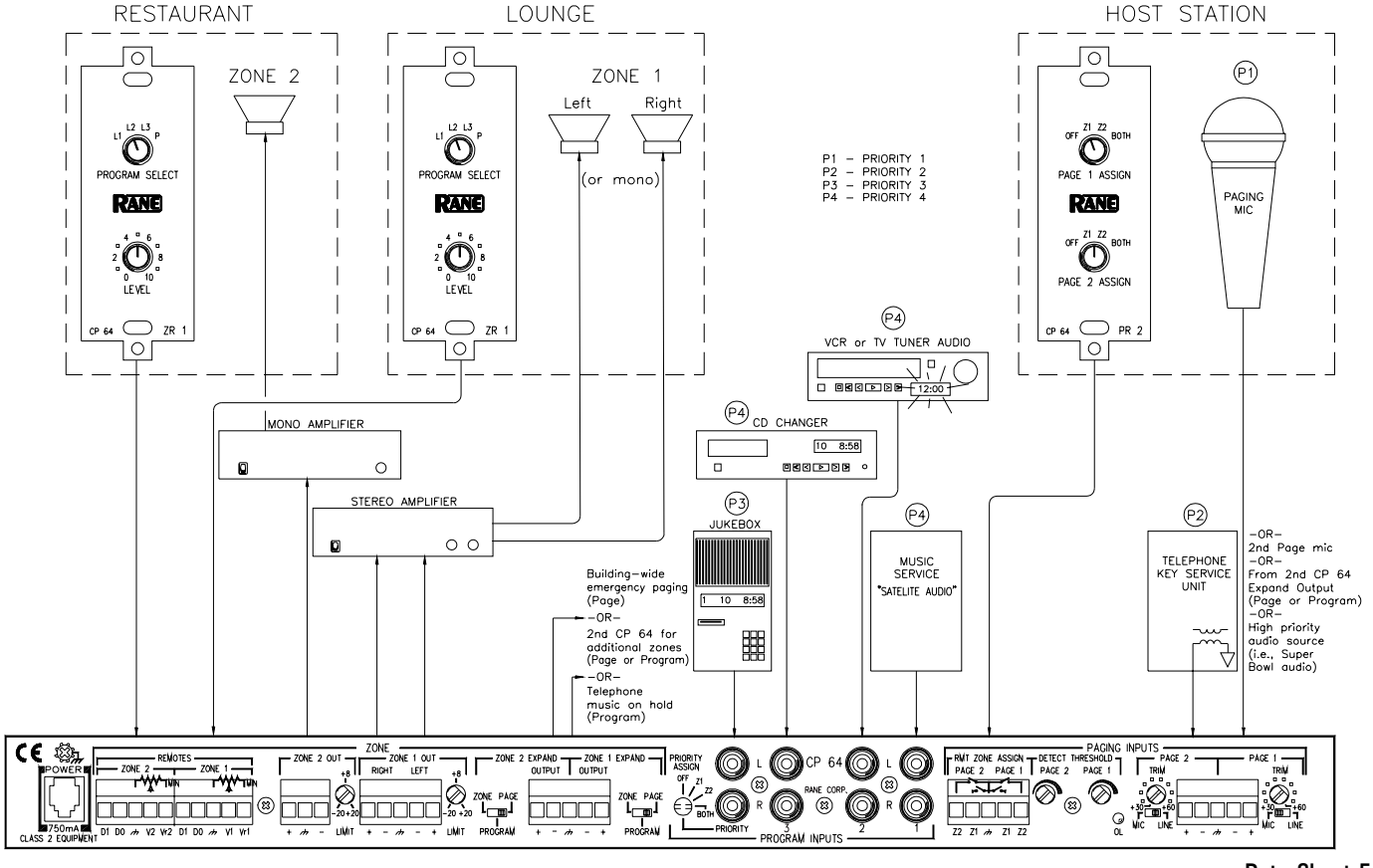
Remote Controlling the CP 64

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 64. The PR 2 and ZR 1 may be installed in standard electrical boxes (minimum depth 2.25"). The remotes connect to the CP 64 through 5-pin Euroblock connectors.

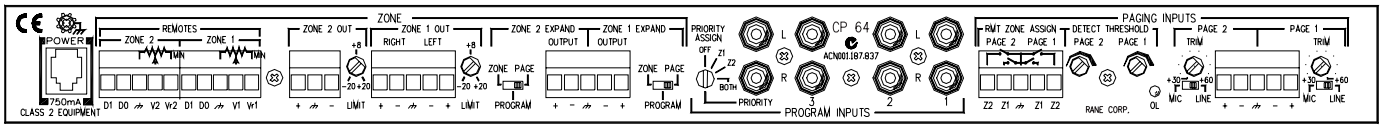
The PR 2 is a 5-wire remote with 2 bits to select Page 1 Assign, one wire for shield/gnd and 2 bits for Page 2 Assign. Selector logic is active low BCD with pull-up provided in the CP 64. Control may be a simple switch closure to GND or 5 volt TTL. Page 1 and Page 2 bits may be paralleled so that one 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/gnd 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 64. Control may be a simple switch closure to GND 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 — Restaurant / Lounge



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 Zones 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 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 (RMT, 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 5-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 EQ (±12 dB)
- Servo-Locked-Limiter™ Threshold (-20 to +20 dBu)
- Mono switch for Zone 1 (internal)
- Remote Engage switch

Wired Remote Ports shall use 5 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 exempt from agency safety requirements and powered from a UL listed, CSA certified remote power supply (meeting CE-EMC requirements for 230 VAC). Components shall mount on double sided, through-hole-plated, G10FR Epoxy board. The chassis shall be constructed entirely from cold-rolled steel, and mount into a standard EIA relay rack occupying one rack space.

Reliability and Efficiency are to be primary design considerations.

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

Available Accessories

- SC 1.7 Security Cover
- PR 2 Page Assign Remote Control
- ZR 1 Zone Source/Volume Remote Control
- Hole Plugs (6 Provided)