

STATION INSTALLATION HANDBOOK



Pacific Telephone

DEC. 1969

PART 1

GENERAL INFORMATION (Includes Safety and First Aid)

PART 2

I. W. AND PROTECTION (Includes Connecting Blocks, Jacks
and Plugs)

PART 3

TELEPHONE SETS (Includes Ringers, Dials, and Handsets)

PART 4

OUTSIDE PLANT (Includes Drop Wire, Terminals, Pole Climbing,
and G.O. 95)

This material is prepared for Bell System purposes and is for the use of Bell System employees only. Its distribution is in no sense a publication. Neither the material nor any portion thereof is to be reproduced in any form by others without the written permission of The Pacific Telephone and Telegraph Company.

**PACIFIC TELEPHONE
STATION INSTALLATION HANDBOOK
TABLE OF CONTENTS**

(An asterisk [*] indicates a new or revised practice.)

PART 1 GENERAL INFORMATION (Includes Safety and First Aid)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
*	002-100-910PT	A	Handling Working Circuits
*	002-300-912PT	B	Central Office, Outside Plant, and Station Visit Inspections and Special Investigations of Toll, Exchange, and Private Line Services
*ADD	010-100-001PT 010-100-001	D 3	First Aid
ADD	010-100-010PT 010-100-010	B 1	First Aid – Prevention of and First Aid for Skin Irritation from Creosote
*	010-110-005	1	General Safety Precautions – Epoxy Resins
	075-160-301	2	Screwdrivers – Selection, Use and Maintenance
	080-115-101	1	B Automatic Drill
ADD	080-120-101PT 080-120-101	A 1	Grounding Portable Electric Power Tools
*	080-720-105	1	Attachments and Fasteners – Description of Surfaces Encountered
	081-050-900PT	A	Portable Electric Drills – Description, Care, Use and Maintenance
	081-710-200	4	Insulating Gloves, Leather Protectors, Fabric Liners and Glove Bag
	081-720-101	1	Leather Body Belts – Description and Maintenance
	081-721-101	1	Fabric Body Belts and Safety Straps – Description and Use
	081-730-101	1	Climbers
*	081-740-105	2	Extension Ladders and Attachments – Description and Use
*	081-740-921PT	B	Tools – Use and Care of Stepladders
	081-740-925PT	A	Lightweight Extension Ladders – Description, Use, Inspection and Maintenance
*	081-741-900PT	A	Ladder – K3125 Combination
	105-298-901PT	B	Station Apparatus – Locating Trouble – Dial Hand Test Set and Test Set – KS 16990 List 1
	460-110-100	4	Special Safeguarding Measures (SSM) and Special Service Protection (SSP)
	460-861-965PT	A	Foreign Attachments

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
*	469-020-912PT	C	Repair Ticket, Field Service Order, and Line and Station Transfer, Form P 632
APP 1	469-020-912PT	A	Repair Trouble Ticket (Field Use of Form E-4732-2)
	469-052-902PT	B	Public Relations – Plant Service Force
	469-052-926PT	C	Station Visits – Testing Procedures, Subscriber Line Identification and Use of Dial, Ringer, and Party Identification Circuits
	500-810-200	1	Packaging and Handling Disconnected Station Apparatus
#ADD	620-105-010PT	A	
#ADD	620-105-010	1	
#	620-105-010	4	Observations and Tests to be Made Before Climbing or Working at Joint Use Poles
#	620-105-300	2	Field Repair of B Voltage Tester
#	620-131-010	3	Precautions to be Taken before Climbing Poles or Working from Strand- or Pole-Supported Equipment
#	620-132-010	2	Safeguards to be Taken before Climbing Poles – Testing Poles
#	620-133-010	1	Safeguards to be Taken before Climbing Poles – Temporary Supports
#	627-295-500	4	Testing Suspension Strands
*	680-595-984PT	C	Special Handling Procedures for Modified Telephone Sets Using Bell System Components
	680-895-927PT	A	Completing Reconnect Orders – Field Work
	745-003-902PT	A	Station Apparatus, Material, and Tools – Protection, Handling, and Recovery by Plant Forces (Northern Region and Nevada Bell Only)

PART 2 I. W. AND PROTECTIONS (Includes Connecting Blocks, Jacks, and Plugs)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
*	460-100-100	2	Station and PBX Protection Required for Various Conditions of Plant
*ADD	460-100-101	1	
	460-100-101	1	Station Protectors – Identification and Selection
	460-100-200	1	Station Protection – Installation and Inspection
*ADD	460-100-201PT	A	
*	460-100-201	2	Station Protector and Signaling Grounds – Selection and Installation
	461-200-100	1	Inside Wire and Cable Selection
ADD	461-200-200PT	D	
	461-200-200	3	Selection of Route for Station Wire and Cable
	461-200-202	2	Concealing Wire and Cable without Conduits or Raceways
*ADD	461-200-205PT	A	
*	461-200-205	4	Splicing Station Wire and Inside Wiring Cable
*ADD	461-200-210PT	A	
*ADD	461-200-210	1	
*	461-200-210	4	Station Wire and Cable Attaching and Fastening
APP 1	461-200-210PT	A	Attaching and Fastening Station Wire and Cable

These practices have been moved from Part 4.

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
APP 2	461-200-210PT	A	Screw Conversion Chart
	461-200-211	1	Attaching and Fastening Ground Wire
	461-600-100	1	Connecting Blocks – Selection
ADD	461-630-100PT	E	
	461-630-100	5	Jacks for Portable Telephone Sets – Selection
*ADD	461-630-101	1	
	461-630-101	1	Jacks and Jack Mountings for Portable Telephone Sets, Indoor Type Identification, Installation, and Connections
*ADD	461-630-102	1	
	461-630-102	1	Jacks and Jack Mountings for Portable Telephone Sets, Outdoor Type Identification, Installation, and Connections
*	461-630-105	2	Plugs for Portable Telephone Sets – Identification and Connections
*	462-200-200	4	Drop and Block Wiring – Pressed Sleeve Splices
	638-215-300	2	Station Protection – Maintenance

PART 3 TELEPHONE SETS (Includes Ringers, Dials, and Handsets)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	463-110-200	5	Auxiliary Signals – Installation and Maintenance
	463-110-400	3	Auxiliary Signals – Connections
APP 1	463-110-400PT	A	Auxiliary Signals – Customer Owned Connections
ADD	500-114-100PT	A	
*ADD	500-114-100	3	Ringling Limitations
	500-115-400	1	Special Connections for Telephone Sets and Subscriber Sets Using 3-Element Electron Tubes in Ringing Circuit
*	501-136-100	3	Station Transformers – Identification
ADD	501-162-100PT	A	
*ADD	501-162-100	1	
*	501-162-100	8	Station Dials 5, 6, 7, and 8 Types – Identification and Maintenance
	501-162-101	5	Station Dials 9-Type – Identification and Maintenance
*	501-211-102	2	Handsets (Amplifier) G6, G7, G8, and G13 Types – Identification, Connections, and Maintenance
	501-250-300	1	Ringers – General Maintenance and Ringing Tests
	501-252-100	7	F1A Ringer
	501-258-101	2	Ringers – L1A – Identification, Installation, Maintenance and Connections
*	501-410-101	2	F-56659 and F-56660 Telephone Set Components for Installation in Customer-Owned Housings – Identification, Installation, Connections and Maintenance
*	502-120-200	4	Telephone Sets and Associated Station Apparatus – Selection of Indoor Locations
ADD	502-120-202PT	A	
	502-120-202	1	Station Sets – Selecting Outdoor Locations – Patios and Swimming Pools
	502-200-200	2	Subscriber Sets – Loud Ringing Bells – Installation

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
*	502-320-100	5	Hand Telephone Set – 220A, 1220A, and 2220B – Identification, Installation, Maintenance and Connections
	502-321-100	3	Telephone Bases AC1 and AD1 – Identification, Installation, Maintenance
	502-321-400	2	Hand Telephone Sets – 220A, 1220A, and 2220B Telephone Bases – AC1 and AD1 Trimline Connections
*	502-510-100	7	Telephone Sets – 500, 501, 554, and 556 Types – Identification, Installation and Maintenance
	502-510-121	1	Telephone Sets – 2500 and 2554 Types – Identification, Installation, and Maintenance
	502-510-400	5	Telephone Sets – 500A, B and 501A, B Common Battery – Connections
*	502-510-401	8	Telephone Sets – 500C/D and 501C/D Connections
	502-510-404	4	Telephone Sets – 500J, K and 501J, K Common Battery – Connections
*	502-510-410	9	Telephone Sets – 554A/B, 554F, and 556A/B Connections
	502-510-450	1	Telephone Sets – 2500D – Connections
	502-510-460	1	Telephone Sets – 2554B – Connections
	502-710-101	1	Telephone Sets 701, 702, 711, 712, and 713 Types – Identification, Installation, and Maintenance
	502-710-103	1	Telephone Sets – 2702, 2712, and 2713 Types – Identification, Installation, and Maintenance
*ADD	502-710-400PT	8	
*	502-710-400	6	Telephone Sets – 701B – Connections
	502-710-403	7	Telephone Sets – 702B – Connections
*ADD	502-710-440	1	
	502-710-440	2	Telephone Sets – 2702-Type – Connections

PART 4 OUTSIDE PLANT (Includes Drop Wire, Terminals, Pole Climbing, and G.O. 95)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
*ADD	460-100-209PT	A	
*	460-100-209	1	Station Protection and Wiring – Mobile Homes – Identification and Installation
ADD	462-070-016	1	
	462-070-016	1	Clearances for Drop Wire in the Medium Loading Area
ADD	462-070-017	1	
	462-070-017	1	Clearances for Drop Wire in the Heavy Loading Area
	462-240-200	3	Drop and Block Wiring – Drops from Open and Rural Wire Lines
*	462-260-201	1	Drop and Block Wiring at Aerial Cable Terminals
	462-300-200PT	A	Drop and Block Wiring – Pole and Guard Arm Attachments (For Use in California Only)
	462-300-205	3	Drop and Block Wiring – Strand Attachments
ADD	462-350-213PT	C	
	462-350-213	2	Drop and Block Wiring – Fastening and Equipping First Attachments of Drop Wire Runs to Building

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	462-350-214	2	Drop and Block Wiring – Fastening and Equipping Intermediate and Last Attachments of Drop and Block Wire Runs on Buildings
	462-400-205	3	Drop and Block Wiring – Placing Drop Wire Where Power Exposure is Less Than 300 Volts
	462-400-206	1	Drop and Block Wiring – Placing Drop Wire Voltages of 300 to 750 Involved
*	462-400-211	3	Drop and Block Wiring – Pole-to-Building and Pole-to-Pole Runs
*	462-400-211PT	A	Drop and Block Wiring – Pole-to-Building and Pole-to-Pole Runs (For Use in California Only)
*ADD	462-450-205PT	A	
	462-450-205	3	Drop and Block Wiring – Separation and Mechanical Protection
*	462-470-241	4	Drop and Block Wiring – Disposition of Wire at Terminal or Pole on Discontinuance of Service
	462-500-100	6	Drop and Block Wiring – Multiple Drop Wire Description
ADD	462-500-200PT	D	
	462-500-200	3	Drop and Block Wiring – Multiple Drop Wire Placing
ADD	462-600-200PT	A	
	462-600-200	2	Dedicated Plant – Wiring Access Points
	462-800-311	1	Drop and Block Wiring – Lowering and Replacing Drop Wire Voltages Less Than 300 Involved
	462-800-312	1	Drop and Block Wiring – Lowering and Replacing Drop Wire Voltages of 300 to 750 Involved
*	620-101-900PT	A	Outside Plant – Precautions – Aerial Work
*	620-102-010	5	Outside Plant – Precautions – Underground and Buried Work
	620-200-900PT	E	Clearances for Aerial Plant (For Use in California Only)
ADD	620-216-013	2	
	620-216-013	2	Clearances on Jointly Used Poles
	620-216-014	1	Climbing Space on Jointly Used Poles
	620-255-980PT	B	Measuring Clearances and Separations For Aerial Plant
	623-300-202	2	Open Wire Bridling to Line Wire
	624-300-200	2	Wire Terminals – Installation of 104-Type Wire Terminals and 116-Type Protectors
	624-300-205	1	Wire Terminals – Installation of 105A
	629-020-100PT	A	Buried Plant – Urban Installations – Telephone Joint with Power
*	629-720-205	3	Buried Plant – Terminations of Buried Wire at Junctions with Buried Plant
	629-760-900PT	A	Buried Plant – Splicing and Encapsulating Buried Wire
*	631-240-206	5	49-Type Cable Terminal – Terminating Conductors

KTS INSTALLATION HANDBOOK



Pacific Telephone

MAR. 1970

FOREWORD

This handbook is intended to be used, along with the Station Installation Handbook, by installation craftsmen in their daily job.

It is anticipated that this handbook will be replaced at six to nine month intervals.

The handbook contains the following information:

PART 1

GENERAL (Includes adapters, connecting blocks, power, buzzers)

PART 2

TELEPHONE SETS (Includes Sub Sets)

PART 3

STATION KEYS (Includes dialers, speaker-phones)

PART 4

KEY TELEPHONE UNITS (Includes Dial Intercom, Key Service Units)

This material is prepared for Bell System purposes and is for the use of Bell System employees only. Its distribution is in no sense a publication. Neither the material nor any portion thereof is to be reproduced in any form by others without the written permission of The Pacific Telephone and Telegraph Company.

**PACIFIC TELEPHONE
KTS INSTALLATION HANDBOOK
TABLE OF CONTENTS**

(An asterisk [*] indicates a new or revised practice.)

PART 1 GENERAL INFORMATION (Includes Adapters, Connecting Blocks, Power, and Buzzers)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
APP 1	167-400-180PT	A	Power Plants — Key Telephone Systems
ADD	167-400-200PT 167-400-200	B 3	Power Plants Located on Customer Premises — General Installation Requirements
ADD *	167-400-210PT 167-400-210	A 3	Power - Cord Plug - Retainer Assemblies — Power - Cord Plug Adapters for Use with Power Plants and Equipment Located on Customer Premises — Identification and Installation
APP 1	167-416-201 167-416-201PT	7 A	101G (J86731) Power Plants — Identification, Installation, and Connections
APP 1	167-419-202 167-419-202PT	4 A	101J (J86471B, List 1) Power Plant — Identification, Installation, and Connections
	167-440-201	2	Power Units — 19B2, 19C2, 20B1 (MD), 20B2, and 20C2 — Identification, Installation, Connections, and Maintenance
*	167-446-101	2	Power Units — 29 - and 30 - Type — Identification, Installation, and Connections
	167-447-101	1	Power Units — 34B1 and 34C1 — Identification, Installation, and Connections
	461-200-102	1	Adapters — 148, 149, 153, and 3-Way Bridging Types — Identification
APP 1	461-200-102PT	A	283-5 Amphenol Adapter — Identification
APP 1 APP 2	461-620-100 461-620-100PT 461-620-100PT	1 A A	Matrix Block — 1A1 — Identification, Installation, Wiring, and Maintenance
	463-210-100	3	Lamp Indicators
	500-124-180	5	Stations Sets and Apparatus for Special Applications — Selection
*	500-155-100	3	Key Telephone Sets — Dial Restriction
	500-815-200	1	Packaging and Handling Disconnected 400 - Type KTU's
	501-120-400	3	Buzzers and Bells — Connections and Limitations
	501-120-900PT	A	QBX1A Miniature Buzzer — Identification and Installation
	501-150-102	3	Designation Strips and Cards

PART 2 TELEPHONE SETS (Includes Sub Sets)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	502-200-404	9	Subscriber Sets – 685A – Used With Hand Telephone Sets – Connections
	502-510-401	8	Telephone Sets – 500C/D and 501C/D – Connections
	502-510-407	4	Telephone Sets – 500R/S – Connections
	502-510-410	9	Telephone Sets – 554A/B, 554F, and 556A/B – Connections
	502-510-450	1	Telephone Sets – 2500D – Connections
	502-510-454	1	Telephone Sets – 2500S – Connections
*	502-510-460	2	Telephone Sets – 2554B – Connections
ADD	502-515-400PT 502-515-400	A 5	Telephone Sets – 502, 510, and 511 Types – Connections
	502-515-401	4	Telephone Sets – 558 - Type – Connections
	502-515-438	1	Telephone Sets – 2502B – Connections
	502-515-440	1	Telephone Sets – 2510F – Connections
	502-515-441	2	Telephone Sets – 2511 - Type – Connections
	502-515-448	1	Telephone Sets – 2558D – Connections
	502-525-404	2	Telephone Sets – 564HDR – Common Battery – Connections
	502-525-405	3	Key Telephone Sets – 565HDR – Common Battery – Connections
	502-525-406	4	Key Telephone Sets – 565LDR – Connections
	502-525-408	2	Telephone Sets – 565LK – Connections
*APP 1	502-525-408PT	A	Ringer Cutoff and Transfer – Connections for 565LK Telephone Set
	502-525-409	2	Telephone Sets – 565GK – Connections
	502-525-410	5	Telephone Sets – 564HK and 564HL – Connections
	502-525-411	4	Telephone Sets – 565HK – Connections
	502-525-434	1	Telephone Sets – 2564HL – Connections
	502-525-435	1	Telephone Sets – 2565GK – Connections
	502-525-436	1	Telephone Sets – 2565HK – Connections
	502-525-437	1	Telephone Sets – 2565LK – Connections
ADD *	502-630-401PT 502-630-401	A 7	Telephone Sets – 630 and 631 Types – Connections

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	502-630-420	2	Telephone Sets — 2630 and 2631 Types — Connections
*	502-634-401	8	Telephone Sets — 634 and 635 Types — Connections
	502-634-421	1	Telephone Sets — 2634 and 2635 Types — Connections
ADD	502-660-102 502-660-102	1 1	Telephone Sets — 662 and 664 Types — Identification, Installation, and Maintenance
*	502-660-402	2	Telephone Sets — 662 - Type — Connections
*	502-660-422	2	Telephone Sets — 2662 - Type — Connections
*	503-601-101	1	Telephone Sets — 851A1M and 2851A1M — Identification, Installation Connections, and Maintenance

PART 3 STATION KEYS (Includes Dialers, Speakerphone)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	512-125-100	2	KS - 19594 Dialer — Description and Operation
*ADD	512-125-400 512-125-400	1 4	KS - 19594 Dialer — Telephone Sets Equipped with Rotary Dials — Connections
APP 1	512-210-100PT	A	Station Control Keys — Identification and Installation — PTS 45, List 1 Base for 6051 Keys
	512-210-101	1	Separately Mounted Keys — 6017 - and 6026 - Lever Types — Identification, Installation, and Connections
*	512-210-103	3	Separately Mounted Keys, Illuminated Pushbutton — 6040, 6041, 6050, and 6051 Types — Identification, Installation, and Connections
*APP 1	512-210-103PT	B	Modified Cable and Cords — Description
APP 1	512-220-100 512-220-100PT	5 A	Pushbutton Keys — 549 and 551 Types — Identification, Installation, Maintenance, and Connections
*	512-230-100	5	Switching and Pushbutton Keys — Modular Type — Identification, Installation, and Maintenance
APP 1	512-230-101 512-230-101PT	2 A	Modular Units — Lamp Sockets and Apparatus Blanks
	512-620-100	4	Speakerphone System — 3 - Type — Identification and Operation

<u>Section</u>	<u>Issue</u>	<u>Subject</u>
512-620-403	3	Speakerphone Systems – 3A – The Call Director – Connections
512-620-410	1	Speakerphone System – 3- Type 500R/S Telephone Set – Connections and Maintenance
512-620-415	2	Speakerphone System – 3-Type 511-Type Telephone Sets – Connections and Maintenance
512-620-420	1	Speakerphone System – 3- Type 565 - Type Telephone Sets – Connections and Maintenance
512-620-440	1	Speakerphone System – 3- Type 630 - Type Telephone Sets – Connections and Maintenance

PART 4 KEY TELEPHONE UNITS (Includes Dial Intercom and Key Service Units)

<u>Section</u>	<u>Issue</u>	<u>Subject</u>
518-112-100	1	1A Key Telephone System – Connection Data – List of Sections
518-112-101	1	1A Key Telephone System – Connection --Introduction
518-112-400	1	1A Key Telephone System – Power Supply Connections
518-112-402	1	1A and 1B Key Telephone Units – Hold Circuits – Connections
518-112-403	2	2A, 12B, and 31A Key Telephone Units – Battery Feed Circuits – 23A Key Telephone Unit – Noise Suppression Circuit – Connections
518-112-406	1	6B and 6C Key Telephone Units – Supervisory and Busy Lamp Circuits – Connections
518-112-407	1	7A Key Telephone Unit – Private Line Circuit – Connections
518-112-408	1	10A Key Telephone Unit – Automatic Exclusion Circuit – Connections
518-112-409	1	13C Key Telephone Unit – 2-Way Automatic Signaling Intercommunicating Circuit – Connections
518-112-411	1	16A and 20A Key Telephone Units – Common Audible Control Circuits – Connections
518-112-412	1	17B Key Telephone Unit – Switching Relay Circuit – Connections
518-112-414	1	19B Key Telephone Unit – Lamp Flashing Circuit – Connections

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	518-112-415	1	22 - Type Key Telephone Units – DC Lamp Resistance Circuit – Connections
	518-112-419	1	34A Key Telephone Unit – Make - Busy Lamp and Key Circuit for Central Office or PBX Lines – Connections
	518-114-400	3	1A1 Key Telephone System – Power Supply Connections to Key Telephone Units – Connection Data
	518-114-402	3	1A1 Key Telephone System – Line Pickup, Holding, Line and Busy Lamps, and Common Audible Signal 202A, B, C, D; and 212A Key Telephone Units Connections
ADD	518-114-403PT	A	1A1 Key Telephone System – Central Office or PBX Line Circuits and Common Equipment – 202C/D, 230A/B, 238A, 239A, 232A/B, 209A, 212A, Key Telephone Units – Connections
	518-114-403	3	
APP 1	518-114-403PT	A	
	518-114-411	3	1A1 Key Telephone System – Audible Signal Control Interrupted Common Audible Signal Using 16A or 211A Key Telephone Units – Connections
	518-114-420PT	A	1A1 Key Telephone System – Dial Selective Intercommunicating Lines, Busy Lamps, and Audible Signal Using 207A, 207B, 207C, and 216A Key Telephone Units – Connection Data
*ADD	518-215-110PT	A	Panels – 583 - and 584 - Types – Identification and Installation
*	518-215-405	1	513 - , 514 - , and 515 - Type Key Service Units 1A2 Key Telephone System – Connections and Maintenance
*	518-215-410	1	Panels – 583 - and 584 - Types – Connections and Maintenance
*	518-215-420	1	1A2 Key Telephone System – 69 B,D, and G Apparatus Mountings – Connections
*ADD	518-220-400PT	A	400A, B, C, and D Type Key Telephone Units – Identification, Installation, Connections, and Maintenance
	518-220-400	2	
	518-220-401	1	401A Key Telephone Unit – Identification, Installation, Connections, and Maintenance
	518-240-100	1	Key Service Units – 300, 301, 302, 310, and 311 Types – Identification and Description
	518-240-400	2	Key Service Units – 300, 301, and 302 Types – Connections and Maintenance
	518-240-401	2	Key Service Units – 310 - and 311 - Types – Connections and Maintenance

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
ADD	518-250-101	1	Key Service Units — 501 - and 502 - Types —
	518-250-101	3	Identification and Installation
ADD	518-250-401	1	Key Service Units — 501 - and 502 - Types —
	518-250-401	3	Connections and Maintenance
	518-255-101	3	Key Service Units — 550 - and 551 - Types —
			Identification and Installation
	518-255-401	4	Key Service Units — 550 - and 551 - Types —
			Connections and Maintenance
	518-300-100	1	Centralized Key Telephone Installations
*	518-310-114	1	247B Key Telephone Unit — Identification, Installation, and Maintenance
	518-310-405	4	Station Line Concentrators — 235 - and
*APP 1	518-310-405PT	B	236 - Type Key Telephone Units — Identification and Connections
	518-310-407	5	237A and B Key Telephone Units for Conferencing PBX Lines — Identification, Connections, and Operation

KTS INSTALLATION HANDBOOK



Pacific Telephone

APRIL 1971

FOREWORD

This handbook is intended to be used, along with the Station Installation Handbook, by installation craftsmen in their daily job.

The handbook contains the following information:

PART 1

GENERAL (Power Plants, Adapters, Matrix Blocks, Connectors, Couplers, Buzzers, Bells, and Dial Restrictions)

PART 2

TELEPHONE SETS (Subscriber Sets, Handsets, Amplifiers)

PART 3

STATION KEYS (Dialers, Call Diverter, Key Mountings, Speakerphones, Telephone Sets)

PART 4

KEY TELEPHONE UNITS (Answering Sets, Dial Intercom, Key Service Units, Panels, DC Lamps, Power Selection)

This material is prepared for Bell System purposes and is for the use of Bell System employees only. Its distribution is in no sense a publication. Neither the material nor any portion thereof is to be reproduced in any form by others without the written permission of The Pacific Telephone and Telegraph Company.

PACIFIC TELEPHONE KTS INSTALLATION HANDBOOK TABLE OF CONTENTS

(Due to the extent of new and revised practices, the asterisk has been omitted.)

PART 1 GENERAL (Power Plants, Adapters, Matrix Blocks, Connectors, Couplers, Buzzers, Bells, and Dial Restrictions)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	167-400-180	2	Power Plants - Selection for Use with Customer Equipment - Key Systems and Small PBX
App. 1	167-400-180PT	A	Power Plants - Key Telephone Systems
Add.	167-440-201	1	
	167-440-201	2	Power Units - 19B2, 19C2, 20B1 (MD), 20B2, and 20C2 - Identification, Installation, Connections and Maintenance
Add.	167-446-101	1	
	167-446-101	2	Power Units - 29- and 30-Type - Identification, Installation, and Connections
	461-200-102	2	Adapters - 148, 149, 153, and 3-Way Bridging Types - Identification
App. 1	461-200-102PT.	A	283-5 Amphenol Adapter - Identification
	461-620-100	1	Matrix Block - 1A1 - Identification, Installation, Wiring, and Maintenance
App. 1	461-620-100PT	B	Selectro Matrix Block - Identification and Installation
	463-233-200	2	KS-19522, List 1 and 2 Recorder Couplers and KS-19522, List 11 Voice Control Unit - Installation and Connections
Add.	463-311-100PT	A	
	463-311-100	1	Voice Connecting Arrangement QKT - F-57948 or 30A Voice Coupler
	Flash # 212		Voice Connecting Arrangement - RCZ
	463-340-120	1	Voice Connecting Arrangements - RCT, RTT, and 4-Wire Service - KS-19645, List 1 (MD), and List 2 Recorder Connectors
	500-155-100	3	Key Telephone Sets - Dial Restriction
Add.	501-120-100PT	B	
	501-120-100	6	Buzzers and Bells
	501-120-900PT	A	QBX1A Miniature Buzzer - Identification and Installation

PART 2 TELEPHONE SETS (Subscriber Sets, Handsets, Amplifiers)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	501-211-102	3	Handsets (Amplifier) G6, G7, G8, and G13 Types - Identification, Connections, and Maintenance

502-200-404	9	Subscriber Sets - 685A used with Hand Telephone Sets - Connections
502-301-102	1	Reference - 212-Type Hand Telephone Set
502-501-102	1	Reference - 502-, 510-, 511-, 515-, 555-, and 558-Type Telephone Sets
502-501-115	1	Reference - 500E/F, 500H, 500L/M, 500P, 500R/S, 500U, 500W, 500Y, 500AD, 501F, 501P, 501U, and 514B Telephone Sets
502-503-103	1	Reference - 2563-, 2564-, and 2568-Type Telephone Sets
502-503-104	1	Reference - 2565-Type Telephone Set
502-503-110	1	Reference - 2500M, 2500S, 2500Y, and 2514B Telephone Sets
502-531-401	1	Service - 502A/B Telephone Set
502-531-402	2	Service - 510A/B and E/F Telephone Sets
502-531-403	1	Service - 511A/B Telephone Set
502-531-408	1	Service - 558A/B Telephone Set
502-531-409	1	Service - 558C/D Telephone Set
502-533-401	1	Service - 2502B Telephone Set
502-533-402	1	Service - 2510F Telephone Set
502-533-403	1	Service - 2511F/H Telephone Set
502-533-406	1	Service - 2558D Telephone Set
502-541-406	1	Service - 564HD Telephone Set
502-541-407	1	Service - 564HK and 564HL Telephone Sets
502-541-410	1	Service - 565HD Telephone Set
502-541-412	1	Service - 565LDR Telephone Set
502-541-414	1	Service - 565GK Telephone Set
502-541-415	1	Service - 565HK Telephone Set
502-541-416	1	Service - 565LK Telephone Set
502-543-402	1	Service - 2564HL Telephone Set
502-543-403	1	Service - 2565GK Telephone Set
502-543-405	1	Service - 2565HK Telephone Set
502-543-406	1	Service - 2565LK Telephone Set
502-601-100	1	Reference - 630-, 631-, and 632-Type Telephone Sets

	502-610-407	1	Service - 630DA and 631DA Type Telephone Sets
	502-612-400	1	Service - 2630- and 2631-Type Telephone Sets
	502-612-401	1	Service - 5630DA and 2631DA Telephone Sets
	503-601-101	2	Telephone Sets - 851A1M and 2851A1M - Identification, Installation, Connections, and Maintenance
	502-603-101	1	Reference - 2634-, 2635-, 2636-, 2637-, 2638-, and 2639-Type Telephone Sets
Add.	502-660-102	1	
	502-660-102	1	Telephone Sets - 662 and 664 Types - Identification, Installation, and Maintenance
	502-660-402	2	Telephone Sets - 662-Type - Connections
	502-660-422	2	Telephone Sets - 2662-Type - Connections
	503-701-101	2	Telephone Sets - 830A1M and 2830A1M - Identification, Installation, Connections, and Maintenance
	503-702-101	2	Telephone Sets - 831A1M and 2831A1M - Identification, Installation, Connections, and Maintenance

PART 3 STATION KEYS (Dialers, Call Diverter, Key Mountings, Speakerphones, Telephone Sets)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	512-125-100	2	KS-19594 Dialer - Description and Operation
	512-125-300	2	KS-19594 Dialer - Maintenance
	512-125-400	5	KS-19594 Dialer - Telephone Sets Equipped with Rotary Dials - Connections
	512-125-410	2	KS-19594 Dialer - Telephone Sets Equipped with TOUCH-TONE Dials - Connections
	512-190-900PT	A	P1A-10 - Description, Installation and Maintenance
App. 1	512-210-100PT	A	Station Control Keys - Identification and Installation - PTS45, List 1 Base for 6051 Keys
	512-210-103	3	Separately Mounted Keys, Illuminated Push Button - 6040, 6041, 6050, and 6051 Types - Identification, Installation, and Connections
App. 1	512-210-103PT	B	Modified Cable and Cords - Description
	512-220-100	5	Push Button Keys - 549 and 551 Types -
App. 1	512-220-100PT	A	Identification, Installation, Maintenance, and Connections
	512-230-100	5	Switching and Pushbutton Keys - Modular Type - Identification, Installation, and Maintenance

App. 1	512-230-101	2	Modular Units - Lamp Sockets and Apparatus
	512-230-101PT	A	Blanks
	512-240-200	7	Key Mountings - 400-, 1400-, and 2400-Series - 30, 60, 90, and 120 Line Sizes - Installation and Maintenance
	512-620-100	4	Speakerphone System - 3-Type - Identification and Operation
	512-620-200	4	Speakerphone System - 3-Type - Installation and Maintenance
	512-620-403	3	Speakerphone Systems - 3A - The Call Director - Connections
	512-620-410	1	Speakerphone System - 3-Type - 500R/S Telephone Set - Connections and Maintenance
	512-620-415	2	Speakerphone System - 3-Type - 511-Type Telephone Sets - Connections and Maintenance
	512-620-420	1	Speakerphone System - 3-Type - 565-Type Telephone Sets - Connections and Maintenance
	512-620-426	1	Speakerphone System - 3-Type - 566-Type Telephone Sets - Connections and Maintenance
	512-620-440	2	Speakerphone System - 3-Type - 630-Type Telephone Sets - Connections and Maintenance

**PART 4 KEY TELEPHONE UNITS (Answering Sets, Dial Intercom,
Key Service Units, Panels, DC
Lamps, Power Selection)**

<u>Section</u>	<u>Issue</u>	<u>Subject</u>
514-155-101	2	KS-19245, List 1 Telephone Answering Set - Operation
514-155-300	2	KS-19245, List 1 Telephone Answering Set - Mechanical Adjustment And Maintenance
514-210-100	3	KS-16765, Lists 1, 2 Announcement Sets - Identification, and Maintenance
514-610-100	2	8A Announcement System Using KS-16765, L1 Announcement Set or 2-Type Telephone Answering Set
518-010-106	1	Power Unit Selection - Key Telephone Systems
518-112-421	1	Service - 1A Key Telephone System - Tie Line and Control Services
518-112-422	1	Service - 1A Key Telephone System - Intercom Services
Add.	518-114-105PT	A
	518-114-105	1

	518-114-425	1	Service - 1A1 Key Telephone System - Key Telephone Units
	518-114-430	1	Service - 1A1 Key Telephone System - 200F, G, and K Packaged Key Telephone Units
	518-114-431	1	Service - 1A1 Key Telephone System - 200H Packaged Units
App. 1	518-114-431PT	A	200H-Type Key Telephone Units - Identification, Installation, Connections, and Maintenance
	518-114-432	1	Service - 1A1 Key Telephone System - Key Service Units
	518-114-420PT	A	1A1 Key Telephone System - Dial Selective Intercommunicating Lines, Busy Lamps, and Audible Signal Using 207A, 207B, 207C, and 216A Key Telephone Units - Connection Data
	518-114-905PT	A	1A1 Key Telephone System - Dial Selective Intercommunicating Lines - Packaged Key Telephone Units
Add.	518-215-100PT	A	
	518-215-100	2	1A2 Key Telephone System - Identification
	518-215-105	2	Key Service Units - 513-, 514-, and 515-Type - Identification and Installation
	518-215-110	2	Panels - 583- and 584Types - Identification and Installation
App. 1	518-215-110PT	A	
	518-215-118	2	Panels - 601-, 602-, and 603-Type - Identification and Installation
	518-215-120	2	Apparatus Mountings - 69B-, D-, and G-Type - Identification and Maintenance
Add.	518-215-125PT	B	
	518-215-125	2	Key Telephone Units - 400 Series - Identification
App. 1	518-215-125PT	A	Modification to Prevent Station Equipment Open Being Recognized as a Dial 1 Pulse by The Los Angeles Type Centrex
	518-215-405	2	Key Service Units - 513-, 514-, and 515-Type - Connections and Maintenance
	518-215-410	2	Panels - 583- and 584-Types - Connections and Maintenance
	518-215-420	1	1A2 Key Telephone System - 69B, D, and G Apparatus Mountings - Connections
	518-300-103	1	Key Telephone Systems - DC Lamp Resistance Circuits - Connections
	518-250-101	4	Key Service Units - 501- and 502-Types - Identification and Installation
	518-250-401	4	Key Service Units - 501- and 502-Type - Connections and Maintenance

	518-255-101	4	Key Service Units - 550- and 551-Type - Identification and Installation
	518-255-401	5	Key Service Units - 550- and 551-Types - Connections and Maintenance
	518-114-116	1	Reference - 1A1 Key Telephone System - TOUCH-TONE Adapters
App. 1	518-310-405	5	Station Line Concentrators - 235- and 236-Type
	518-310-405PT	C	Key Telephone Units - Identification and Connections
	518-310-407	6	Key Telephone Unit - 237-Type - Identification, Connections, and Operation

KTS INSTALLATION HANDBOOK



Pacific Telephone

NOVEMBER 1975

FOREWORD

This handbook is intended to be used, along with the Station Installation Handbook, by installation craftsmen in their daily job.

The handbook contains the following information:

GENERAL (Index, Power Plants, Adapters, Matrix Blocks, Connectors, Couplers, Buzzers, Bells and Dial Restrictions)

TELEPHONE SETS

STATION KEYS (Key Mountings, Speakerphones and Associated Telephone Sets)

KEY TELEPHONE UNITS (Answering Sets, Dial Intercom, Key Service Units, Panels, Power Selection)

This material is prepared for Bell System purposes and is for the use of Bell System employees only. Its distribution is in no sense a publication. Neither the material nor any portion thereof is to be reproduced in any form by others without the written permission of The Pacific Telephone and Telegraph Company.

PACIFIC TELEPHONE

KTS INSTALLATION HANDBOOK

TABLE OF CONTENTS

(Pink Addendum and Appendix sheets have been changed to white. The main section will be marked
"See Addendum or Appendix.")

GENERAL (Index, Power Plants, Adapters, Matrix Blocks, Connectors, Couplers, Buzzers, Bells and Dial Restrictions.)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	167-440-201	5	19 and 20 Type Power Plants
	167-446-101	3	30BI (P143) Prewired Power Unit
APP 1	167-446-101PT	A	30CI (P144) Prewired Power Unit
APP 2	167-446-101PT	A	Power Units 29 and 30 Type
	461-200-102PT	3	283-5 Amphenol Adapter
APP 1	461-200-102PT	A	Amphenol Adapters (other)
APP 2	461-200-102PT	A	Bridging Adapters
	461-620-100	2	Selectro Matrix Block
APP 1	461-620-100PT	C	Matrix Block – IAI
ADD	463-311-100PT	B	Voice Connecting Arrangements QKT and QKTBT
	463-311-100	5	
	500-155-100	5	Key Telephone Sets Dial Restriction
	501-120-100	9	Buzzers and Bells – Tone Modification
APP 1	501-120-100PT	C	Buzzers and Bells
	501-164-130	8	Station Dials – <i>Touch-Tone</i> ® Pads
APP 1	501-252-100PT	A	Common Bell with Seletro Matrix

TELEPHONE SETS

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	502-303-101	4	<i>Trimline</i> ® Telephone (AC-AD) Set Wiring
	502-501-101	4	500 C/D, 500 CM, DM, 501 C/D, 501 CM/DM, 554 A/B, 554 F, 554 AM/BM, 554 AMP/BMP, 556 A/B, 556 AM/BM, 556 AMP/BMP Telephone Sets
	502-501-102	2	502-, 510-, 511-, 515-, 555-, 558- Type Telephone Sets
	502-503-101	5	2500- and 2554 Type Telephone Sets
	502-503-110	3	2500M, 2500S, 2500Y, and 2514B Telephone Sets
	502-531-401	2	502 A/B Telephone Sets
	502-531-402	5	510 A/B/E/F and EM/FM Telephone Sets
	502-531-403	2	511 A/B Telephone Sets
	502-531-408	2	558 A/B Telephone Sets
	502-531-409	2	558 C/D Telephone Sets
	502-533-401	2	2502B Telephone Sets
APP 1	502-533-401PT	A	2502B E/W KS Plug
	502-541-404	2	563HB Telephone Sets
	502-541-414	4	565GK Telephone Sets
	502-541-415	5	565HK Telephone Sets
	502-541-416	5	565LK Telephone Sets
	502-543-400	2	2563HB Telephone Sets
	502-543-405	5	2565HK Telephone Sets
	502-543-406	5	2565LK Telephone Sets
	502-610-406	2	630A, B, C, D, and 631A, B, C, D Telephone Sets

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
	502-610-407	5	630DA and 631DA Telephone Sets
	502-610-415	4	636CA and 635DA Telephone Sets
	502-610-417	3	634DA and 635DA Telephone Sets
	502-612-400	3	2630D and 2631D Telephone Sets
	502-612-401	4	2630DA and 2631DA Telephone Sets
	502-612-409	3	2634DA and 2635DA Telephone Sets
	502-612-410	4	2636CA and 2637DA Telephone Sets
	503-601-101	5	851- and 2851 Telephone Sets
	503-603-101	3	2872A1M or 2872A2M Telephone Sets <i>Touch-a-matic</i> ® Repertory Dialer
	503-603-102	1	872A1M Telephone Set <i>Touch-a-matic</i> Repertory Dialer
	503-701-101	6	830- and 2830- Type Telephone Sets
	503-701-102	1	852A and 2852A Telephone Sets
	503-701-110	1	832- and 2832- Type Telephone Sets
ADD	503-702-101	1	831- and 2831- Type Telephone Sets
	503-702-101	6	
	503-702-110	1	833- and 2833- Type Telephone Sets

STATION KEYS (Key Mountings, Speakerphones and Associated Telephone Sets)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
APP 1	512-210-101PT	B	Miniature Transfer Key TK-6
	512-210-103	5	6040, 6041, 6050, and 6051 Keys
APP 1	512-210-103PT	B	Modified Cable and Cords
APP 2	512-210-103PT	A	PTS-45, L1 6051 Key Base
APP 1	512-220-100PT	A	549 and 551 Type Keys
APP 1	512-230-100PT	B	Modified 59A Lamp Socket
	512-230-100	8	Modular Keys, Lamp Sockets, and Transmitters, KS-Type Connector Equipped
	512-230-101	8	Modular Keys, Lamp Sockets, and Transmitters, Terminal Plug Receptacle Equipped
	512-534-400	5	2A Communications System Business Interphone
	512-700-100	2	4A Speakerphone System
	512-710-400	2	4A Speakerphone with 211PR and 2211P Telephone Sets
	512-710-405	2	4A Speakerphone with 500S and 2500S Telephone Sets
	512-710-410	2	4A Speakerphone with 511- and 2511- Type Telephone Sets
	512-710-412	2	4A Speakerphone with 558D, 558F, and 2558D Telephone Sets
	512-720-405	2	4A Speakerphone with 565- and 2565- Type Telephone Sets
	512-720-406	1	4A Speakerphone with 566MD Telephone Set
	512-730-400	2	4A Speakerphone with 630-, 631-, 632-, 634-, 635-, 2630-, 2631-, 2632-, 2634-, and 2635-Type Telephone Sets
	512-730-450	2	4A Speakerphone with 660AI and 2660AI Telephone Sets

<u>Section</u>	<u>Issue</u>	<u>Subject</u>
512-730-455	2	4A Speakerphone with 662- and 2662-Type Telephone Sets
512-740-405	2	4A Speakerphone with 702B and 2702B Telephone Sets
512-740-410	3	4A Speakerphone with 711B, 712B, 712BM, 2712B, and 2712BM Telephone Sets
512-740-470	2	4A Speakerphone with 830-, 831-, 2830-, 2831-Type Telephone Sets
512-740-471	1	4A Speakerphone with 832-, 833-, 2832-, and 2883-Type Telephone Sets
512-740-480	2	4A Speakerphone with 851- and 2851-Type Telephone Sets

KEY TELEPHONE UNITS (Answering Sets, Dial Intercom, Key Service Units, Panels, Power Selection)

	<u>Section</u>	<u>Issue</u>	<u>Subject</u>
ADD	514-155-200PT	C	Telephone Answering Set, KS 19245 LI
	518-010-105	2	KTS Grounding and Protection
	518-010-106	2	KTS Power Unit Selection
	518-010-108	2	KTS Common Audible Signaling
ADD	518-114-905PT	B	Dial Selective Intercom Lines Prepackaged Key Telephone Units
ADD	518-114-905PT	A	
ADD	518-215-100PT	B	IA2 Key Telephone Systems Identification and Arrangements
	518-215-100	5	
ADD	518-215-400PT	B	IA2 Key Telephone Units 400 Series
ADD	518-215-400	1	
	518-215-400	2	
APP 1	518-215-400PT	A	
	518-215-405	5	513-, 514-, and 515- Key Service Units
	518-215-410	6	Panels, 583- and 584- Types
APP 1	518-215-410PT	B	
APP 2	518-215-410PT	A	
	518-215-419	2	Panels, Modular, 620A, 641A, and 642A 550- and 551- Type Key Service Units
	518-255-401	5	
	518-310-405	5	Line Concentrators, 235- and 236- Type
	518-310-407	7	Add-On Conferencing – RSEML Special Applications – RSE
APP 1	518-310-470PT	B	237- Type Key Telephone Units