

# Single Link Key System Intercoms



 **MELCO**

# Increase inter-office efficiency with Melco single-link key system intercoms.

Offer your key system customers increased office productivity and convenient inter-office communications with Melco's well known line of single-link intercoms. All provide for station lamp control, bell or buzzer signaling, auxiliary control contacts, and ringback tone. Additional features, such as paging, flashing lamps, interrupted ringing, and busy tone may be added with Melco auxiliary units. Any feature or station may be easily accessed by depressing the assigned pickup key and dialing the appropriate code.

Designed for rapid installation, most Melco intercoms install in less than 30 minutes and are equipped with cable plugs to provide for simple connections to station telephone equipment. For increased station capacity, smaller intercoms may be replaced with larger ones without changes in wiring or station numbers. All Melco single-link intercoms may be further expanded with Melco's KC-1018 Expansion Unit and additional intercoms.

Compatible with 1A1 and 1A2 type key systems, Melco intercoms are available for combination, tone, or rotary dialing systems. Every intercom is backed by a full five-year warranty, proving Melco's confidence in product reliability.

All Melco intercoms are registered with the F.C.C. The LMC-9 and LMR-9 registration number is AQT9PZ-68856-KX-N. All other single-link intercoms are registered under number AQT9PZ-69718-KX-E.

## Description

### Combination Intercoms

Melco's line of combination intercoms are designed to work with tone, rotary, or mixed tone/rotary key systems. All may be used to directly replace Melco tone or rotary intercoms without changes in cable wiring or station numbers. Pictured from left are the KC-37 thirty-seven station intercom, the KC-19 nineteen station intercom, and the KC-10X ten station expandable intercom. (The KC-10X is expandable with Melco's KX-30 which increases station capacity in 30 station increments, up to 90 stations.)



### Tone Intercoms

Melco tone intercoms, for tone dialing key systems, include the KT-37 for up to thirty-seven stations, the KT-19 for up to nineteen stations, and the KT-10X expandable intercom for up to 10 stations. (The KT-10X is expandable with Melco's KX-30 Intercom Expanders.)



### Rotary Intercoms

Melco's line of rotary intercoms are designed for use with rotary dialing key system telephones. The wiring configuration is extremely flexible, enabling easy expansion to larger systems or replacement with tone systems after rotary to tone conversion. Shown are the KR-37 thirty-seven station intercom, the KR-19 nineteen station intercom, and the KR-10 ten station intercom.



## KD-19 Deluxe Intercom

Melco's KD-19 provides for up to 19 tone, rotary, or mixed tone/rotary stations. Each station is equipped with flashing lamps and interrupted ringing in addition to station lamp control, bell or buzzer signaling, and ringback tone. An interrupter, such as the Melco KI-440 is required.



## Nine Station Intercoms

Melco's nine station intercoms are designed to save space, cost and installation time. The LMC-9 combination and LMR-9 rotary intercoms are intended for easy installation in a panel wired for a 400-series line card. The MC-9 combination and MR-9 rotary intercoms conveniently mount in an apparatus cabinet, relay rack, or on a backboard. Both the MC-9 and MR-9 are easily expandable with the MX-18 Intercom Expander, which increases station capacity in 16 station increments up to 81 stations.



## Design Features

FEATURES	KC-10X	KC-19	KC-37	KT-10X	KT-19	KT-37	KR-10	KR-19	KR-37	LMC-9	LMR-9	MC-9	MR-9	KD-19
Station lamp control	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Bell or buzzer signaling	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Ringback tone	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Conferencing (from tone dialing phones)	•	•	•	•	•	•				•		•		•
Flashing lamps														•
Repeated ringing														•
Repeatable signaling without hanging up	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Expandable with KX-30	•			•										
Expandable with KC-1018	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Expandable with MX-18												•	•	
Paging control	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Compatible with KL-20	•	•	•	•	•	•	•	•	•	•	•	•	•	
Compatible with M-268	•	•	•	•	•	•	•	•	•	•	•	•	•	
Compatible with M-266A	•	•	•	•	•	•	•	•	•	•	•	•	•	
Equipped with cable plugs	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Mount in apparatus cabinet, relay rack, or wall	•	•	•	•	•	•	•	•	•			•	•	•
Install in panel wired for 400 Series line card										•	•			
Installable with M-19	•	•		•	•		•	•						
Installable with M-37	•	•	•	•	•	•	•	•	•					
Operates from key system power supply	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Aluminum housing	•	•	•	•	•	•	•	•	•					•
High impact plastic housing										•	•	•	•	
Selective signaling	•	•	•	•	•	•	•	•	•	•	•	•	•	•

## Installation

Melco intercoms are designed for rapid, convenient installation. All except the LMC-9 and LMR-9 mount in an apparatus cabinet, relay rack, or wall. Attached cable plugs on all except the nine-station intercoms provide convenient connections to A25B or equivalent connector cables. Melco's M-19 and M-37 may be used with the intercoms designated on the previous page to provide for quick interconnecting wiring, mounting and power connections.

## Auxiliary Intercom Equipment

Paging equipment may easily be added to all Melco intercom systems. Other units which provide for additional features include the Melco M-266A, which adds flashing lamps and repeated ringing, the Melco M-268 which provides busy tone to a station user calling an off-hook key system station, and the KL-20 Two Link Adapter which adds a second intercom talking path.

## General Specifications

Operating voltage range . . . . . -18 to -28V DC  
-24V DC nom

Loop limits  
rotary . . . . . 800 ohms  
tone . . . . . 750 ohms

Dialing parameters . . . . standard DTMF and rotary

Signaling period . . . . . 1.0 second nom

Operating temperature range . . . . . 0° to 50°C  
32° to 122°F

### Dimensions

10, 19, and 37 station  
intercoms  
(except KD-19) . . . . . 7.0"H x 5.0"W x 1.5"D  
LMC-9 and LMR-9  
(circuit card) . . . . . 5.3"H x 3.5"W  
MC-9 and MR-9 . . . . . 5.75"H x 5.75"W x 1.0"D  
KD-19 . . . . . 7.0"H x 4.3"W x 5.0"D

### Weights

10, 19 and 37 station  
intercoms . . . . . 1 lb, 1 oz to 1 lb, 6 oz  
.50 kg to .60 kg  
LMC-9 and LMR-9 . . . . . 5 oz/.14 kg  
MC-9 and MR-9 . . . . . 11 oz/.31 kg  
KD-19 . . . . . 3 lb, 3 oz/1.45 kg

## How To Order

Order Melco Single-Link Key System Intercoms through your local supplier or distributor. For more information please contact Melco Labs, Inc.

 **MELCO LABS, INC.**

14408 N.E. 20th Street, Bellevue, WA 98007  
(206) 643-3400 • TWX: 910-443-3040

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## LMC-9™ INTERCOM — KTU FOR TONE AND/OR ROTARY DIALING

### 1. GENERAL

1.01 The LMC-9 is a 9-station, tone and rotary dialing, key system intercom. It provides station lamp control, bell or buzzer signaling and ringback tone. Dimensions and method of connecting are the same as those of a 400-type line card.

### 2. DESIGN FEATURES

2.01 The LMC-9:

- is compatible with 1A1 and 1A2 type key systems.
- provides digits 2 through 0 for signaling stations and accessing auxiliary equipment.
- provides ringing signal and ringback tone of approximately one second.
- provides paging control.
- provides LED off-hook indication.
- allows tone dialing stations to establish local conference and all stations to redial without reoperating the hook-switch.
- has 18 contacts on a 4-inch printed wiring board and is designed for use with connectors provided for 400 series line cards.
- operates from a standard key system power supply.

### 3. INSTALLATION

3.01 Make cross connections from the appropriate connecting block to all stations on the intercom line (see Fig. 3).

3.02 Place the LMC-9 in the assigned position with the component side to the installer's right.

**CAUTION:** Be certain that the wiring of the assigned connector is appropriate for the LMC-9. Ensure particularly that PINS 3 and 17 are not connected to talk battery as they are in some KSU's.

3.03 COMMON ALL GROUNDS. ←

3.04 Test stations for correct lamp operation, bell or buzzer signaling, ringback tone and good transmission quality.



Fig. 1 — LMC-9 ←

### 4. MAINTENANCE

4.01 No provision is made for field adjustment or repair.

4.02 If the LMC-9 does not function, verify all connections.

4.03 Substitute with an LMC-9 of known serviceability.

4.04 The LMC-9 is warranted against manufacturing and material defects for two years. If it fails within that time, it will be repaired or replaced at no charge.



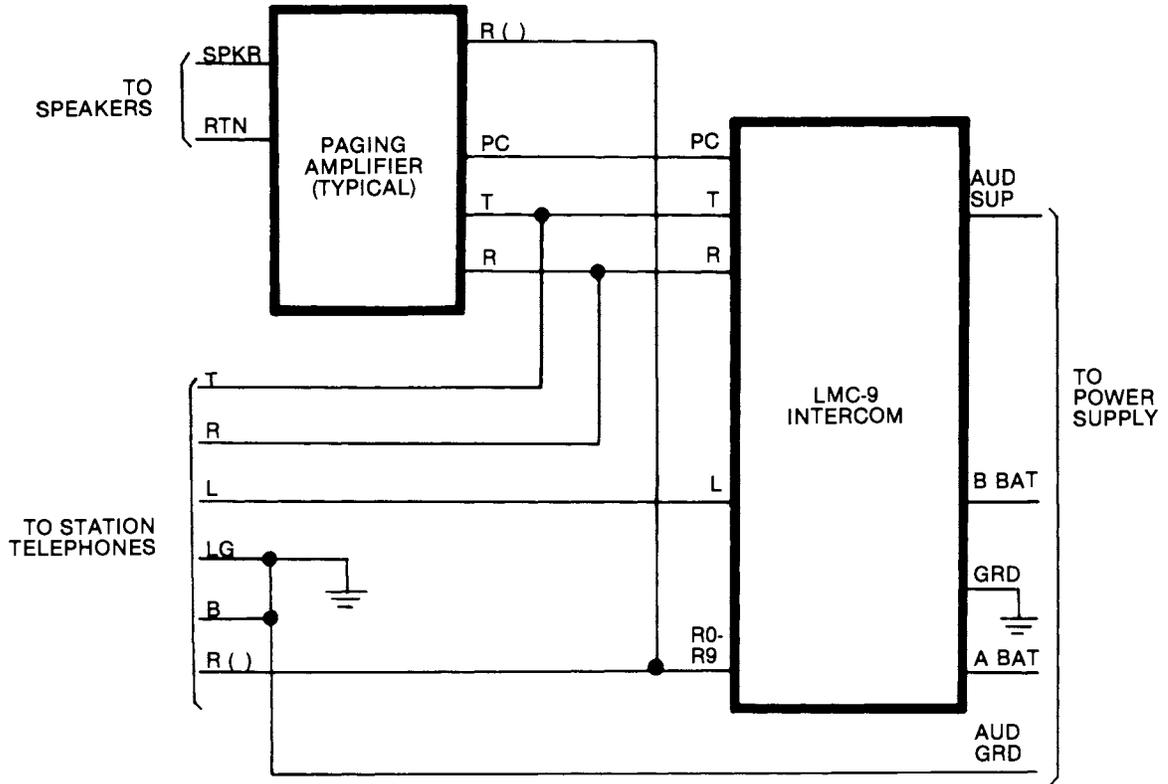


Fig. 3 — LMC-9 with Paging.

## MC-9™ COMBINATION INTERCOM (KTU) FOR TONE AND/OR ROTARY DIALING

### 1. GENERAL

1.01 The MC-9 is a nine-station, combination tone and/or rotary dialing, key system intercom. It provides station lamp control, bell (or buzzer) signaling and ringback tone. It is enclosed in a compact, plastic housing and mounts readily in an apparatus cabinet, on a backboard or in a relay rack. The MC-9 operates from a standard key system power supply.

1.02 This intercom has received FCC Type KX Registration Number AQT9PZ-69718-KX-E under Part 68 of FCC Rules and Regulations. It is designed to be used with all FCC KN registered Type 1A2 Key Telephone Systems.

### 2. DESIGN FEATURES

2.01 The MC-9 combination tone/rotary intercom:

- is compatible with 1A, 1A1 and 1A2 type key systems.
- can be used with tone or rotary dials, or with tone/rotary combinations.
- connects through its attached 2 x 10 connecting block.
- provides digits "2" through "0" for signaling stations and accessing auxiliary equipment.
- provides latching contacts to control paging or other auxiliary equipment.
- provides a ringing signal and ringback tone of approximately one second. Signaling can be prolonged by holding down the pad button.
- allows conference calling or repeated station signaling without reoperation of the telephone lineswitch.
- operates from a standard key system power supply.

### 3. INSTALLATION

3.01 Mount the MC-9 and make the connections as shown in Figure 4. Connections to the "punch-down" block should be made with the unit on a flat surface. Wire T, R, L, LG and B in multiple at station blocks.

3.02 Verify all station connections before connecting the MC-9 to the power supply. COMMON ALL GROUNDS.

3.03 Test all stations for correct lamp operation, bell or buzzer signaling, ringback tone and good transmission quality.

3.04 Paging, busy lamps, etc. can be latched or controlled by lead PC. Ground is connected to lead PC when the MC-9 is seized.



Fig. 1

### 4. MAINTENANCE

4.01 No provision is made for field adjustment or repair.

4.02 If the MC-9 does not function, verify connections and fuses.

4.03 The MC-9 is warranted against manufacturing and material defects. If it fails within the warranty period as a result of these defects, it will be repaired or replaced at no



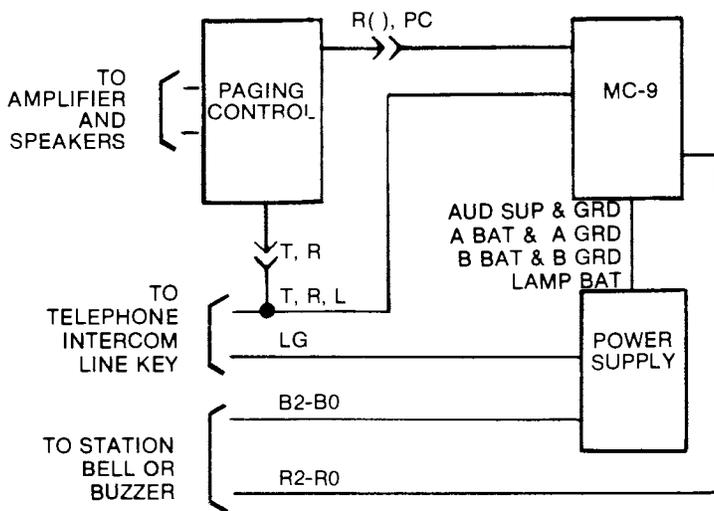
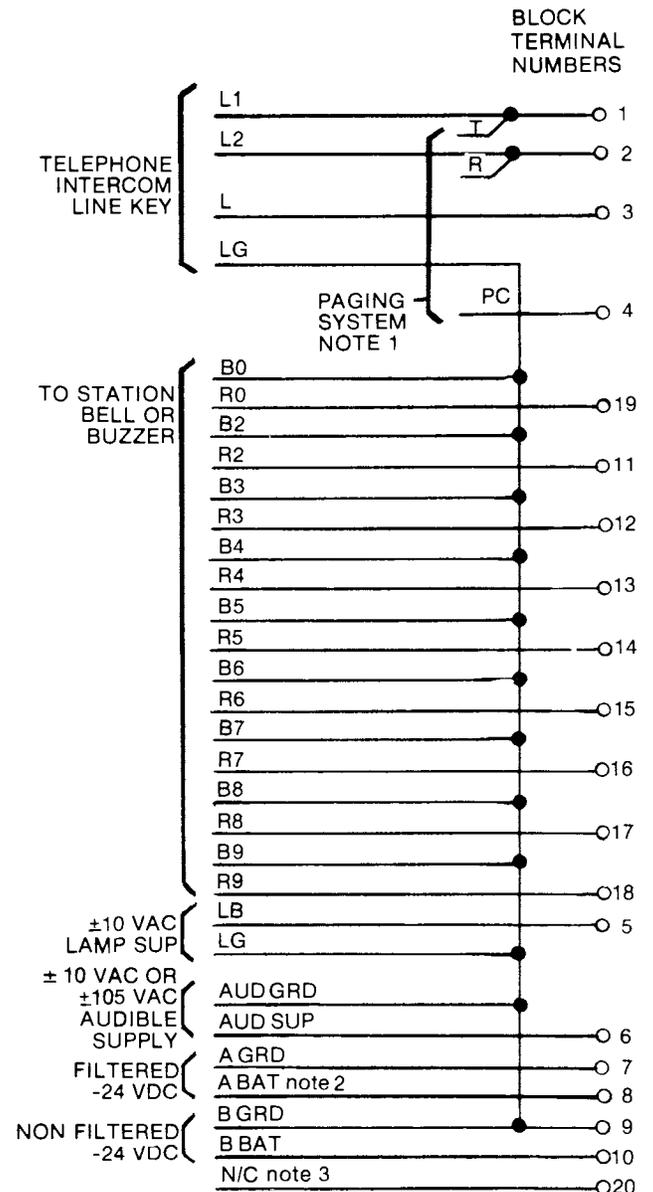


Fig. 3 — Applications Schematic of MC-9.



- NOTES: 1. CONNECT LEADS T, R, PC AND SELECTED R( ) LEAD TO MELCO KT-363, KT-364, KA-380 OR OTHER PAGING CIRCUIT.  
2. LAMP CIRCUIT LEADS AND LEAD PC SHOULD BE TESTED FOR SHORT CIRCUITS BEFORE CONNECTING POWER TO THE MC-9.  
3. N/C: NO CONNECTION

Fig. 4 — Basic Nine Station Connection Diagram.

## KC-10X™ TEN STATION COMBINATION INTERCOM (EXPANDABLE) FOR TONE AND/OR ROTARY DIALING

### 1. GENERAL

1.01 The KC-10X is a ten-station, combination tone and/or rotary dialing, key system intercom. The KC-10X provides intercom selective signaling capability for 1A1 and 1A2 type key telephones. Expansion in 30-station increments is readily accomplished by adding Melco KX-30 Intercom Expanders.

↗ 1.02 This intercom has received Registration Number AQT9PZ-69718-KX-E under Part 68  
↘ of FCC Rules and Regulations.

### 2. DESIGN FEATURES

2.01 The KC-10X provides 10 signal contact closures. Each closure is latched to ring a station for one second. Ringing can be repeated without hanging up simply by redialing the number.

2.02 Selective signaling may be expanded up to 90 stations with the addition of Melco KX-30 Intercom Expanders. One unit expands the system up to 30 stations, two units expand it up to 60 stations and three expand it up to 90 stations.

2.03 The KC-10X:

- mounts in an apparatus cabinet, relay rack or on a backboard.
- connects through its plug to an A25B or equivalent 25-pair connector cable.
- operates from a standard key system power supply.
- provides a latching path to control paging or other auxiliary equipment.
- provides for conference calling from a tone dialing telephone.
- provides prolonged signaling by holding down pad button.

### 3. INSTALLATION

**NOTE:** If an installation involves a KL-20 Two-Link Intercom Adapter, see KL-20 instructions.

3.01 Mount the KC-10X and secure the cable connector to the KC-10X plug with the clamp provided.

3.02 Terminate the cable on a 66-type connecting block.

3.03 Cross-connect T, R, L and LG to all telephones, paging circuits, and other auxiliary equipment.

3.04 For ten stations or fewer using single-digit codes, cross-connect one B and R pair to each bell or buzzer. Strap SL to R1X through R9X.



Fig. 1

3.05 Connect LB, AUD SUP, BAT and GRD leads to the power supply. Connect A BAT to filtered -24V DC and B BAT to non-filtered -24V DC.

3.06 When the KC-10X is seized, lead PC will furnish ground to operate or latch an auxiliary circuit such as paging or busy lamp. When PC is used, lamp ground must be connected to lead LG.

3.07 DO NOT bridge the intercom to any line supplying a foreign source of power: CO, FX, PL, etc.).

3.08 When an intercom is connected to other units which add features, such as two-link operation, flashing lamps, and do not disturb, all associated units must be served by the same power supply and all grounds must be common.



6. ORDERING GUIDE

6.01 Order as follows:

(QTY) UNIT TEL KEY KC-10X

from your local supplier or distributor.

6.02 Technical assistance on the KC-10X is available from:

MELCO LABS  
14408 N.E. 20th St.  
Bellevue, WA 98007  
(206) 643-3400  
TWX: 910-443-3040

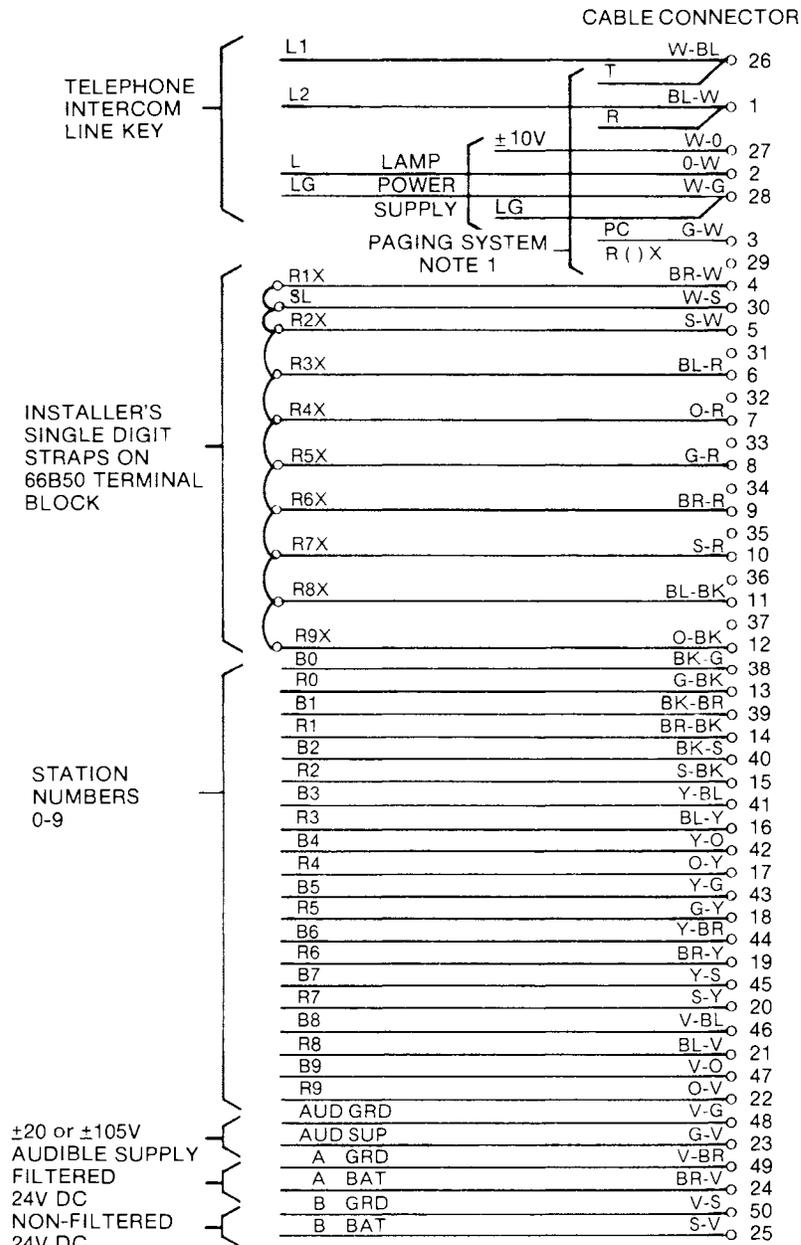
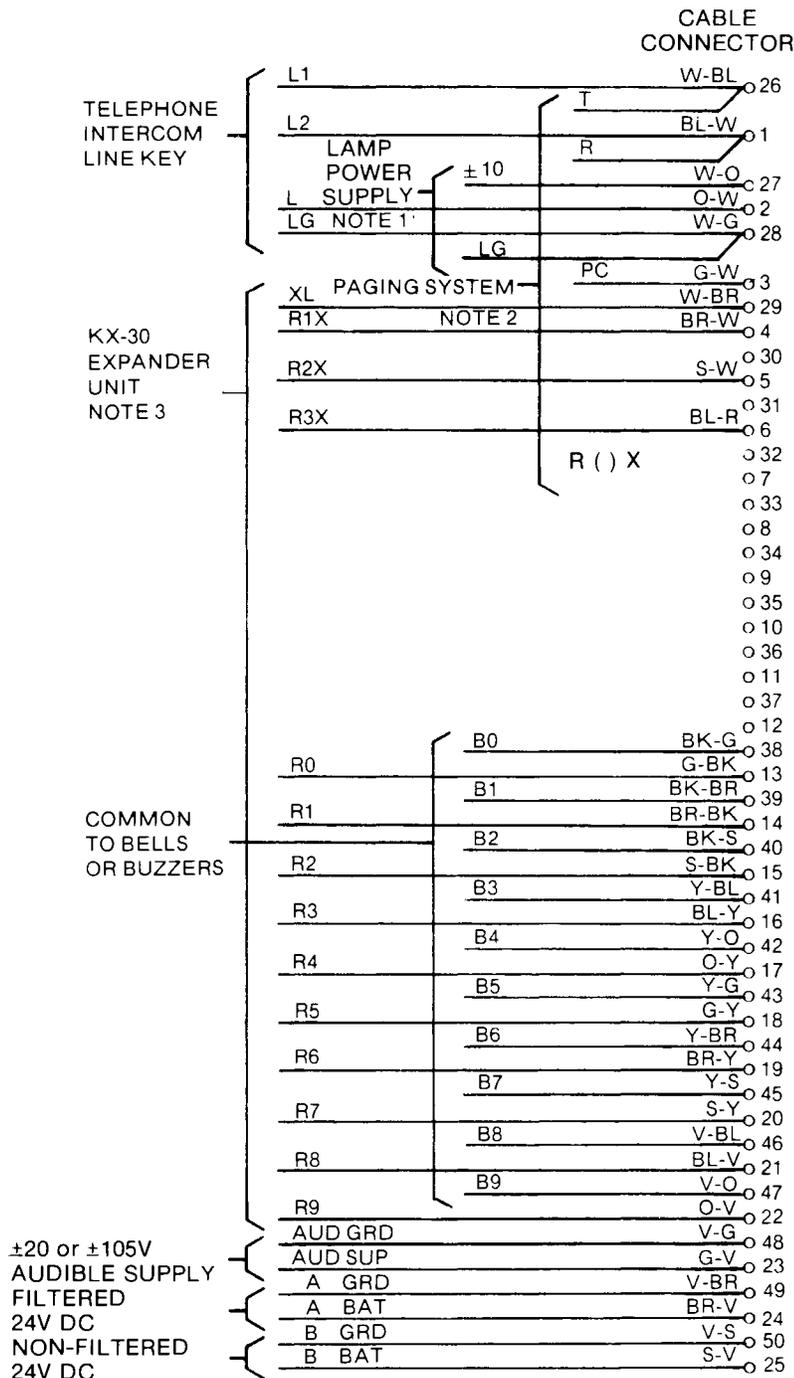


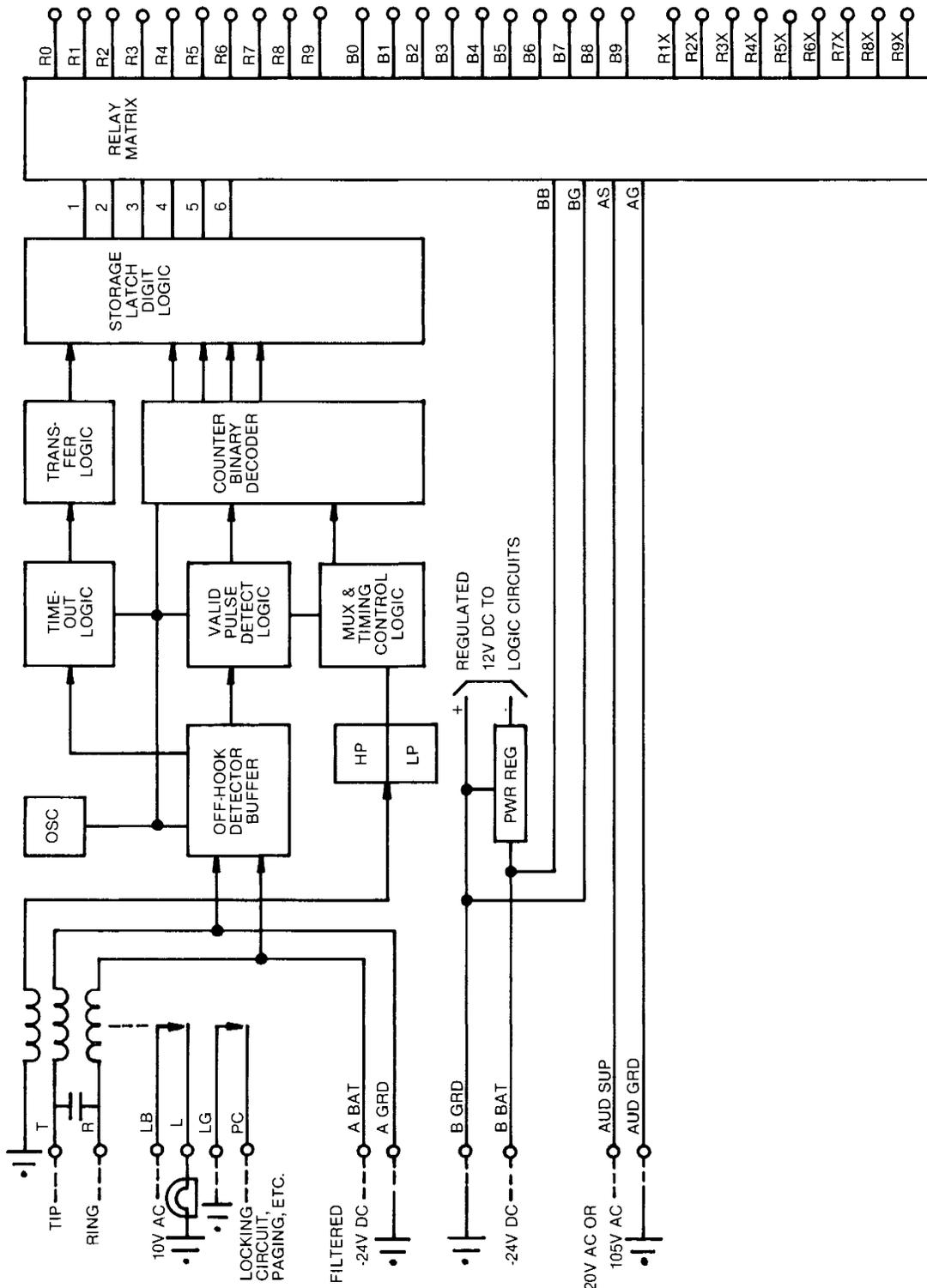
Fig. 2 — KC-10X Connections for 10 Stations.



NOTES:

- 25 LAMPS MAXIMUM ON FACTORY WIRING. TO ADD 24 LAMPS, MOVE LAMP POWER SUPPLY LG LEAD TO B GRD TERMINAL (50); STRAP W-O (27) TO W-G (28); CONNECT ADDITIONAL LAMPS TO PC.
- FOR PAGING SEE FIG. 2 NOTE.
- R1X, R2X, R3X TO EXPANDER FOR FIRST DIGITS 1, 2 AND 3 OF TWO DIGIT NUMBERS, OR USE ANY R ( ) X LEAD.

Fig. 3 —KT-10X Connections for 30 Stations with KX-30 Expander.



→ Fig. 4 — Functional Schematic of KC-10X.

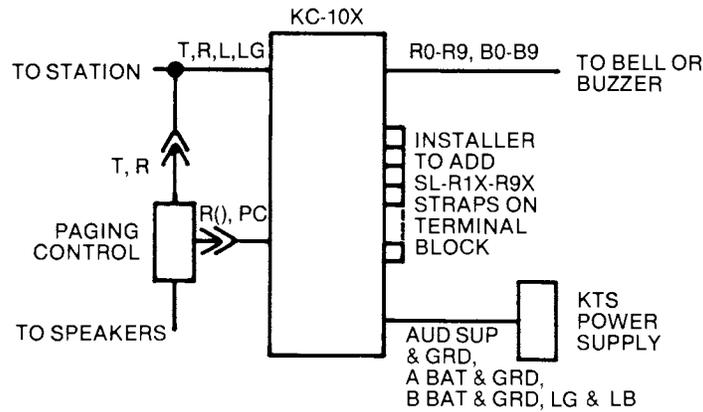


Fig. 5 — Applications Schematic of KC-10X Showing Connections for 10 Stations.

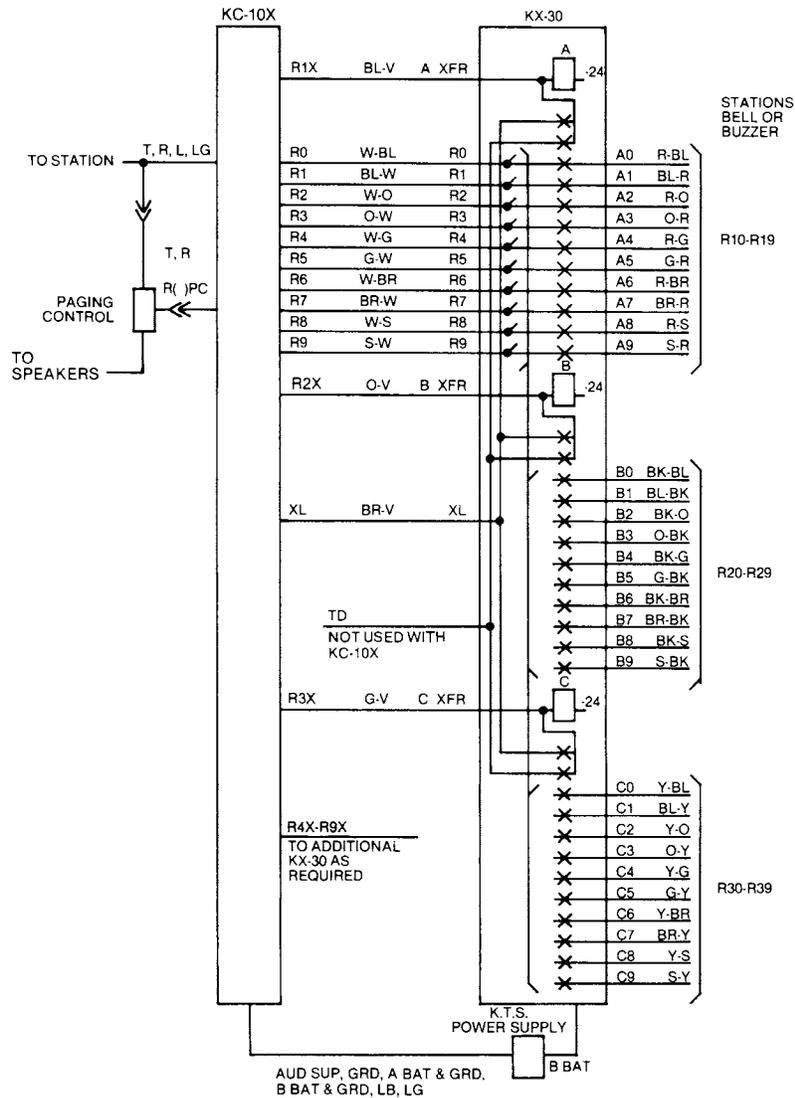


Fig. 6 — Applications Schematic of KC-10X and KX-30 Showing Connections for 30 Stations.

## KCHF-19™ NINETEEN STATION HANDSFREE INTERCOM

### 1. GENERAL

1.01 The KCHF-19 is a 19-station single-link hands-free intercom designed for use with 1A2 type key telephone systems or PABX systems with a loop start trunk port. Tone or rotary dialing telephone sets, or a combination of both, may be used with the KCHF-19. Handsfree two-way communication is provided through a 45 ohm speaker which may be mounted in the telephone set or contained in an external speaker box operating in conjunction with the telephone set.

### 2. DESIGN FEATURES

2.01 The KCHF-19:

- provides handsfree talkback for 1A2 type key systems or PABX systems with a loop start trunk port.
- is compatible with tone or rotary dialing telephones.
- operates with inexpensive 45 ohm speakers (2 inch diameter or greater) contained either inside the telephone set or in an external speaker box.
- has adjustable volume gain in both directions on the talkback amplifier.
- allows for dial selection of up to 19 stations.
- provides for lamp control.
- provides dial tone and ringback tone to the calling station.
- provides call announce tone to the called station.
- option allows the speaker to be inhibited when the called station comes off-hook on the intercom link.
- provides an additional contact (through the PC lead) for control of auxiliary equipment.
- operates from a standard -24V DC key system power supply.
- connects with an A25B or equivalent 25-pair cable.

### 3. OPERATION

3.01 To originate an intercom call from a key

telephone station, depress the assigned intercom pickup key and lift the receiver off-hook. Dial tone will be issued and the lamps, if equipped, will light. To originate an intercom call from a PABX station, lift the receiver off-hook and dial access the network line port assigned to the KCHF-19. Dial tone will be issued.

3.02 Dial the desired station number. The originator will receive ringback tone and the called station will receive call announce tone for a single 500 msec burst. A two-way handsfree conversation may then take place.



Fig. 1

3.03 The direction of transmission is controlled by the party which speaks first. When neither party is speaking, the unit is in a standby mode and nothing can be heard by either party. As soon as one party begins speaking, the speech path is enabled to transmit his voice. If the originator begins speaking first, the called party must wait until he is finished speaking before a response can be given.

3.04 The intercom is released when the originating station hangs up.

3.05 If a party lifts the telephone handset off-hook after being called on the intercom, and the KCHF-19 is strapped for the inhibit option, the speaker is disabled and a standard intercom

conversation may take place. The inhibit option is only possible with key system installations.

#### 4. INSTALLATION

4.01 Mount the KCHF-19 in an apparatus cabinet, relay rack or on a wall. Connect an A25B or equivalent 25-pair connector cable to the KCHF-19 plug and secure with the clamp provided.

4.02 Terminate the cable on a 66-type connecting block.

4.03 For a key system installation, cross-connect T, R, L and LG to all telephones, paging circuits and other auxiliary equipment. (See Figures 3 and 4.) For a PABX installation, connect T and R from the KCHF-19 to a loop start network line port. (See Figure 2.)

4.04 Cross-connect one R( ) and B( ) pair to each station speaker. All the B( ) leads are common in the unit.

4.05 To inhibit the speaker when the called party comes off-hook, install a 10K ohm resistor in series with each A lead, common the resistor ends opposite the stations, and connect this lead to the INHIBIT lead on the KCHF-19.

**NOTE:** *The inhibit option can be used in key system installations only.*

4.06 To provide for lamp supervision, common all the station lamp leads and connect them to the KCHF-19 L-lead (pin 2). Common the station lamp return leads and connect to the lamp supply ground.

4.07 Connect LB, BAT and GRD leads to the power supply. Connect A BAT and A GRD to filtered -24V DC and B BAT and B GRD to unfiltered -24V DC.

4.08 Leads LG and PC are connected to dry contacts that close when the KCHF-19 is seized. The contacts can be used to lock a paging circuit or a busy lamp circuit. To provide a locking ground on the PC lead for auxiliary equipment, connect lamp ground to the LG terminal.

4.09 DO NOT bridge the intercom to any line supplying a foreign source of power (CO, FX, PL etc.).

4.10 Test the installation at each station by coming off-hook and dialing that station number. Confirm that you receive dial tone, ringback tone and call announce tone. If equipped for lamp supervision, ensure that the lamps light when the assigned pickup key is depressed and the receiver is lifted off-hook. Verify that you can speak and hear from both directions. If the inhibit option is connected, ensure that the speaker is disabled when a second phone comes off-hook.

#### 5. MAINTENANCE

5.01 If no output is detected, verify connections and fuses. Check the cable plug and connector for dirt, corrosion and insufficient contact tension. Test the system by replacing it with another KCHF-19 unit.

5.02 No provision is made for field adjustment or repair. If defective, return the unit to the supplier for servicing.

5.03 The KCHF-19 is warranted against manufacturing and material defects. If it fails within the warranty period as a result of these defects, it will be repaired or replaced at no charge. See the Melco Warranty Service Policy for additional warranty and service information.

#### 6. SPECIFICATIONS

External power supply requirements:

operating voltage	
A and B BAT	-24V DC nom -20 to -28V DC
operating current	less than 1 amp
lamp battery	± 10V, 60 Hz
Power output	3 watts max with 45 ohm speaker load
Call announce signaling	500 msec tone 700 Hz approx

Rotary dialing:

loop length (wire only)	45 ohms
dial speed	8 to 12 pps
dial duty cycle	40% to 80% break
interdigital time	200 msec min

Tone dialing:

loop length (wire only)	45 ohms
input signal level	-7.5 to +4 dBm
bandwidth	± 2% nom

recognition time . . . . . 40 msec min  
interdigital time . . . . . 40 msec min  
Relay contact ratings:  
lamp . . . . . 2 amps at 10V AC  
PC . . . . . 2 amps at 28V DC  
Operating temperature . . . . . 0° to 50°C  
32° to 122° F  
Operating humidity . . . . . 0 to 95%  
noncondensing  
Storage temperature . . . . . -30° to 70°C  
-22° to 158° F  
Mounting . . . . . apparatus cabinet,  
relay rack or backboard  
Connections . . . . . A25B or equivalent  
connector cable  
Speaker . . . . . 45 ohm and 2 inches  
or greater in  
diameter  
Dimensions . . . . . 7.0" x 5.0" x 2.5"  
Housing . . . . . epoxy coated aluminum

7.02 For further information on the KCHF-19 or any Melco product, call or write:  
MELCO LABS, INC.  
14408 N.E. 20th Street  
Bellevue, WA 98007  
(206) 643-3400  
TWX: 910-443-3040

**7. ORDERING**

7.01 Order as follows:  
(QTY) 120309 KCHF-19 NINETEEN  
STATION HANDSFREE INTERCOM  
from your local supplier or distributor.

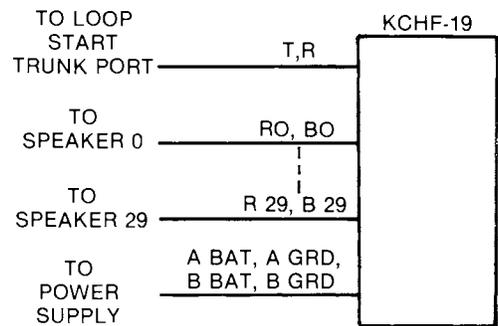


Fig. 2 — Application Schematic of KCHF-19 Used in PBX Installation.

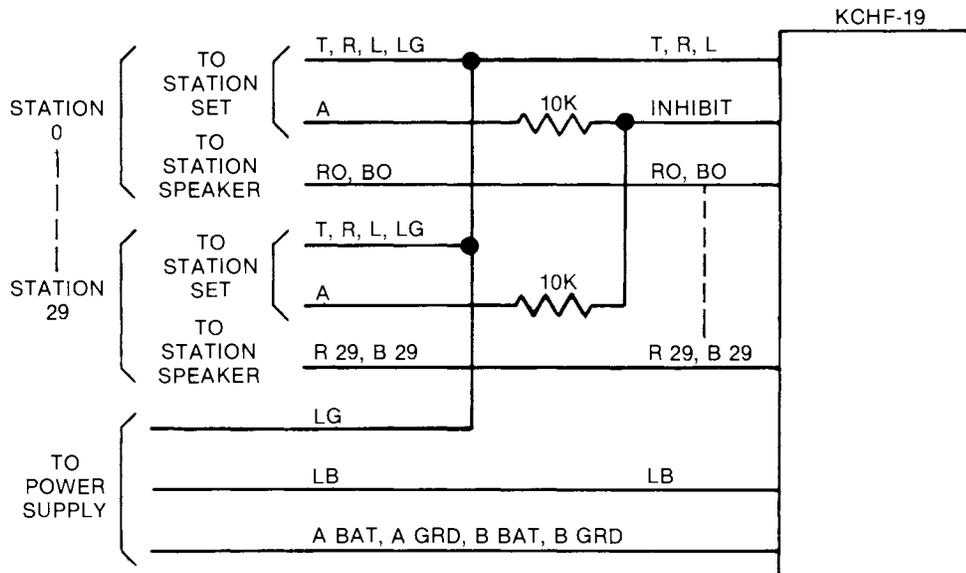


Fig. 3 — Application Schematic of KCHF-19 Used in Key System Installation.

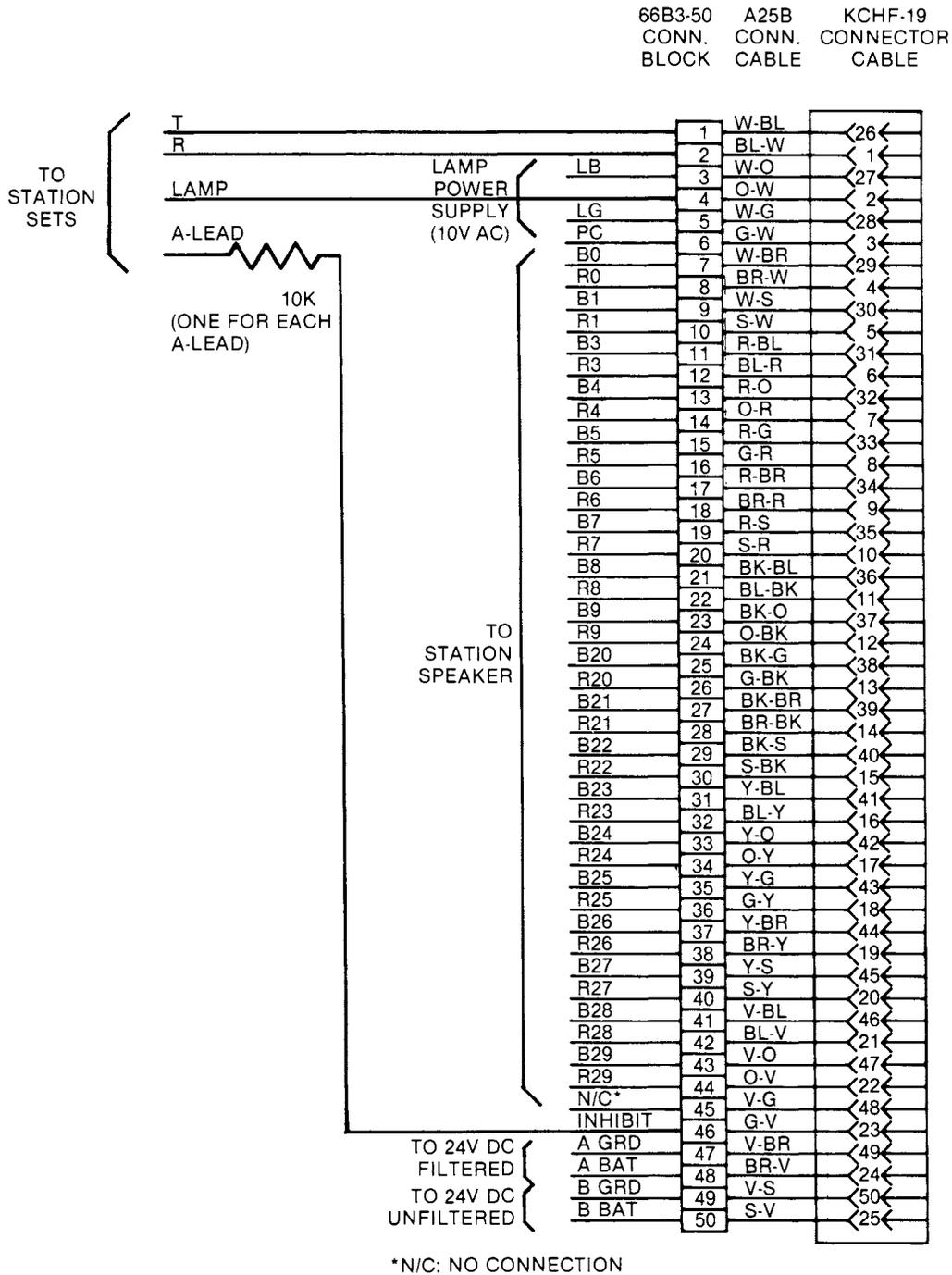


Fig. 4 — Cable and Connector for KCHF-19.

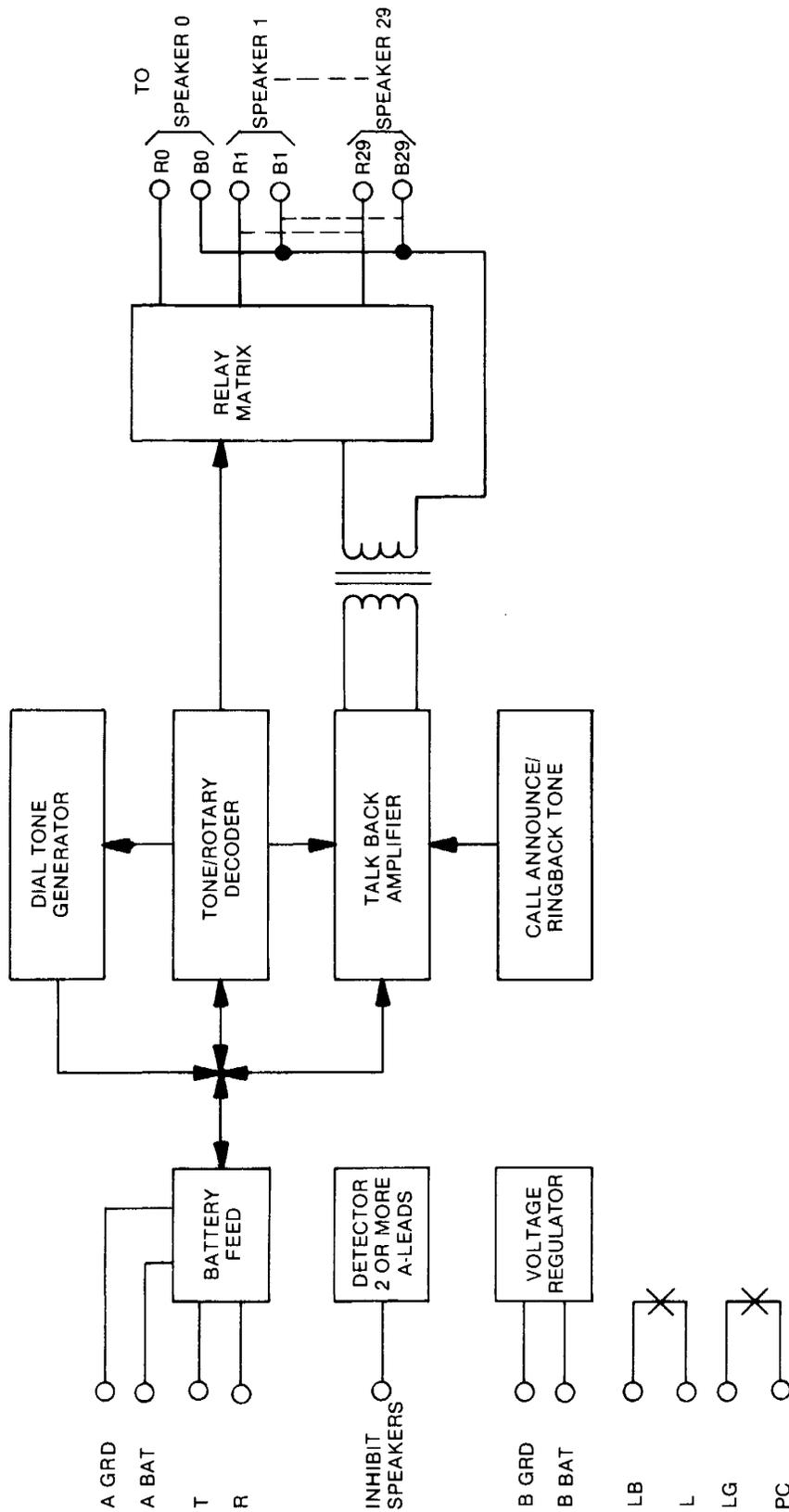


Fig. 5 — Functional Schematic of KCHF-19.

**KC-19™ KEY TELEPHONE UNIT  
NINETEEN STATION COMBINATION INTERCOM  
(FOR TONE OR ROTARY DIAL OR BOTH)**

**1. GENERAL**

1.01 The KC-19 provides 19-station intercom selective signaling for a key telephone system using tone and/or rotary dial telephone sets.

1.02 This intercom has received FCC Type KX registration number AQT9PZ-69718-KX-E under Part 68 of FCC Rules and Regulations. It is designed to be used with all FCC KN registered Type 1A2 Key Telephone Systems.

**2. DESIGN FEATURES**

2.01 The KC-19 KTU:

- is a self-contained intercom unit for use with rotary and/or tone dialing key telephone systems.
- provides nineteen station and auxiliary equipment access codes.
- provides one-second audible signal to the station
- accepts repeated dialing without re-operating the switchhook.
- mounts in a key telephone equipment cabinet, relay rack, or directly on a wall.
- connects with an A25B or equivalent 25-pair connector cable.
- operates between -18 and -28 volts dc.
- output signaling can be prolonged by holding down the tone button.

**3. INSTALLATION**

- 3.01 No special installation tools are required. Instructions are provided with each unit.
- 3.02 Locate and secure the KC-19 housing in a 7" KTU apparatus mounting, relay rack, or on a wall.
- 3.03 Connect an A25B or equivalent 25-pair connector cable to the KC-19 plug and make connections as shown in Figures 2 and 4.

3.04 The arrangement shown in Figure 3 can be used by the installer to connect a KC-19 to a 66B3-50 terminal block. This wiring method utilizes the standard arrangement of an A25B connector cable. Strapped as shown, the terminal block will provide 19 terminations for T, R, LG, L, B( ) and R( ). All power connections are at the bottom of the first block.

3.05 Connections are arranged for ready replacement of a Melco KR-19 or KT-19 intercom. No changes in cabling or terminal block assignments are required.

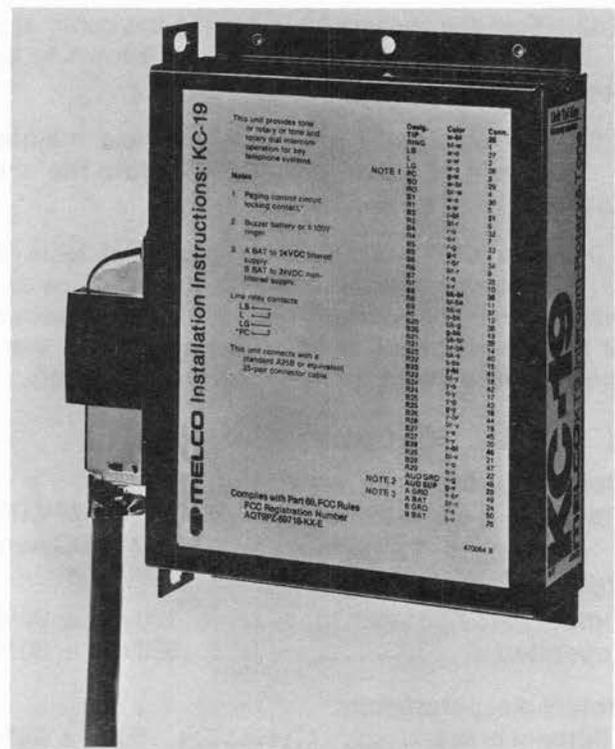


Fig. 1.

- 3.06 Make all grounds common.
- 3.07 Leads LG and PC are connected to dry contacts that close when the KC-19 is seized. The contacts can be used to lock a paging circuit

or a busy lamp circuit. To provide a locking ground on the PC lead for auxiliary equipment, connect lamp ground to the LG terminal.

3.08 Do not bridge the Tip and Ring to any line supplying a foreign source of current. (CO, FX, PL, etc.)

3.09 With tone and rotary dial test sets or telephones, test the lamp and signaling operation for all stations.

#### 4. MAINTENANCE

4.01 If no output is detected verify power connections and fuses. Check the cable plug and connections for dirt, corrosion and contact tension.

4.02 Test the system by removing the cable and connecting it to a KC-19 unit known to be serviceable.

4.03 No provisions are made for field maintenance or repair. If defective return the unit to the supplier for servicing.

4.04 The KC-19 is warranted against defects in material and workmanship. If it becomes defective within the warranty period, it will be repaired or replaced without charge. See the Melco Warranty Service Policy for repair and return details.

#### 5. SPECIFICATIONS

Operating voltage  
range — A and B battery . . . -18V DC to -28V DC  
-24V DC nom

Current at -24V DC  
idle . . . . . 170 ma  $\pm$  30%  
operated . . . . . 350 ma  $\pm$  30%

Rotary dial parameters:  
Percent break . . . . . 60%  $\pm$  20%  
Loop limit . . . . . 800 ohms

Dial speed . . . . . 8 to 12 pps  
Interdigital time . . . . . 200 msec min

#### Tone dial parameters:

Input signal level . . . . . -7.5 to + 4 dBm  
Bandwidth . . . . .  $\pm$  2% nom  
Recognition time . . . . . 40 msec max  
Loop limit . . . . . 750 ohms  
Interdigital time . . . . . 40 msec min  
Release time . . . . . 150 msec  $\pm$  10%

Audible signaling duration . . . . . 1 sec. nom.

#### Relay contact ratings

Lamp . . . . . 2 amps at 10V AC  
PC . . . . . 2 amps at 28V DC  
Ringing signal . . . . . 0.5 amps at 10V AC to  
105V AC ringing generator

Operating temperature . . . . . 0° to 50°C  
32° to 122°F

Operating humidity . . . . . 0 to 95%  
(noncondensing)

Mounting . . . . . apparatus cabinet,  
relay rack or wall

Connections . . . . . A25B or equivalent  
connector cable

Housing . . . . . epoxy coated aluminum

Dimensions . . . . . 7" x 4.8" x 1.5"

#### 6. ORDERING GUIDE

6.01 Order as follows:  
(QTY) UNIT TEL KEY KC-19  
from your local supplier or distributor.

6.02 Technical assistance on the KC-19, or any Melco product is available from:

MELCO LABS, INC.  
14408 N.E. 20th Street  
Bellevue, WA 98007  
(206) 643-3400  
TWX: 910-443-3040

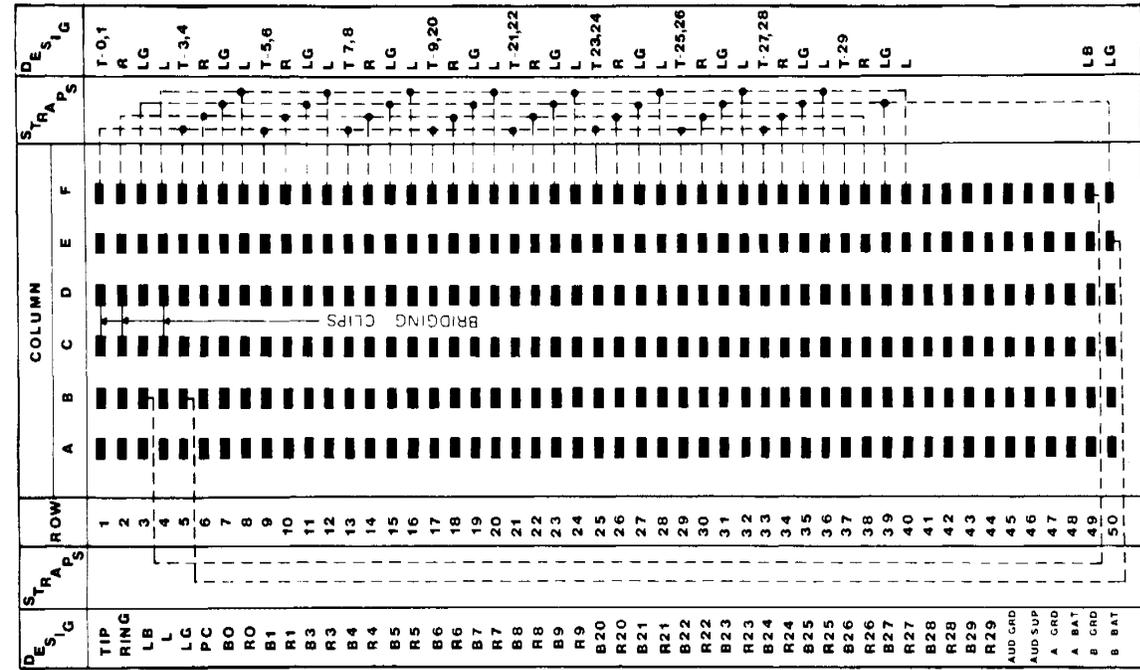


Fig. 3 — Suggested Arrangement of A25B Connector Cable, Jumpers and 66B3-50 Connecting Block.

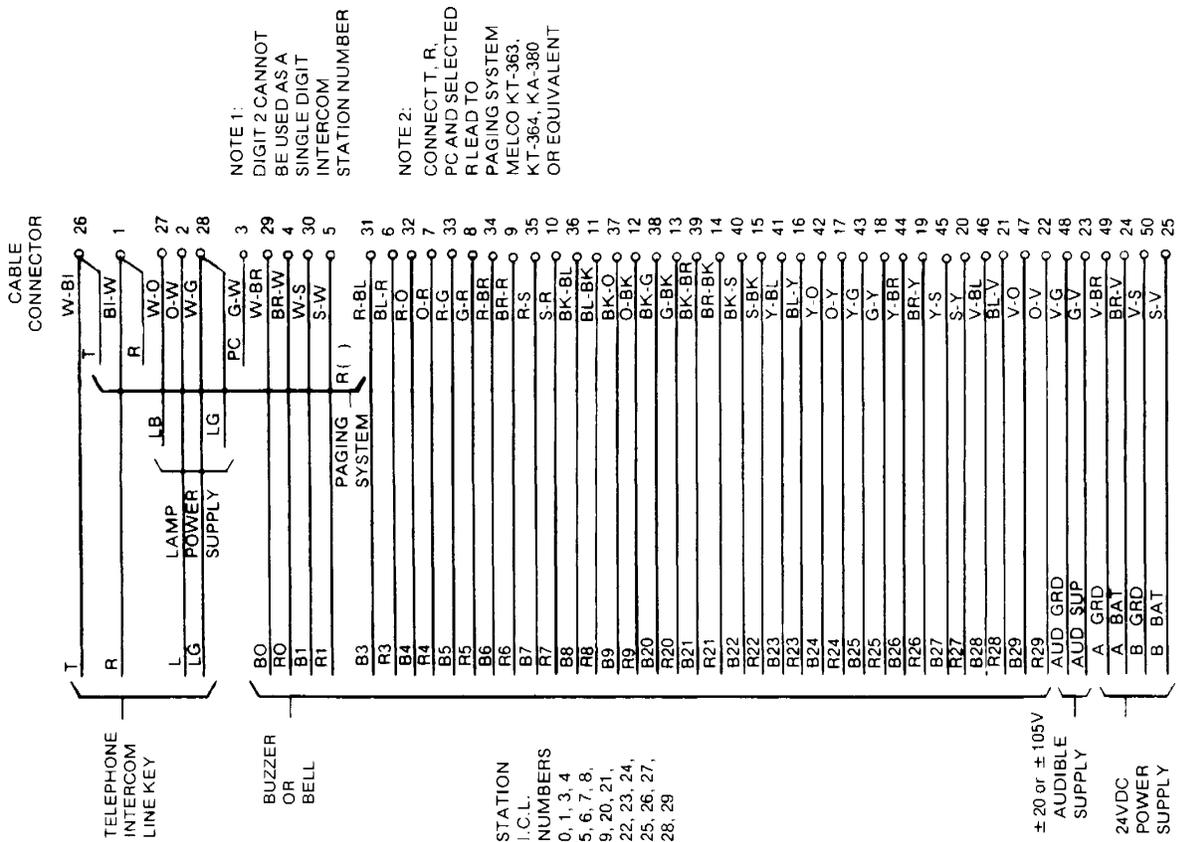


Fig. 2 — Cable and Connector for KC-19.

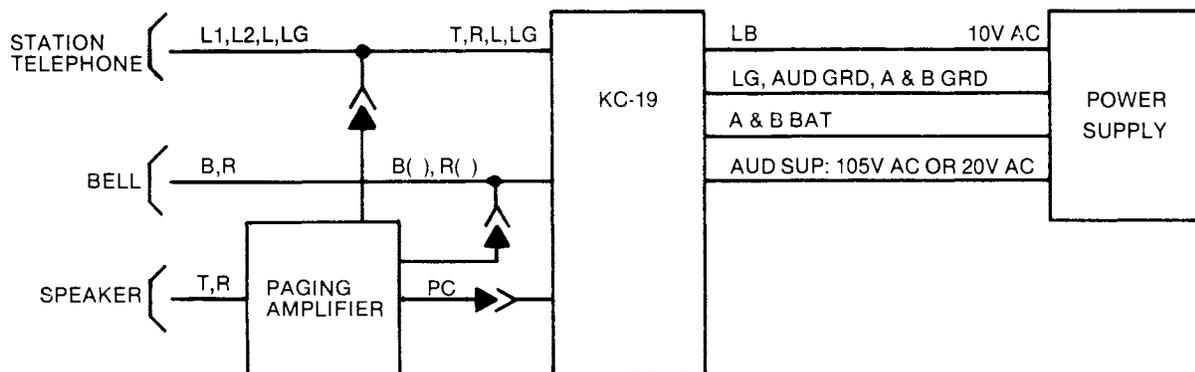


Fig. 4 — Application Schematic of KC-19.

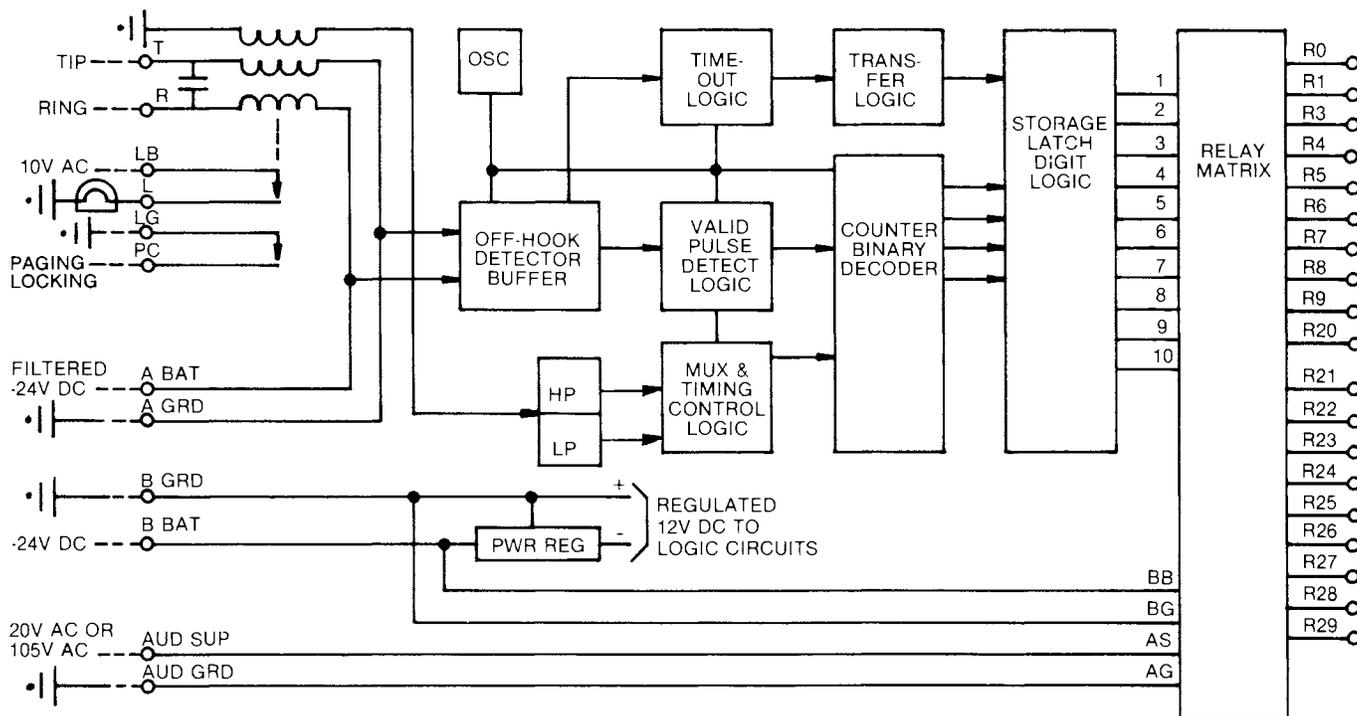


Fig. 5 — Functional Schematic of KC-19.

**KC-37™ KEY TELEPHONE UNIT  
THIRTY-SEVEN STATION COMBINATION INTERCOM  
(FOR TONE OR ROTARY DIAL OR BOTH)**

**1. GENERAL**

1.01 The KC-37 is a 37-station intercom for use with 1A1 and 1A2 key telephone systems. It is capable of fully selective station signaling by either tone or rotary dialing telephones or by a combination of both.

1.02 This device has received Registration Number AQT9PZ-69718-KX-E under Part 68 of FCC Rules and Regulations.

**2. DESIGN FEATURES**

2.01 The KC-37:

- is a self-contained intercom unit for use with all 1A1 and 1A2 type rotary and tone dialing key telephone systems.
- provides 37 station and auxiliary equipment access codes.
- provides one-second audible signal to the station. With tone dialing, the signal can be prolonged by holding down the pad button.
- signaling can be repeated without reoperating the switchhook.
- can be mounted in a key telephone equipment cabinet, relay rack or directly on a wall.
- mates with a standard A25B connector cable.
- operates from the key system power supply.

**3. INSTALLATION**

- 3.01 No special installation tools are required.
- 3.02 Written installation instructions are provided with each unit.
- 3.03 Locate and secure the KC-37 housing in a 7-inch KTU apparatus mounting, relay rack or on a wall.
- 3.04 Fasten a connector-ended cable to the KC-37 housing (see Figure 1).

3.05 Make cable connections as specified in Figure 2.

3.06 The arrangements in Figures 3 and 4 can be used by the installer to connect a KC-37

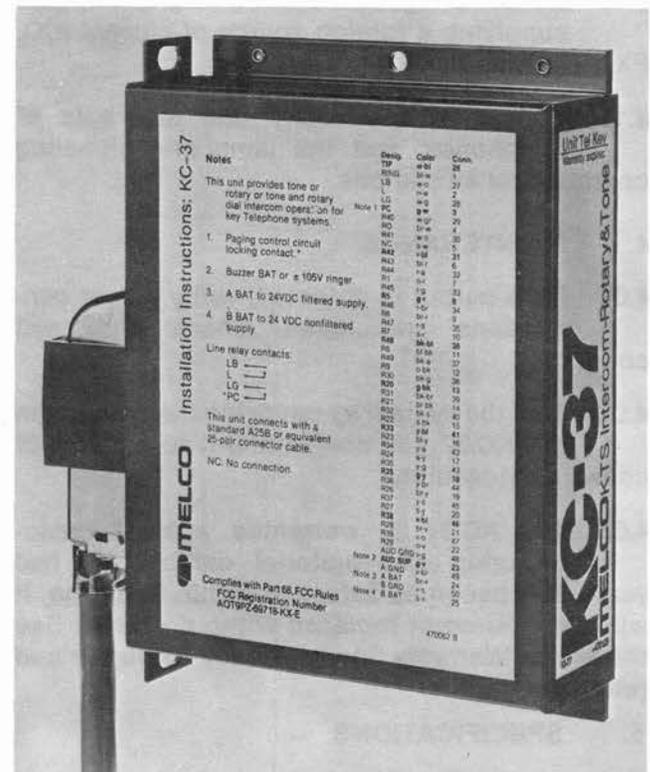
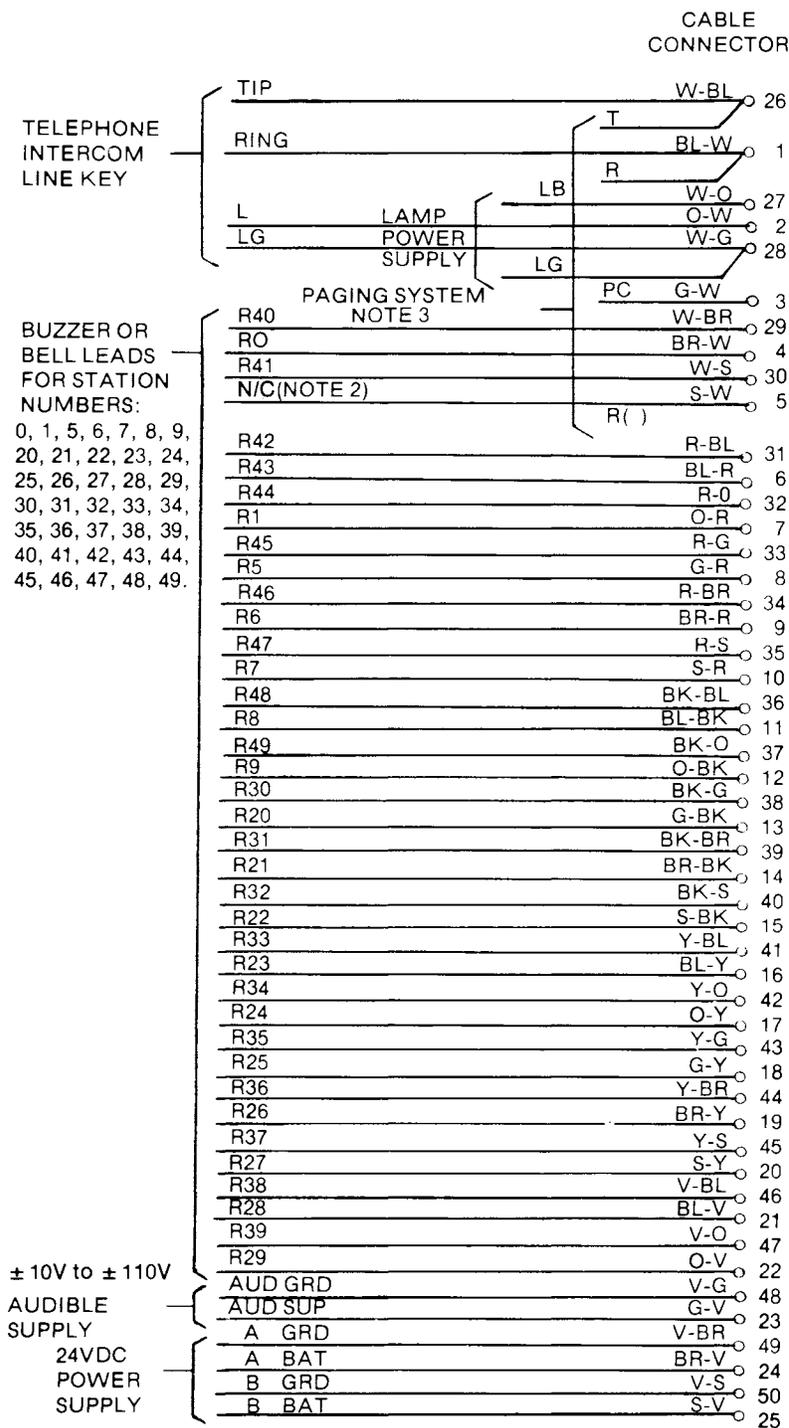


Fig. 1

using one 66B3-50 and one 66B4-25 terminal block. This wiring method utilizes the standard arrangement of an A25B connector cable. Strapped as shown, the terminal block will provide 37 terminations for T, R, LG, L, B( ) and R( ). All power connections are at the bottom of the first block.

3.07 Connections are arranged for ready replacement of a Melco KR-19, KT-19 or KC-19 intercom. Figure 3 shows how the punchings for the B( ) leads of a 19-station installation are reassigned to the additional R( ) leads of the KC-37. Station numbers 3 and 4 are discontinued in the KC-37.



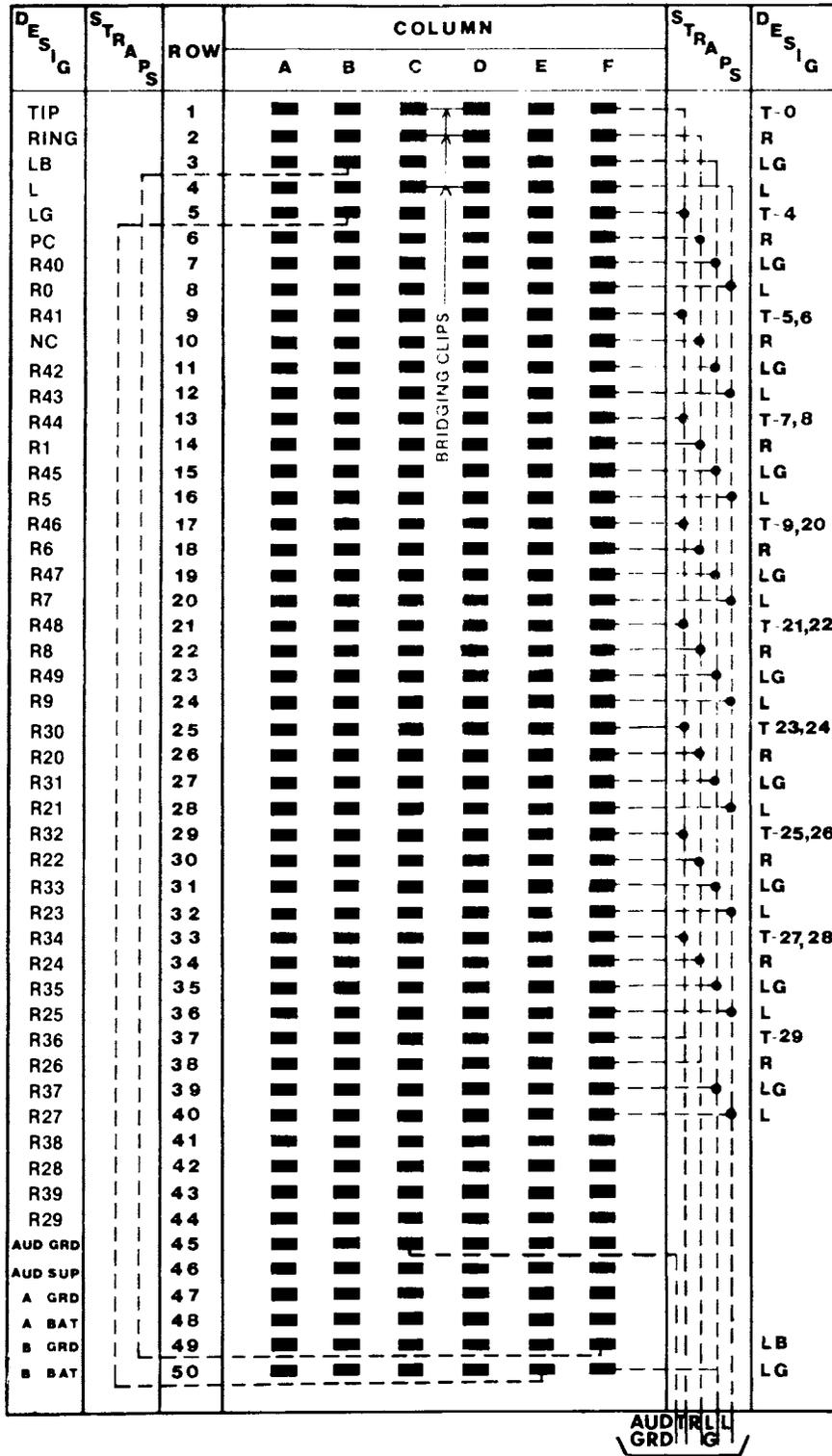


NOTES:

1. DIGITS 2, 3, and 4 CANNOT BE USED AS SINGLE DIGITS FOR INTERCOM LINE NUMBERS.
2. N/C — NO CONNECTION.
3. TO PAGING SYSTEM MELCO KT-363, KT-364, KA-380, KA-380-1 OR EQUIVALENT. CONNECT TO R( ) LEAD AS REQUIRED.

Fig. 2 — Cable Connections.

66B3-50



AUD R L L  
 GRD I G  
 TO NEXT BLOCK  
 (FIG. 4)

Fig. 3 — Connections for 37 Stations.



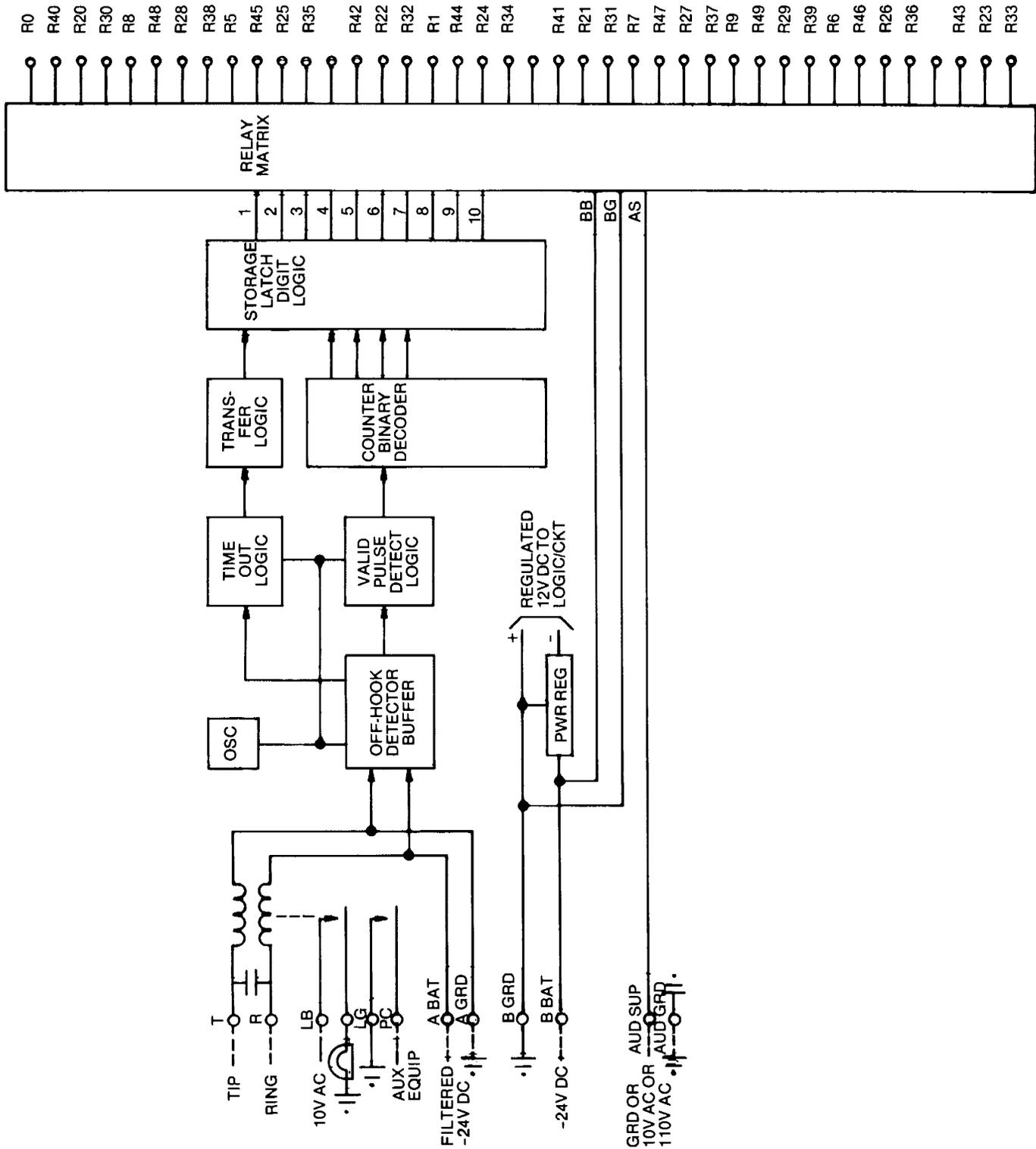


Fig. 5 — Functional Schematic.

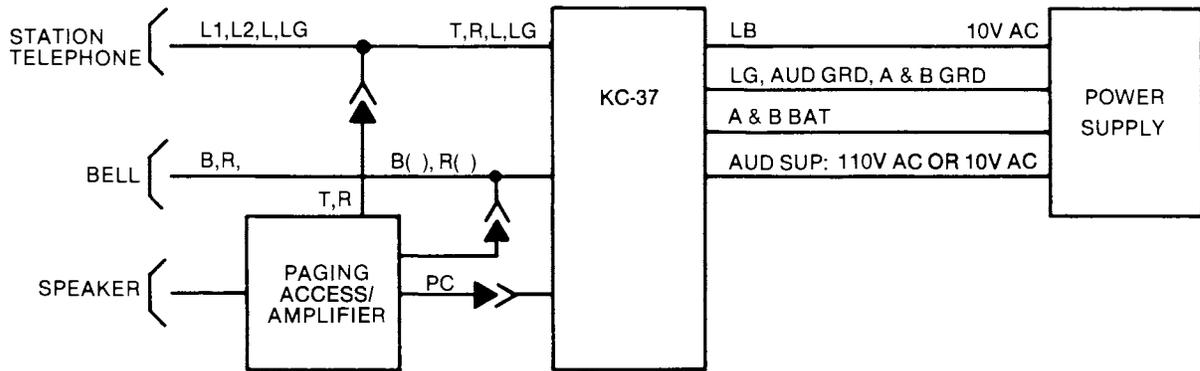


Fig. 6 — Application Schematic.