

Common Talk Single Channel Paging and Common Talk Selective Ring

APPLICATION

The Tek-Page telephone provides rapid, reliable two-way telephonic communication for up to nine locations. Pushbutton selective calling is provided, featuring adjustable buzzers. It is a common talk, single channel system with conference capability. Optional equipment provides loudspeaker paging with automatic background music cut-off.

PROCEDURE

1. Read the following instructions to determine location and installation methods before proceeding.
2. Install housing (or boxes) and wiring.
3. Install equipment.
4. Check wiring and connect.
5. Apply power and check operation.

EQUIPMENT LOCATION AND HOUSING INSTALLATION

Telephones: Locate telephones where convenient for use. For wall mount (TA221, etc.), install single gang outlet box vertically at the desired location. For desk mounting (TA221FC, etc.), locate double gang electrical box within three feet (1 meter) of the telephone to be used as a junction box. On FC type telephones, the terminal board is located at the end of a 5' (1-1/2 meters) cable with attached plate to mount on double gang box.

Amplifiers: The amplifier is surface mounted and must be located away from any source of direct heat or extreme cold and in an accessible location. For best efficiency, the amplifier should be located near the center of the telephone-to-telephone cable run. Keep amplifier at least 3' (1 meter) away from transformers, electrical devices or electrical wiring. Use PK507A if paging is to be installed. Use PK505A for systems without paging capability.

Transformer: The SS105B transformer is a plug-in device and must be provided with an electrical outlet at some convenient location and should be located within 50' (15 meters) of the amplifier. If the SS102A transformer (pigtail type) is used, it may be installed on the fuse panel or other accessible source of 117 volts AC, but should be located within 50' (15 meters) of the amplifier.

Paging Speakers (optional): Paging speakers may be located where needed, but should not be located too close to any telephone, since doing so may result in feedback howl during paging from that location. Speakers should be kept about 15' (1-1/2 meters) or more away from any telephone.

Background Music Source (optional): Install music equipment near the telephone amplifier, but no closer than 3' (1 meter). Install according to the manufacturer's instructions.

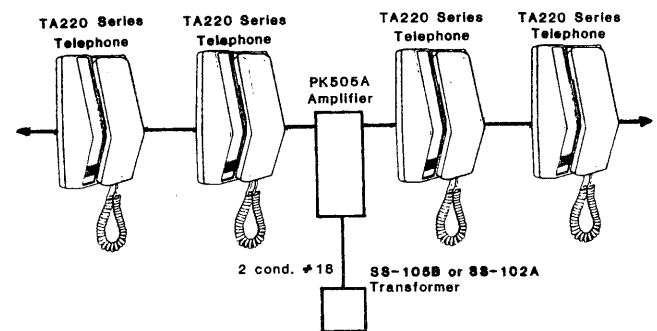
High Level Paging Amplifier: Install booster amplifier near the telephone amplifier but no closer than 3' (1 meter). Install and connect to paging speakers according to manufacturer's instructions.

WIRING

Telephones	Cable Required
<u># of Telephones</u>	
up to 4	5 twisted pairs (9 cond.) #22
up to 7	6 twisted pairs (12 cond.) #22
up to 11	8 twisted pairs (16 cond.) #22

Run cable from telephone to telephone. Keep away from all fluorescent lights or other electrical devices. Protect cable from damage. (See wiring layout, Fig.1). NOTE: Maximum length of common cable is 1500' (450 meters).

Intercom System Only - Wiring Layout Diagram



Paging Intercom System - Wiring Layout Diagram

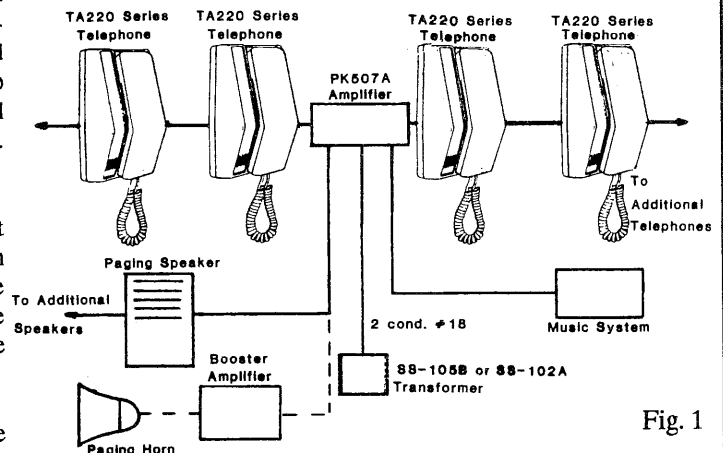


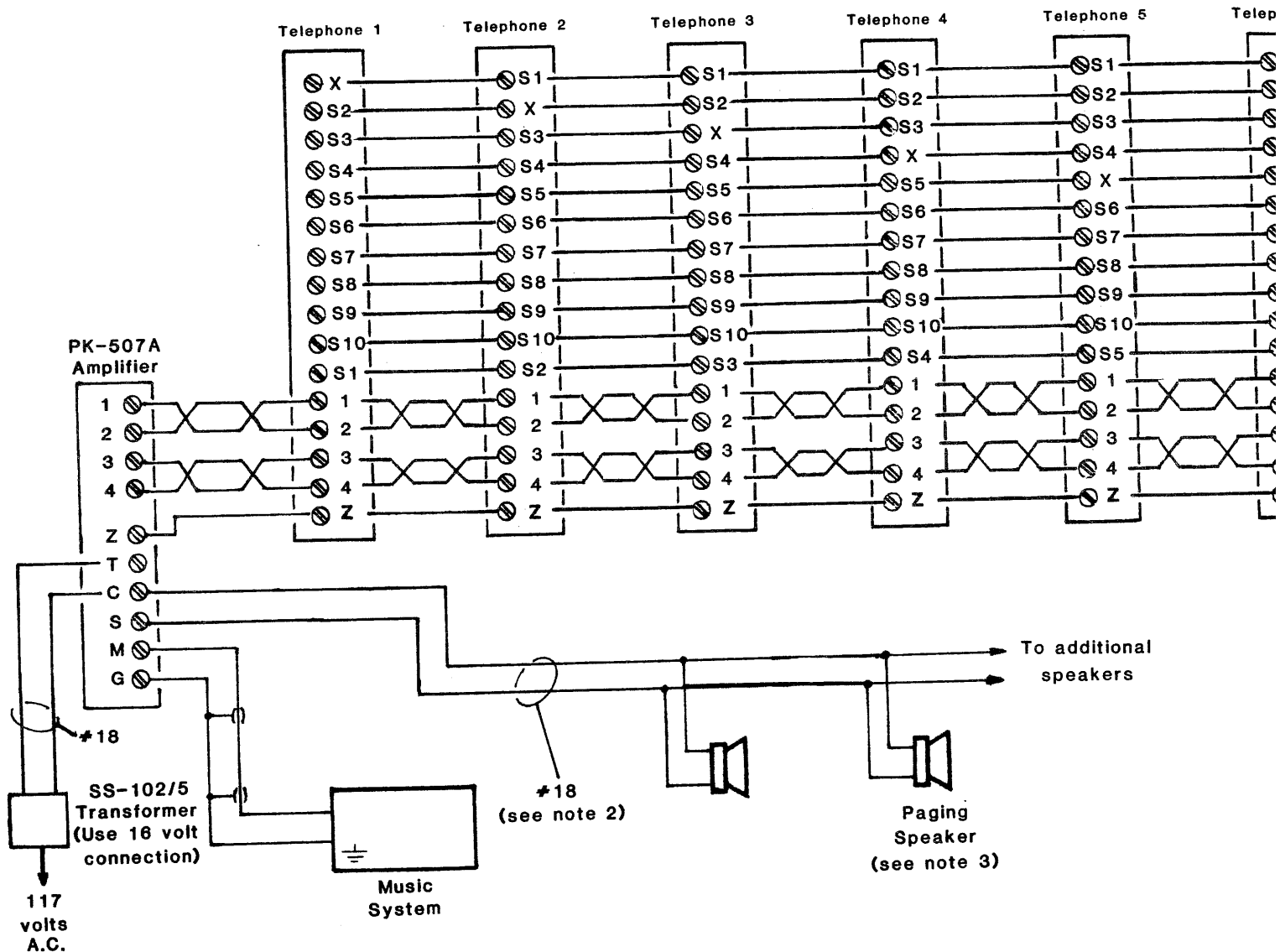
Fig. 1

Amplifier: Run 2 twisted pairs (4 cond.) plus one single wire #22 gauge from the amplifier to the nearest telephone. For runs longer than 50' (15 meters) use #18. Alternately, the telephone common cable may be run directly to the amplifier as shown in Fig. 1.

Transformer: Run 2 cond. #18 cable to amplifier location. Route away from telephone wiring. Protect cable from damage.

Paging Speakers: Run 2 cond. #18 cable from speaker to speaker and from the nearest speaker to the amplifier. Keep this cable away from telephone cable and protect from damage.

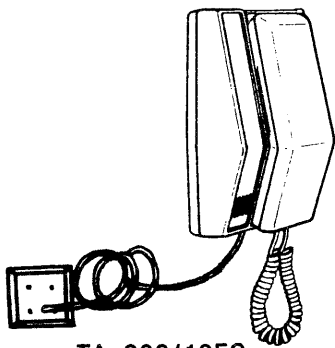
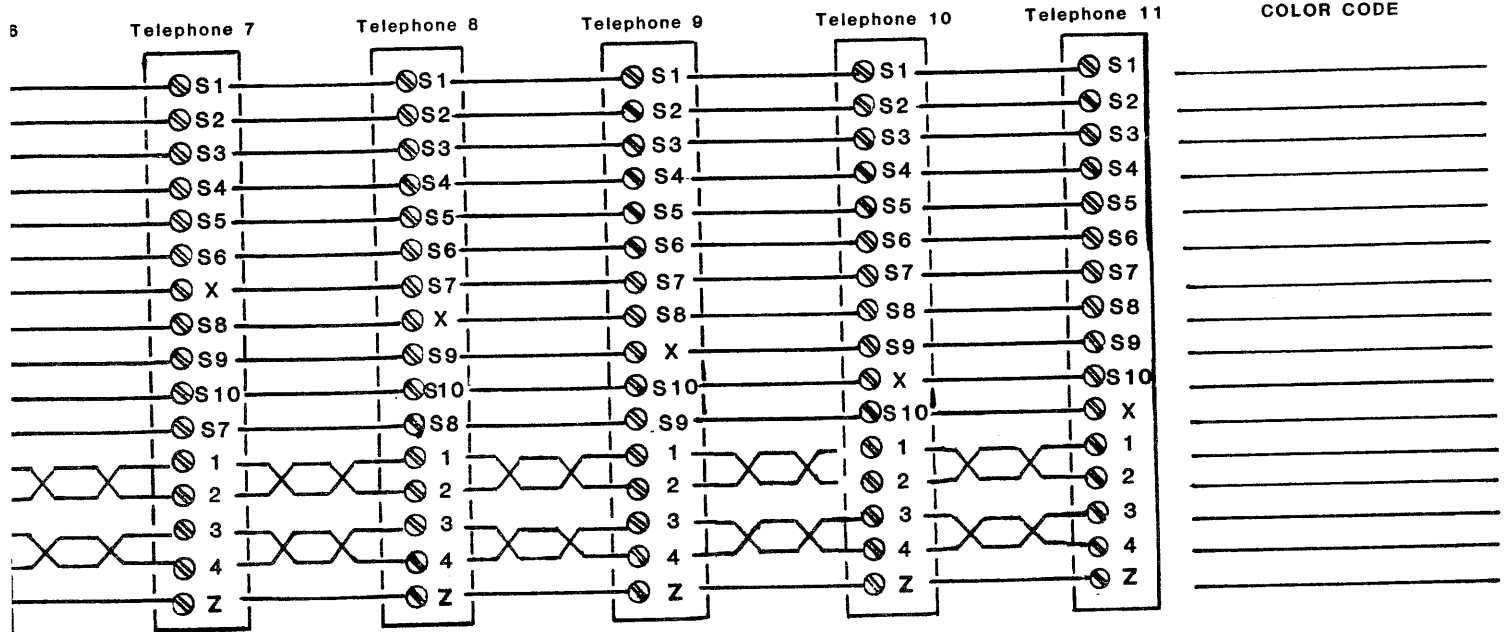
INTERCONNECTING



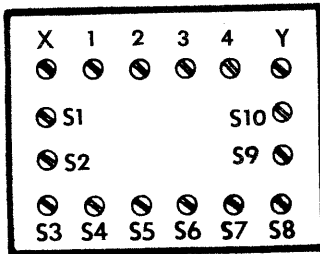
NOTES:

1. Use twisted pair wiring where shown.
2. Keep paging speaker away from telephone common cable.
3. Total minimum speaker impedance is 4 ohms. (Up to eleven 45 ohm speakers in parallel).
4. If music system has high impedance output, use shielded wire as shown. If music system has low impedance output, shielded wire is not needed and twisted pair may be used.
5. If paging is not installed, use PK505A amplifier. Connect terminals 1,2,3,4,Z as shown for PK507A. Connect transformer to terminals T and 4. Disregard connections to paging speakers and music system.
6. TA220FC series phones include a terminal board located at the end of a 5' attached cable. Connections are made to the terminal board in the same manner as standard series telephones with terminal Y equal to terminal Z.

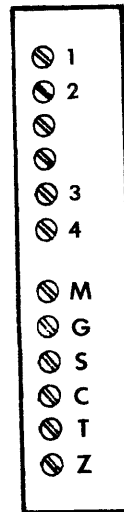
IRING DIAGRAM



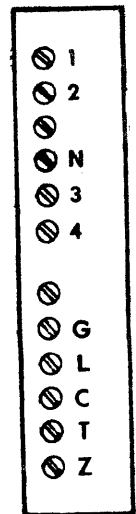
TA-220/10FC



TA-220/10FC
Telephone
Actual Terminal
Location



PK-507A
Actual Terminal
Location



PK-505A
Actual Terminal
Location

CONNECTIONS

Before connecting, make certain that wires are free from shorts or grounds.

Telephones: Connect telephones together as shown on the connecting diagram. Use twisted pair wiring where shown. Do not reverse polarity or interchange wires. Note that the X terminal is selective and must be connected to a different conductor at each telephone. Writing the cable color code in the space provided will aid in making the proper connections. NOTE: Desk mounted telephones include 5' of cable and attached terminal board suitable for mounting on a double gang electrical box.

Amplifier: Connect amplifier terminals 1 and 2 to telephone terminals 1 and 2 using twisted pair wiring. Connect amplifier terminals 3 and 4 to telephone terminals 3 and 4 using twisted pair wiring. Do not reverse polarity. Connect amplifier terminal Z to telephone terminal Z (terminal Y on FC-type telephones).

Transformer: Connect transformer 16 volt AC terminals to amplifier terminals T and C on PK507A and to terminals T and 4 on PK505A. Do not plug transformer into an electrical outlet or connect transformer primary to 117 volts AC until installation is complete and checked.

Paging Speakers: Connect paging speakers to PK507A amplifier terminals A and B. Minimum total load impedance is 4 ohms (11 IR100 speakers in parallel or two SB205A paging horns in parallel). Paging speaker wiring must be kept away from telephone wiring.

Background Music Sound: Install music system according to the manufacturer's instructions. Connect system output to PK507A amplifier terminals M and G. The common or ground side connects to terminal G. Shielded wire must be used, unless low impedance (4 to 16 ohms) output of the music system is used.

High Level Paging Amplifier: Install booster amplifier according to the manufacturer's instructions. Connect PK507A amplifier terminals S and G to booster amplifier phono or auxiliary input. Terminal C is the common or ground side. Connect booster amplifier to paging speakers in accordance with manufacturer's instructions. Speaker wiring must be kept away from telephone wiring. Alternately, use shielded cable.

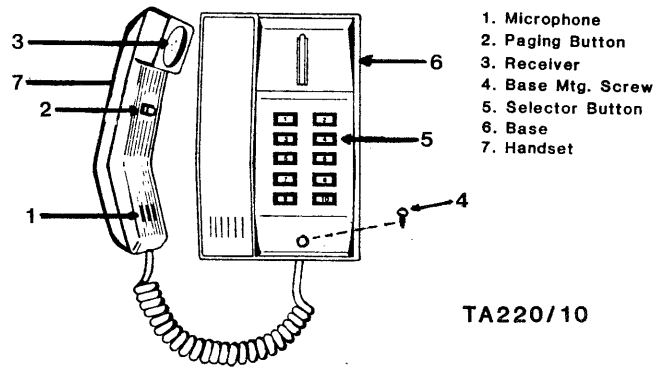
FINISH INSTALLATION

Check wiring, complete installation of equipment and plug transformer into outlet or, if SS102A transformers are used, connect primary to 117 VAC. Observe local electrical codes.

TEST AND CHECK-OUT

1. Place all telephone handsets on cradles.
2. Pick up one handset and momentarily push each selector button to determine if buzzer at called station buzzes accordingly. NOTE: Buzzers may be adjusted as desired by removing the telephone base and using a small screwdriver.
3. Repeat Step 2 at all telephones. Test communication by speaking to another person at each telephone. NOTE: Amplifier volume controls are factory pre-set but may be readjusted if necessary. If feedback howl occurs, volume is set too high.
4. To test paging system, first adjust music system (if one is installed) for proper operation, then lift handset and push the

page button and speak into the telephone microphone. The music should be silenced and paging call should be heard from the paging speakers. NOTE: Amplifier volume controls are adjusted at the factory but may be readjusted, if necessary. If feedback howl or distortion occurs, reduce volume. (If a high level paging booster amplifier has been installed, adjust the booster amplifier as needed. If feedback occurs, reduce the volume.)



OPERATING INSTRUCTIONS

To CALL, pick up the handset and momentarily push the selector button of the desired telephone. To ANSWER A CALL, pick up the handset and speak. To PAGE, pick up handset, push the page button and speak into the handset microphone.

TROUBLESHOOTING

If the system fails to operate as required, first re-read the above Test and Check-Out and Operating Instructions. If the equipment fails to operate as indicated, check the following:

1. **Entire System Dead:** Check 16 VAC at the transformer secondary. Check wiring between the transformer and amplifier. Check 117 VAC at the transformer primary or at outlet.
2. **No Sound At Any Telephone:** Check wiring to terminals 1 and 2 and to 3 and 4. Check to see if amplifier volume is set too low.
3. **No Buzzer Operation:** Check wiring from the amplifier terminal 5 (terminal C on the PK507A) to telephone terminal Y. Check to determine if buzzer adjustment is set too low.
4. **No Paging:** Check wiring to paging speakers. If these wires are shorted, permanent amplifier damage may occur. Check to determine if paging volume is set too low.
5. **Feedback Howl:** Check to see if volume is set too high or if paging speaker is installed too close to the telephone.
6. **Music Crosstalk On Telephone:** Check to determine if paging speaker wires are installed too close to telephone wiring.
7. **Distortion On Paging:** Check to determine if volume is set too high or if paging speaker wires are installed too close to the telephone wiring.

NOTICE

TekTone® warranty is void if this system is installed or used in any manner other than described in this manual.