

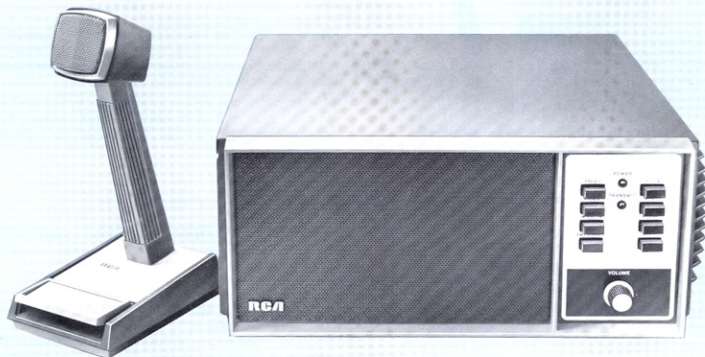
Low Band—55 watts
(30-50 MHz)

High Band—1, 2.5, 25, 35 watts
(132-174 MHz)

UHF Band—25 watts, 2-25 watts
(406-420, 450-512 MHz)

**ML
1000**

**Desk Top
Base Stations**



FEATURES

COMPACT, COMPLETE PACKAGE—The ML1000 desktop base station answers all the requirements for small and medium sized dispatch operations in one economical unit. Its small size fits conveniently on a desk, table or shelf.

These units are ideal as control stations for systems using repeaters, including community repeaters. In the UHF model, transmit frequencies can be spaced 5 MHz apart for repeater talk-around capability. You can communicate directly to your mobiles as well as through a repeater.

100% SOLID STATE circuitry provides reliable operation with a minimum of internal heat generation. Performance degradation with age is minimized. The efficient design consumes less power in both standby and transmit modes.

- Low 2% transmitter audio distortion provides clear reception by your mobiles.
- High receiver selectivity and sensitivity brings in transmissions from your mobiles over a wide area.

112C

RCA

C.4804

FEATURES

MULTIPLE OPERATIONAL CAPABILITIES

- You can choose models from single channel up to four channels. Any combination of up to four transmit and receive frequencies is possible in four-channel models. Adding frequencies as your system needs grow is a simple matter of adding a plug-in temperature controlled crystal oscillator (TCXO) for each frequency.
- LOCAL CONTROL models contain all the operational controls on the front panel, and are supplied with an attractive desk microphone. These models are also capable of EXTENDED

LOCAL CONTROL from as far as 200 feet away, by adding one or more of the RCA CC21, CC71 or CC81 control units.

- REMOTE CONTROL models for up to two channels can be controlled from as far as 10 miles by using one or more of the RCA CC22, CC72 or CC82 remote control units.
- LOCAL/REMOTE CONTROL operation is possible with any of the remote control models to give the advantages of both modes in one unit.
- ML1000 desktop repeater stations are available on special order.

LOW POWER models are available in the high band and UHF band. The low power high band model is rated at 2.5 watts output, but can be adjusted for 3 watts input power (1 watt output) to meet the FCC requirements for low power industrial operation. This unit is ideal for limited range applications such as industrial

plants, lumberyards, material handling operations, parks and many other operations.

A variable power option is available in the UHF model to provide from 2 to 25 watts of output power, to allow compliance with the FCC "6 dB rule" for repeater control stations.

ML1000 OPTIONS

QUIET CHANNEL tone-coded squelch system minimizes the reception of messages from other radio systems on the same channel. Only messages using your tone frequency are heard. Built-in circuitry eliminates the annoying "squelch tail" noise burst often heard in tone squelch systems. Local control Quiet Channel stations are supplied with a microphone with a "monitor" switch which disables the Quiet Channel circuitry prior to transmission.

NOISE CLIPPER is available for receivers on low band and high band stations to reduce the effect of noise from vehicle ignition and other pulse noise sources. It is completely automatic and requires no external switch to activate it.

RF PREAMPLIFIER is available on high band and UHF stations to boost the receiver sensitivity by about 6 dB to increase the range of the system. Its compact solid state design permits installation either as a factory option or later in the field.

TRANSMIT TIME LIMITER limits transmitter "on" time to 60 seconds (optional adjustment to 30 or 90 seconds). An audible warning signals transmitter shutdown. Prevents accidental system lock-up and excessive "on-the-air" time.

DUAL CHANNEL MONITOR—Available for two-channel local control stations to simultaneously monitor two receiver frequencies. A received signal causes the station to "lock on" to that channel. Two monitor pushbuttons are provided which interrupt the scanning in order to monitor either channel.

CLOCK—A 12-hour or a 24-hour digital clock mounts in the front grille of the unit.

ALERT TONE—This pushbutton-actuated option transmits a 1000 Hz tone for alerting and system tests.

SPEAKER MUTE reduces the receiver volume to an adjustable lower level. A pushbutton switch provides selection between normal and muted volume.

INTERCOM for remote control stations provides communication between the station and remote control units.

EMERGENCY DC POWER REVERT provides automatic switching to an external battery when AC power fails. The station automatically reverts to AC operation when power is restored.

SURGE SUPPRESSION options are available for the AC power input and, for remote control stations, the telephone line input.

REMOTE CONTROL UNITS



CC70 Series



CC80 Series

DESK-SET CONTROL UNITS are available in models with either a dynamic handset (CC70 series) or a desk microphone (CC80 series). These compact attractive units can be ordered in versions to provide either extended local control from as much as 200 feet away or DC remote control over telephone lines from distances up to 10 miles. Complete information on these units is provided in Catalog Sheet C.4405.

DESK-TOP CONTROL UNITS are available in Extended Local or DC Remote Control models. Each is supplied with an attractive desk microphone. A complete line of options can be ordered for these units. Complete information is provided in Catalog Sheet C.4406.



CC20 Series

GENERAL SPECIFICATIONS

Model	Frequency Range	RF Output Power	Input Power To Final Stage	AC Current Drain @ 121VAC Transmit	AC Current Drain @ 121VAC Standby	DC Current Drain Transmit	DC Current Drain Standby @ 13.8V
BBA15	30-50 MHz	55W	117W	2.5A	.5A	12A @ 13.6V	.37A
BBA31	148-174 MHz	2.5W	7.5W	1.9A	.5A	.9A @ 13.8V	.37A
BBA31 with B124 Option	148-174 MHz	1W	3W	1.9A	.5A	.9A @ 13.8V	.37A
BBA32	132-174 MHz	25W	60W	2.3A	.5A	6.5A @ 13.6V	.37A
BBA33	132-174 MHz	35W	70W	2.3A	.5A	8A @ 13.6V	.37A
BBA52	406-420, 450-512 MHz	25W	60W	2.3A	.5A	7A @ 13.6V	.39A
BBA52 with B123 Option	406-420, 450-512 MHz	2-25W	7-60W	2.3A	.5A	2-7A	.39A

Dimensions	16.5" long x 16" wide x 6.5" high (41.9 x 40.6 x 16.5 cm)
Weight (approx.)	39.5 lb. (17.9 kg)
Shipping Weight	53 lb. (24 kg)
Primary Power:	
Standard	121VAC $\pm 10\%$, 50/60 Hz
With Option B179	242 VAC $\pm 10\%$, 50/60 Hz
With Option B166	12VDC Standby
Maximum Number of Channels	2, 4
Operating Temperature Range	-30°C to +60°C with specified performance per EIA standards
Control Modes	Local, Local/Extended Local, Local/DC Remote

Local Control Characteristics:	
Output Power	5 watts into 8 ohms
Distortion	5%
Frequency Response	+1, -8 dB of 6 dB/octave de-emphasis characteristic, 300-3000 Hz
Hum & Noise	-70 dB (squelched)
Remote Control Characteristics	
Telephone Line Terminating Impedance	600 ohms
Output	+18 dBm
Frequency Response	Within +1, -8 dB of 6 dB/octave de-emphasis characteristic, 300-3000 Hz
Distortion	5% Maximum @ 1000 Hz
Hum & Noise	1 millivolt maximum
Control Currents	0, ± 5 , ± 10 ma

SPECIFICATIONS

Transmitter	LOW BAND		HIGH BAND			UHF BAND	
	BBA15	BBA31	BBA31 with Option B124	BBA32	BBA33	BBA52	BBA52 with Option B123
Power Output (EIA Intermittent Duty Cycle)	55W	2.5W	1W (148-162 MHz) 0.75W (162-174 MHz)	25W	35W	25W (below 470 MHz)	2-25W (470 MHz)
FCC Information: Rule Parts	21, 89, 91, 93	21, 89, 91, 93	21, 89, 91, 93	21, 81, 89, 91, 93	21, 81, 89, 91, 93	21, 89, 91, 93, 95A	21, 89, 91, 93, 95A
Type Number	CT1009B (30-36 MHz) CT1009D (36-42 MHz) CT1009F (42-50 MHz)	CT2003 (±.0005% Stab.) CT2003A (±.0002% Stab.)	CT2003B (±.0005% Stab.) CT2001A (±.0002% Stab.)	CT2001 (±.0005% Stab.) CT2001A (±.0002% Stab.)	CT2007	CT3004 (±.0005% Stab.) CT3004A (±.0002% Stab.)	CT3004D (±.0005% Stab.)
Spurious Emissions: Conducted	-65 dB	-60 dB	-48 dB	-70 dB	-70 dB	-60 dB (-70 dB with filter, Option B122)	-60 dB (-70 dB with filter, Option B122)
Radiated	-65 dB	-60 dB	-50 dB	-60 dB	-60 dB	-60 dB (10-25W out) -50 dB (2.5W out)	-60 dB (10-25W out) -50 dB (2.5W out)
FM Noise (below 60% dev. at 1 kHz)	-70 dB	-70 dB	-70 dB	-60 dB	-60 dB	-70 dB	-70 dB
AM Noise	-60 dB	-50 dB	-50 dB	-50 dB	-50 dB	-50 dB	-50 dB
Audio Distortion	2%	2%	2%	3%	3%	2%	2%
Audio Sensitivity (for 60% dev.)	120-180 mv	90-115 mv			90-115 mv		
Audio Frequency Response	Within +1, -3 dB of 6 dB/octave pre-emphasis characteristic, from 300-3000 Hz						
Frequency Stability: Standard	±.002%		±.0005%			±.0002%	
Optional	±.0005%		±.0002%			±.0005%	
Crystal Multiplication	6 Times		12 Times			36 Times	
Max. Frequency Spread (MHz): 0 dB degradation	@ 30 MHz @ 50 MHz	@ 150 MHz		@ 170 MHz		5.5 (.75 dB degradation)	
1 dB degradation	.30 .50	1.65		.85 1.87			
Transmitter Sideband Noise	-45 dB @ ±20 kHz		-68 dB @ ±30 kHz			-57 dB @ ±25 kHz	
RF Output Impedance	50 ohms up to 2:1 VSWR						
Receiver	LOW BAND		HIGH BAND		UHF BAND		
			Without Preamp	With Preamp (Option B141)	Without Preamp	With Preamp (Option B142)	
Sensitivity: EIA 12 dB SINAD	.25 μV		.35 μV	.19 μV	.35 μV	.21 μV	
20 dB Quieting	.35 μV		.50 μV	.28 μV	.50 μV	.30 μV	
Squelch Sensitivity: Noise Squelch	.15 μV		.25 μV	.13 μV	.25 μV	.15 μV	
Tone Coded Squelch (Quiet Channel)	6 dB SINAD		6 dB SINAD	6 dB SINAD	6 dB SINAD	6 dB SINAD	
Selectivity (EIA)	-85 dB		-90 dB	-83 dB	-90 dB	-85 dB	
Intermodulation	-65 dB*		-80 dB*	-75 dB*	-80 dB	-73 dB	
Spurious and Image Rejection	-100 dB*		-100 dB*	-100 dB* (-95 dB High IF image)	-100 dB	-100 dB (-95 dB High IF image)	
Frequency Stability: Standard	±.002%		±.001%			±.0005%	
Optional	±.0005%		±.0005%, ±.0002%			±.0002%	
Channel Spacing	20 kHz		30 kHz		25 kHz		
Modulation Acceptance (Min.)	±6.5 kHz		±7.0 kHz		±7.0 kHz		
Max. Frequency Spread (MHz): 0 dB degradation	@ 30 MHz @ 50 MHz	@ 150 MHz		@ 170 MHz		@ 406 MHz @ 450 MHz @ 512 MHz	
1 dB degradation	.15 .25	.6		.68		.90	1.02
2 dB degradation	.34	1.05		1.19		1.62	1.80
4 dB degradation	.45 .75	1.50		1.70		2.44	2.70 3.07
FCC Type Number	MI-559429		MI-559437			MI-559455	

*Without Noise Clipper Option.

All measurements are made in accordance with EIA Standards. All specifications subject to change without notice.