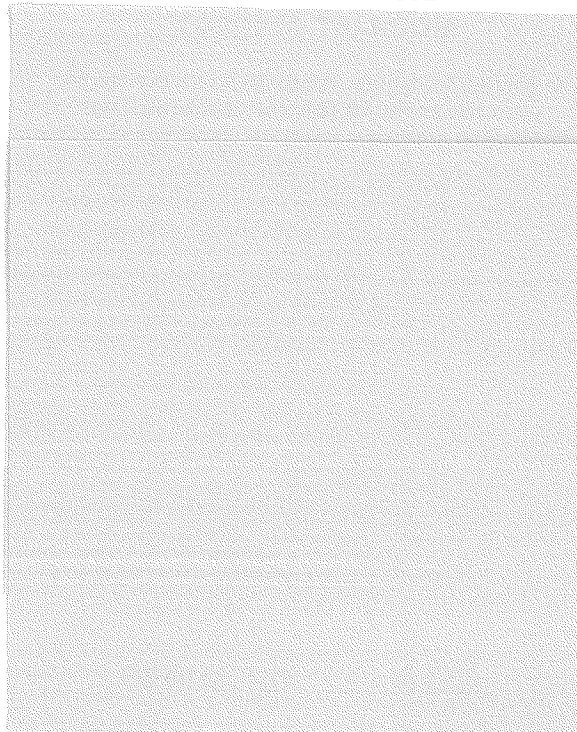


Strata VI

ELECTRONIC KEY TELEPHONE SYSTEM

INSTALLATION AND MAINTENANCE MANUAL

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TOSHIBA SYSTEM PRACTICES
ELECTRONIC KEY TELEPHONE SYSTEM

SECTION 100-006-100
GENERAL DESCRIPTION

StrataVI[®]

GENERAL DESCRIPTION

**TOSHIBA SYSTEM PRACTICES
ELECTRONIC KEY TELEPHONE SYSTEM**

**SECTION 100-006-000
SEPTEMBER 1982**

StrataVI[®]

ELECTRONIC KEY TELEPHONE SYSTEM

INSTALLATION AND MAINTENANCE MANUAL

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**SECTION 100-006-100
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01 GENERAL

01.01 Summary Description

01.02 The STRATA VI is an Electronic Key Telephone system with many standard features; utilizing stored program control, custom L.S.I. circuitry, solid-state space division switching and reduced station cabling. Served by a Key Service Unit (MKSU) that is housed in a single cabinet, the system has a maximum capacity of six central office/PBX lines, two intercom lines and 16 station lines.

01.03 STRATA VI includes a specially designed Electronic Key Telephone (EKT) which incorporates hands-free answering and full speakerphone capabilities as standard features. Each EKT is connected to the rest of the system via industry standard 2-pair cabling, and is equipped with a push button dial pad. Solid state electronics within the MKSU translates signals from the station dial pad into either DTMF or rotary dial signals, as required by the central office (CO).

01.04 STRATA VI is electrically compatible with the public telephone network and is also designed to function in a "behind PBX" environment.

01.05 Maintenance procedures are based on quickly locating and replacing defective plug-in units, keeping service disruption to a minimum.

01.10 Physical Descriptions

01.11 Designed for table-top or wall mounting, the STRATA VI MKSU is housed in a single metal cabinet (Figure 1) with the following dimensions:

- Height 8.8 inches (224 mm)
- Width 16.0 inches (406 mm)
- Depth 11.8 inches (300 mm)
- Weight 19.8 lbs. (9 kg)

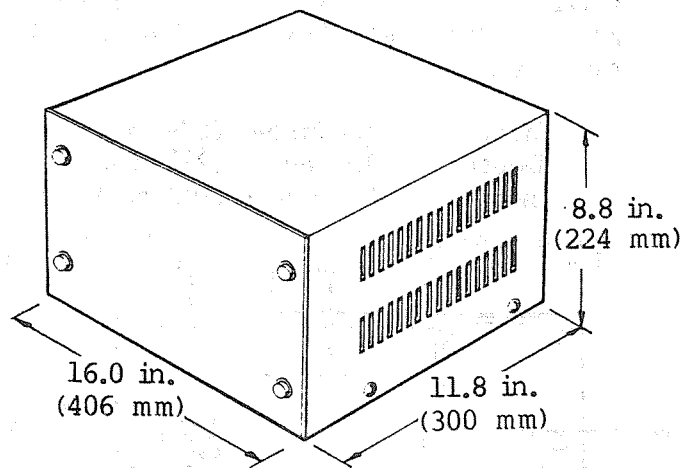


FIGURE 1

It contains a single shelf that is arranged to accommodate up to six printed circuit boards (Figure 2). All of the printed circuit boards (PCBs) plug into connectors mounted on the back plane of the equipment shelf.

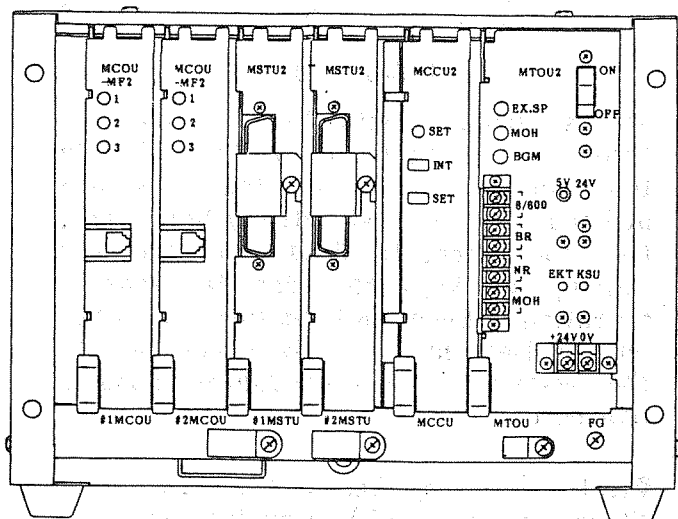


FIGURE 2

01.12 Each PCB measures 8.7 x 7.1 inches (220 x 180 mm) and is equipped with either an 80- or a 100-pin edge connector. All external MKSU connections are made on the front panels of the various PCBs using cables with industry standard couplers.

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01.13 The STRATA VI Electronic Key Telephone (EKT) (Figure 3) measures:

Width 8.8 inches (224 mm)
Depth 9.1 inches (230 mm)
Height 4.0 inches (102 mm)

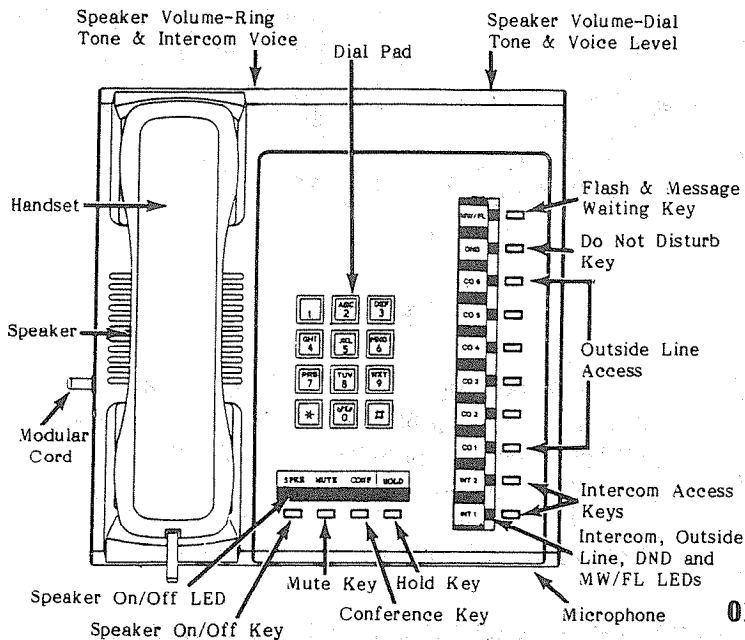


FIGURE 3

and is equipped with 14 line and feature keys in addition to its push-button dial pad. Six of the keys are utilized for central office/PBX lines, two for intercom lines and the remaining six keys are used for feature operation. Each EKT features a modular handset cord and is connected to the system via a 4-conductor modular line cord.

01.14 An optional executive telephone (20-key EKT) provides, via ten additional feature keys; seven one-button auto-dial (AD 1-7) telephone numbers, auto-redial, pause and auto-dial access (see Figure 4).

**FUTURE OPTION
(20-key EKT)**

FIGURE 4

01.20 Electrical Characteristics

01.21 The electrical characteristics of the system are detailed in Table A.

01.22 The MKSU operates from an external 24 VDC power supply.

01.23 Loss of AC power will cause operational failure of the system. However, system memory is provided with internal battery power to protect it from loss due to power failure, and full system reserve power is available as an option.

01.30 Features and Services

01.31 The features and services of the STRATA VI Electronic Key Telephone System are summarized in Tables B and C, which list the standard and optional features respectively.

TABLE A

SUMMARY OF ELECTRICAL CHARACTERISTICS

Station Loop Limits	1000 ft. (305 M), 24 AWG
Ringling Tone	
CO Line	600 Hz/800 Hz, modulated by 16 Hz, 1 second on—3 seconds off
Intercom Line	600 Hz, 1 second on—3 seconds off
Busy Override Tone	
Normal	2400 Hz, 1 second on—3 seconds off
Priority	2400 Hz, 1 second on—1 second off
Dial Tone	
Intercom	600 Hz, continuous
Ring-back Tone	
Normal	600 Hz, 1 second on—3 seconds off
Priority	600 Hz, 1 second on—1 second off
Busy Tone	600 Hz, 0.25 sec. on—0.25 sec. off
Do Not Disturb Tone	600 Hz, 0.12 sec. on—0.12 sec. off
Voice Page Warning Tone	600 Hz, 1 second on only
Dialing	Push-button; system generated DTMF or rotary dial
Primary Power	90-130 VAC, 60 Hz, 96 VA
Environmental Specifications	
Operating Temperature	0-50° C
Operating Humidity	20-80% Relative Humidity (without condensation)

TABLE B

**STANDARD FEATURES
SYSTEM**

- All call voice page
- Alternate point answer
- Automatic dialing—system
- Automatic hold recall
- Automatic privacy with release
- Automatic release from hold
- Background music with station control
- Busy override
- Conference—multi-station
- Conference—multi-trunk
- Distinctive ringing

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GENERAL DESCRIPTION

- DTMF and dial pulse compatible
- External page interface
- Flash key—PBX line transfer or CO dial tone recall
- Flexible line ringing assignment
- Message waiting
- Multiple simultaneous handsfree intercom paths
- Music-on-hold interface
- Night ringing over external page
- Night transfer of ringing
- Non-blocking dialing
- Outgoing call restriction
- PBX compatible
- Private CO lines
- Repeat last number dialed
- System programming
- Restricted toll access

STATION

- Do not disturb
- Executive override of privacy
- Handsfree talk-back

- I-called illumination
- I-hold illumination
- I-use illumination
- Modular handset and line cord
- Mute button
- On-hook dialing
- Push-button dialing
- Ringing line preference
- Speakerphone
- Wall mounting

TABLE C

OPTIONAL FEATURES

- Automatic dialing—station
- Busy Lamp Field (BLF)
- Relay service
 - External page
 - Night transfer
- System battery back-up
- 20-key EKT

02 SYSTEM OPERATION

02.01 The system (Figure 5) consists of an MKSU, power supply and up to 16 Electronic Key Telephones. All connections between the MKSU and the EKTs are made via a customer-provided main distribution frame (MDF). Using modular line cords, the CO lines are then connected between the MCOU PCBs and the telephone company-provided RJ-25 jacks. An external tuner (or equivalent) is required if the music-on-hold feature is utilized.

02.02 A functional block diagram of the STRATA VI MKSU is shown in Figure 6 (page 6); it consists of station interfaces (MSTU), which include a solid-state space division matrix; CO line interfaces (MCOU) and central control equipment (MTOU and MCCU).

02.03 Connections between the station voice lines and the CO lines are via the switching matrix provided on

the MSTU PCBs. A similar matrix is provided on the MTOU for intercom connections, paging connections and for the distribution of the various system tones (Dial, Busy, etc.).

02.04 The system is entirely under the control of a single chip micro-processor, which is located, along with the system program and data memories, on the MCCU PCB.

03 SYSTEM CONFIGURATION

03.01 Key Service Unit

03.02 The MKSU arrangement illustrated in Figure 7 (page 7) shows the location of the various PCBs. All PCBs slide in from the front of the cabinet, and, although the rear panel of the MKSU is removable, rear access is usually not required.

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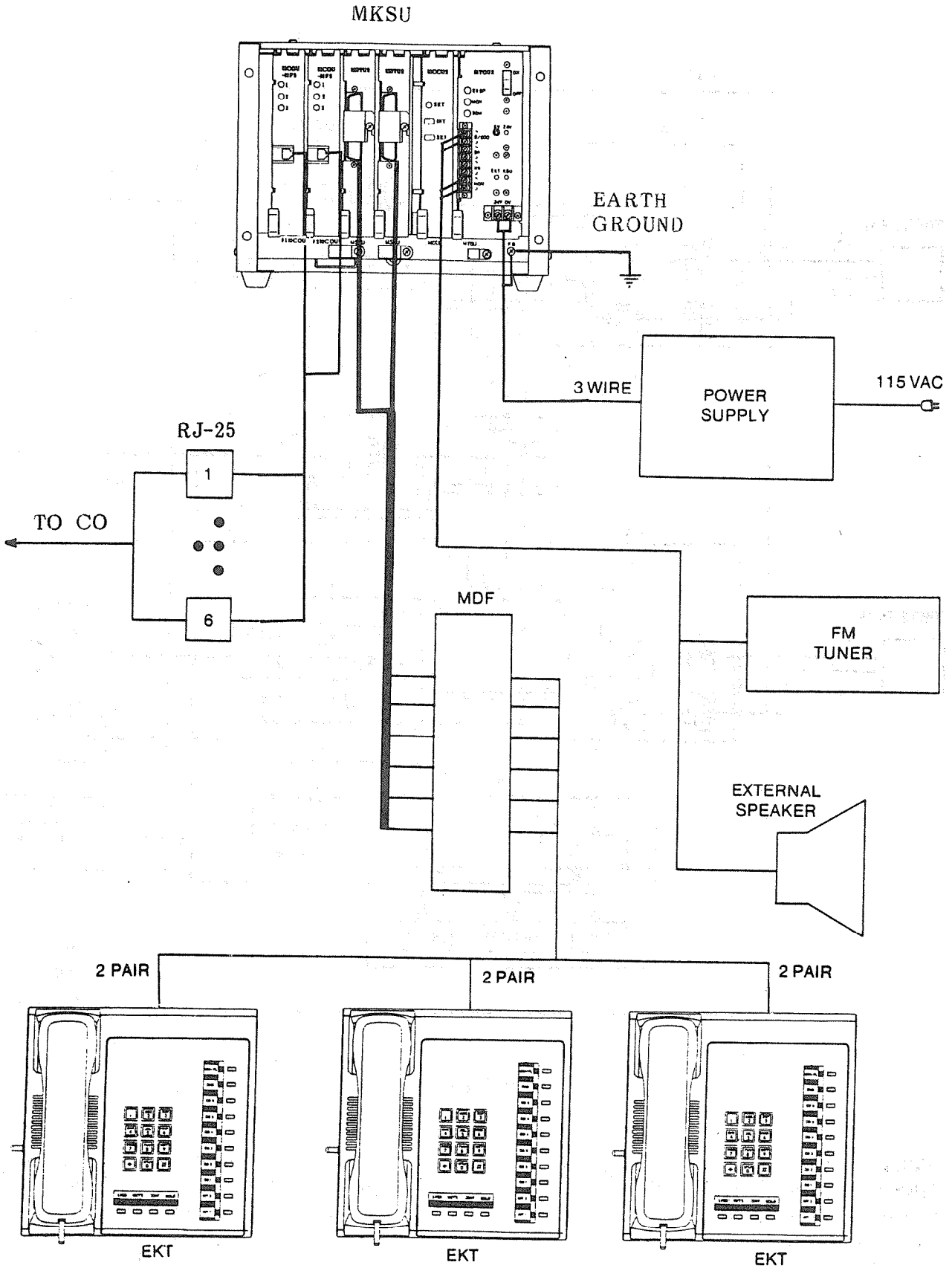


FIGURE 5

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GENERAL DESCRIPTION**

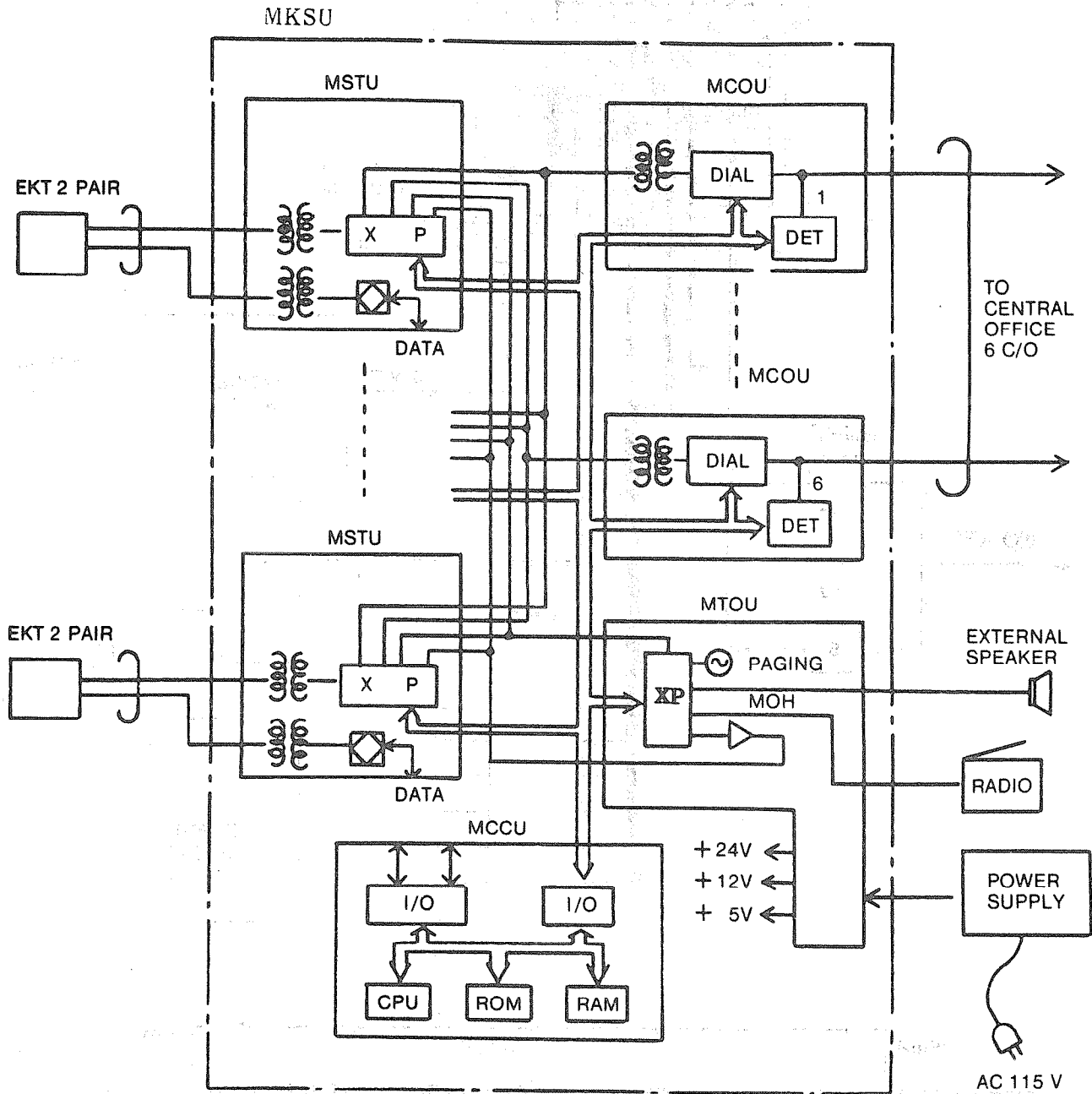


FIGURE 6

03.03 Complete with all options, the MKSU utilizes seven different circuit boards. The names and functions of the PCBs are:

- MCOU (MF or DP)—an interface between the MKSU and the public

telephone network or PBX lines. Ring detection, hold and dial out-pulsing for three circuits are performed by this PCB. Depending upon local CO requirements, an MF or DP type of MCOU will be provided (MF for DTMF out-pulsing;

DP for rotary dial outpulsing). Each MCOU PCB serves up to three CO/PBX lines.

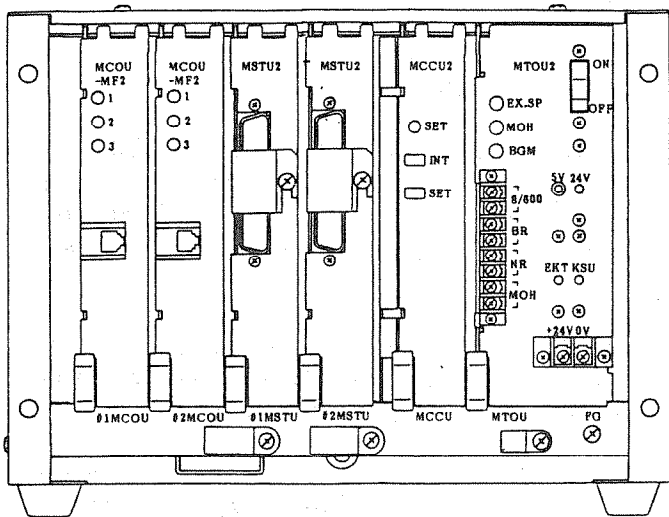


FIGURE 7

- Generates system tones.
 - Provides the switching matrix for the delivery of tones for both paging and intercom connections.
 - Houses the external page amplifier.
 - Houses circuitry and connection points for the relay service and music-on-hold.
 - Provides connection points for the 24 VDC input power.
 - Houses the voltage regulators that provide 12 and 5 VDC for system operation.
- MSTU—an interface between the MKSU and EKTs, which includes the solid-state space division matrix used for voice connections between the EKTs and the CO/PBX lines. Each MSTU PCB serves up to eight EKTs. Two-pair wiring is required for each EKT; one pair carrying voice and the other pair carrying data to and from the EKT.
 - MCCU—all system control functions are performed by the single-chip microprocessor located on the MCCU. The system program stored in ROM, the RAM for system operations, and the battery-protected RAM for system data storage are also located on this circuit board
 - CRDU—this optional PCB mounts directly on the MCCU to provide the additional memory capacity required for the Automatic Dialing-Station feature. The RAM containing the additional memory capacity is battery-protected.
 - MTOU—performs a number of miscellaneous system functions:

03.10 Power Supply Assembly

03.11 The separate Power Supply Assembly (EPSA) is a fixed unit complete with a wall mounting bracket. Attachment to a wall or other fixed surface is via two 1/4-inch toggle bolts or screws. The unit can accommodate "brown out" conditions or high voltages within a range of 90 VAC to 130 VAC, 60 Hz. A 10-ft. AC power cord allows flexibility in placing the power supply during installation. Physical parameters are:

- Length: 10.875 in. (276 mm)
- Width: 10.125 in. (257 mm)
- Height: 6.375 in. (162 mm)
- Weight: 32.00 lbs. (14.5 kg)

03.12 An optional battery back-up capability (PBBU) is available as a PCB which couples directly into the EPSA. The recommended battery pack, which is customer supplied, consists of two 12 VDC automobile maintenance-free type batteries. With the optional battery back-up installed, all functions of the STRATA VI system will operate for approximately 12 hours after a loss of

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GENERAL DESCRIPTION**

normal electrical power. No calls will be disconnected during switch-over to battery power.

03.20 Station Equipment

03.21 The principal components of the STRATA VI Electronic Key Telephone (Figure 8) are: Handset, Dial Pad, Speaker, Ringing Volume Control, Speakerphone Volume Control, 2 Intercom Keys, 6 CO/PBX Line Keys and 6 Feature Keys. Keys for the Intercom, CO/PBX Lines, Speakerphone, Message Waiting/Flash and Do Not Disturb are provided with LED indicators—HOLD, CONF and MUTE keys have no LEDs.

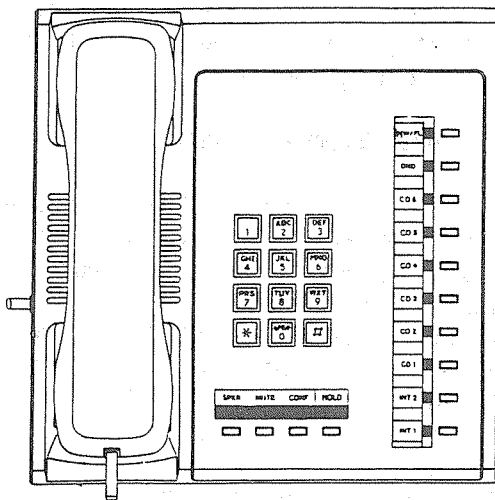


FIGURE 8

03.22 Standard features of the STRATA VI EKT include full speakerphone capability, handsfree talk-back, modular handset cord and modular line cord.

03.23 The EKT is easily converted for wall mounting with an optional handset hanger kit.

03.24 The 20-key EKT features, in addition to those of the standard EKT, include the following:

- Seven keys (AD 1 through 7) for one-button auto-dial.
- Auto-dial access (REP).

- Automatic redial of last number dialed by pressing one key (RDL).
- A pause key for "behind PBX" use (PAU).

03.30 Installation

03.31 The STRATA VI MKSU is arranged at the factory for table-top mounting, but a simple reversal of the back panel quickly converts it for wall mounting.

03.32 All connections to the MKSU are made via the faceplates of the various printed circuit boards.

- CO/PBX line connections are made to the front of each MCOU using a 3-pair modular cord for each card.
- Each group of eight EKTs is connected to the front of each MSTU with one standard 50-pin ampherol-type connector.
- Screw terminal barrier strips are mounted on the front of the MTOU to provide attachment points for the following connections:

- 24 VDC power input
- Music-on-hold source input
- External page output
- Night relay service
- External page relay service

03.33 The EPSA is mounted to the wall separately from the MKSU and connected to the 24 VDC input on the MTOU PCB.

03.40 Maintenance

03.41 Faults in the STRATA VI are repaired by replacing any faulty component (i.e., printed circuit board, sub-assembly, station set, etc.) and returning it to the manufacturer for repair.

04 FEATURES AND OPERATION

04.01 General

04.02 This section contains brief descriptions of the STRATA VI features listed earlier in Tables B and C and some associated operating instructions. Detailed operating instructions can be found in the STRATA VI **USER GUIDE** or Operating Instructions.

04.10 Standard Features

04.11 System

- All Call Voice Page—dialing a one digit access code permits a station user to page via all EKT speakers simultaneously. The system can also be programmed to include the External Page feature in an All Call Page.
- Alternate Point Answer—an intercom call can be answered from any station.
- Automatic Dialing-System—this standard feature allows 24 numbers to be stored in the system memory. After selecting an outgoing line, any station user can cause one of the stored numbers to be outpulsed by dialing the proper access code.
- Automatic Hold Recall—a CO line placed on hold by any station will remind that station after a programmable period of time.
- Automatic Privacy With Release—privacy is automatic on all connections. Operation of the CONF key allows another station to enter the conversation.
- Automatic Release From Hold—the system automatically releases held CO lines if a disconnect signal is received from the central office.
- Background Music With Station Control—music from the music-on-hold source can, at the station user's option, be heard via the EKT speaker. The same music may also be broadcast via the external page interface if an external speaker is installed.
- Busy Override—after dialing a busy station and receiving a busy tone, the caller can dial a "2" and cause a tone burst to be sounded via the called EKT's speaker.
- Conference (Multi-station)—conferencing is permitted to a maximum of four stations and one CO or intercom line.
- Conference (Multi-trunk)—conferencing of two CO lines and three stations is permitted.
- Distinctive Ringing—CO line and intercom calls are distinguished by different ringing tones.
- DTMF and Dial Pulse Compatible—DTMF or dial pulse signalling can be sent to the CO/PBX line by installing the proper type of MCOU PCB.
- External Page Interface—dialing a 1-digit code permits a station user access to a customer-provided external speaker via an internal 3-watt amplifier. As an option, a 2-way, 600-ohm voice path is available for use with a customer-supplied talk-back speaker/amplifier.
- Flash Key (PBX Transfer or CO Dial Tone Recall)—all EKTs are equipped with a Message Waiting/Flash (MW/FL) key which, when operated while connected to a CO/PBX line, causes a timed "flash" to be transmitted to the CO or PBX.

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The timing of the flash can be programmed to signal a PBX for feature operation or can be long enough to cause a disconnect and dial tone recall on a CO line. Also see Message Waiting.

- Flexible Line Ringing Assignment—a programmable ring or no ring option is provided for each line selectively by each station. Each line may be programmed to ring a maximum of eight stations.
- Message Waiting—the operator can indicate a message is waiting for any station with the Message Waiting/Flash LED of that station. Handset must be off-hook for a station to cancel the MW/FL LED. Also see Flash Key.
- Multiple Simultaneous Handsfree Intercom Path—both intercom lines are able to carry handsfree conversations simultaneously.
- Music-on-hold Interface—an interface is included for a customer-provided music source. CO lines placed on hold will be connected to this source. In addition, this music may also be broadcast from EKT speakers and external page when the background music options are selected.
- Night Ringing Over External Page—as a programmable option, while the night mode is active, a system-generated ring tone will be transmitted via the external page whenever any line rings.
- Night Transfer of Ringing—CO lines can be programmed to ring different stations while in the "Day" or in the "Night" mode. If this feature is to be used, the DND (Do Not Disturb) key on Ext. 10 is reassigned to the NT function and is then used to select the Day or Night mode.
- Non-blocking Dialing—dialing is permitted on all CO and INT lines simultaneously.
- Outgoing Call Restriction—any station can be selectively restricted from originating calls on any or all CO lines. However, the station will still receive calls on the restricted line(s).
- PBX Compatible—STRATA VI features such as Toll Restriction and Automatic Dialing, are compatible with PBX operation.
- Private CO Lines—restrictions may be programmed into the system so that selected CO line(s) may appear only on selected station(s).
- Repeat Last Number Dialed—the last number dialed by each station is always stored by the system and will be dialed automatically whenever the station user selects an outgoing line and presses the (#) key.
- System Programming—live system programming is accomplished by placing the system in the special programming mode and inputting data via Ext. 17.
- Toll Restriction—selectively programmed on a per-station, per-line basis. The STRATA VI performs Toll Restriction by rejecting the numbers "0" and "1" as the first or second digit and limiting the total number of digits dialed to seven or eight.
- Voice or Tone Signalling—a programmable system feature that optionally selects either tone ringing or voice page as the primary method of intercom call signalling. The calling station, however, may choose the alternate method by dialing an extra digit following the extension number.

04.12 Station

- Do Not Disturb—this feature is activated and deactivated by alternate depressions of the DND key. A station calling a station that is in the DND mode will receive a fast busy tone.
- Executive Override of Privacy—a station that is programmed for this feature will override the automatic privacy feature and is able to enter any existing conversation. A warning tone, however, is inserted before the overriding station is actually connected. A maximum of two stations can be programmed for Executive Override.
- Handsfree Talk-back—all EKTs are equipped for handsfree talk-back on voice-announced intercom calls as a standard feature.
- I-called Illumination—a distinctive flash appears on the Intercom LED at the EKT that is actually being called. All other EKTs see the normal incoming call flash rate.
- I-hold Illumination—the EKT user is given a distinctive LED flash to indicate a line actually placed on hold at that EKT. All other stations see a normal hold flash.
- I-use Illumination—a distinctive flash rate shows the line presently in use at a given EKT. Other stations see a steadily illuminated LED for that line.
- Modular Handset and Line Cords—all EKTs are equipped with modular handset and line cords.
- Mute Key—all EKTs have a MUTE key that may be used to cut off the microphone when the speakerphone is in use, thereby permitting a private local conversation.
- On-hook Dialing—STRATA VI lets you dial your calls with the handset still on-hook. Call progress can be heard via the telephone speaker; no need to pick up the handset until your party answers.
- Push Button Dialing—all STRATA VI EKTs are equipped with push button dial pads.
- Ringing Line Preference—a line ringing at a station can be answered by merely lifting the handset. The ringing line will be automatically selected without the station user pushing a button.
- Speakerphone—all EKTs are fully functional speakerphones.
- Wall Mounting—the STRATA VI EKT is easily converted for wall mounting with an optional handset hanger kit.

04.20 Optional Features

- Automatic Dialing-Station—adding a CRDU PCB to the MCCU increases the STRATA VI automatic dialing capabilities. This feature encompasses a 40-number system list (increased from 24 numbers) and a private 40-number station list for each station.
- Busy Lamp Field—indicates which stations are in use.
- Relay Service—when the optional relays are equipped on the MTOU PCB, the following signals are provided for external equipment.
- External Page—the relay is activated whenever the external page circuit is accessed. A "make" contact is provided for control of background music.

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- Night Transfer—the relay operates (interrupted at the ringing rate) when the system is in the night mode and an incoming call appears. A "make" contact is provided to control a high power relay and loud ringing device.
- System Battery Back-up—an optional PCB can be plugged into the STRATA VI EPSA to provide automatic switching to standby battery power. During normal power conditions the batteries are kept fully charged by the EPSA.
- 20-key EKT—an optional executive unit provides, via ten additional feature keys, auto-dial access, seven one-button auto-dial telephone numbers, auto-redial, and a pause key.

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SECTION 100-006-200
INSTALLATION

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INSTALLATION INSTRUCTIONS

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INSTALLATION INSTRUCTIONS

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01 GENERAL

01.01 This section describes the installation procedures necessary to ensure proper operation of the STRATA VI system.

02 PACKING

02.01 When a STRATA VI system is received, examine all packages and make careful note of any visible damage. If any damage is found, bring it to the attention of the delivery carrier and make the proper claims.

02.02 Check the STRATA VI system against the purchase order and packing slip. If it is determined that equipment is missing, contact your supplier immediately.

02.03 After unpacking (before the installation is started), inspect all equipment for damage. If any damage is detected, contact your supplier immediately.

02.04 When packing or storing the CRDU and/or MCCU, ensure the following:

- Do not use plastic or any type of conductive material for packing either the CRDU or the MCCU.
- Use plain paper.

NOTE:
Conductive packing material may cause the internal back-up battery to discharge and damage the system.

02.05 When installing or removing the CRDU PCB from the MCCU PCB, do not touch the back side (soldered side) of either PCB. Hold the PCB by the edge whenever handling it.

02.06 Whenever storing or shipping

the MCCU and/or CRDU, always ensure that the battery strap is in the **OFF** position (Figure 1).

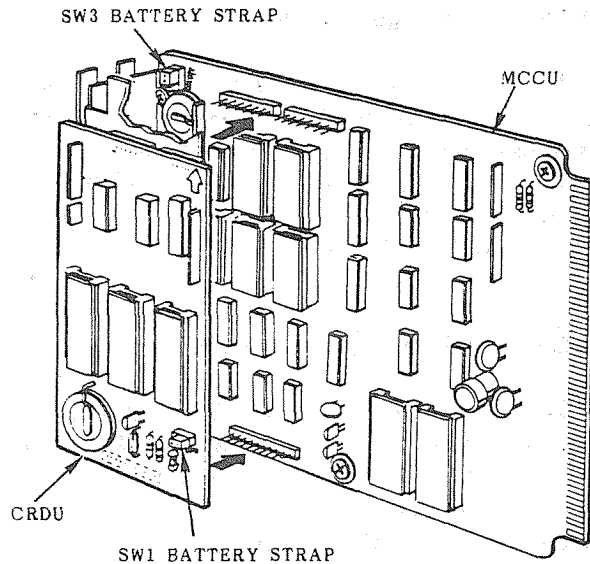


FIGURE 1

NOTE:
Always make sure the battery strap(s) on the MCCU and/or CRDU is in the "ON" position just prior to installation. If not, the SET LED on the MCCU will not operate.

03 MKSU LOCATION REQUIREMENTS

03.01 Power Requirements

03.02 The STRATA VI MKSU requires 24 VDC. This is provided by the EPSA, which in turn requires power from a grounded 115 VAC outlet. The outlet should be separately fused and rated at 15 amps.

03.03 The 54-inch cord provided to connect the EPSA to the MKSU dictates the relative location of the EPSA. The EPSA is also equipped with a 10-ft. AC power cord.

03.10 Ventilation Requirements

03.11 Sufficient ventilation should

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exist to allow the dissipation of heat generated by the power supply and MKSU.

03.20 Environmental Factors

03.21 Humidity at the MKSU location should be within 20-80% (without condensation), and the temperature should be relatively constant within a range of 0-50° C. Exposure to dust and airborne chemicals should also be taken into consideration.

03.30 Cabling Considerations

03.31 The MKSU must be located so that all stations are within 1000 cable feet of it. Acceptable cable is 22 or 24 AWG inside telephone station cable, jacketed but not shielded, having two or more wire pairs.

04 MKSU MOUNTING

04.01 The MKSU is designed for either table or wall mounting, but comes from the factory configured for table mounting. For wall mounting instructions, refer to Paragraph **04.20**.

04.10 Table Mounting the MKSU

04.11 Since the MKSU is already configured for table mounting, the only requirement is to choose a suitable location and proceed to Section 100-006-250, Power Supply Installation.

04.20 Wall Mounting the MKSU

04.21 Prepare the MKSU for wall mounting by reversing the back cover to expose the two top mounting holes. Proceed as follows:

- Remove and save the five screws securing the back cover.
- Rotate the back cover 180°, and realign it so the flanges with the two mounting holes project above

the top of the MKSU, as shown in Figure 2.

- Reinstall the back cover, and secure it with the five screws that were removed earlier.

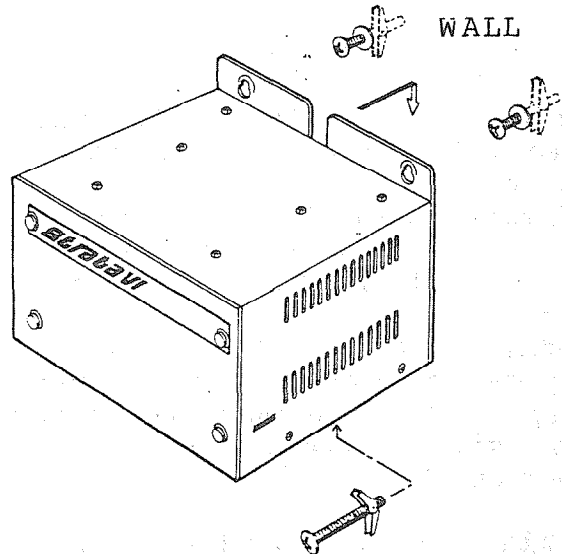


FIGURE 2

04.22 Secure the MKSU, as shown in Figures 2 and 3, with fasteners through the upper two holes and the single lower hole in the backplate. The fasteners should be either 1/4-inch molly screws, toggle bolts, or lag screws, depending upon the type of wall surface being used.

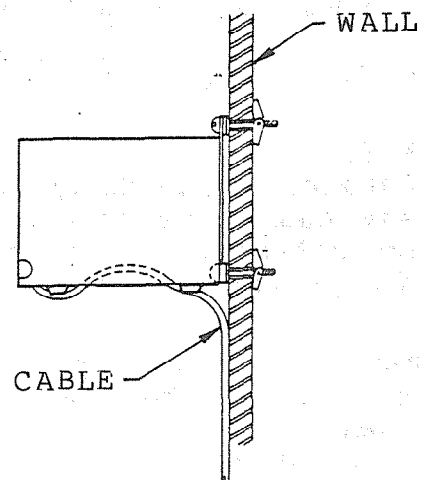


FIGURE 3

05 MTOU PCB OPTIONS

05.01 The MTOU houses several options that must be considered before it is installed in the MKSU, they are:

- Background music relay service--the optional BR relay, if installed, provides a dry contact at the BR terminals on the front of the MTOU to control cut-off of BGM during an external page. The relay operates whenever an external page occurs.
- Night relay service--the optional NR relay, if installed, will provide a dry contact at the NR terminals on the front of the MTOU PCB. The W3 strap option (Figure 4) on the MTOU allows the NR relay to function in one of two modes.

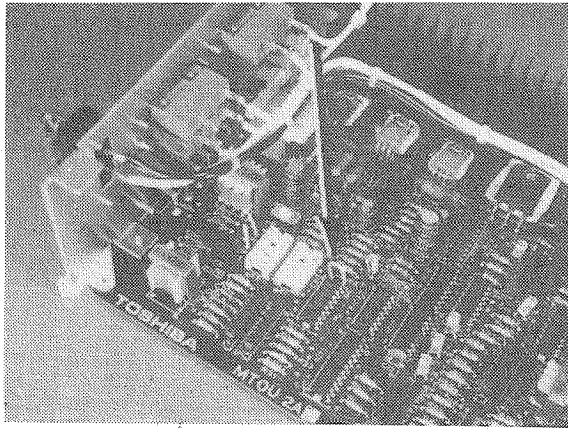


FIGURE 4

- a) Answering Machine Control--if the W3 strap is not cut, the relay is operated continuously when the system is in night service. This mode is intended for indirect control of an answering machine.
- b) Night Bell Control--if the W3 strap is cut, the relay pulses at a 1-sec. on, 3-sec. off rate when the system is in

night service and an incoming call is ringing the system. The mode is intended to be used for indirect control of an external night bell.

- External page impedance selection--the external page output appears at the terminals labeled 8/600 on the front of the MTOU. The output impedance can be selected to be 8 ohms or 600 ohms. If 8 ohms is selected, the output will be via a 3-watt amplifier on the MTOU, and the voice path will be one way. If 600 ohms is selected, an external PA amplifier or talk-back amplifier is required and the internal voice path will be two way.

05.02 To equip either of the two relay service functions; obtain the optional relay from your Toshiba supplier and install it in the proper location on the MTOU, per Figure 5.

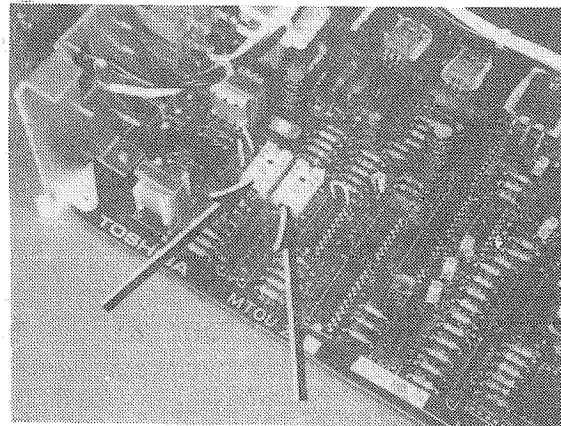


FIGURE 5

05.03 External page impedance is selected with the SW2 switch located adjacent to the relay sockets on the MTOU PCB (Figure 5). Decide if 8- or 600-ohm impedance is required, then make the selection by positioning the SW2 switch to "8" or "600", whichever is required. Figure 5 shows the switch in the 8-ohm position.

**SECTION 100-006-200
INSTALLATION**

06 PRINTED CIRCUIT BOARDS

06.01 A maximum of seven PCBs can be installed in the MKSU. They are:

- MTOU (Tone Unit)—one per system.
- CRDU (Repertory Dial Unit)—one per system, to be installed on the MCCU PCB when the Automatic Dialing-Station option is required.
- MCCU (Central Control Unit)—one per system.
- MSTU (Station Interface Unit)—install one for each group of eight stations. System maximum is two (16 stations).
- MCOU (Central Office Unit)—install one for each group of three CO/PBX lines. System maximum is two (six lines). Two types of MCOU are available.
 - a) MF—to be used when DTMF output pulsing is required.
 - b) DP—to be used when rotary dial output pulsing is required.

06.10 MTOU PCB Installation

06.11 The MTOU front panel provides the connection point for the 24 VDC input from the external power supply (EPSA). Therefore, it must be installed first.

06.12 Install the MTOU PCB in the MKSU as shown in Figure 6.

06.20 Power Connection

06.21 Plug the EPSA into a 115 VAC outlet and check its output voltage to be sure it is 23.2-28.2 volts. If the voltage is not within these limits, repair or replace the EPSA before proceeding.

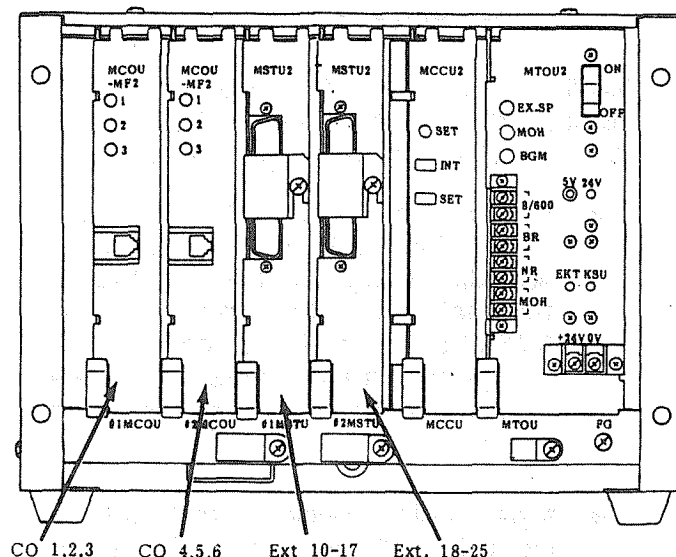


FIGURE 6

06.22 Disconnect the EPSA from the 115 VAC outlet. With the supplied cord, connect the EPSA to the MTOU PCB and MKSU ground (see Figure 7). Secure the power cord to the MTOU with the plastic cable clamp provided.

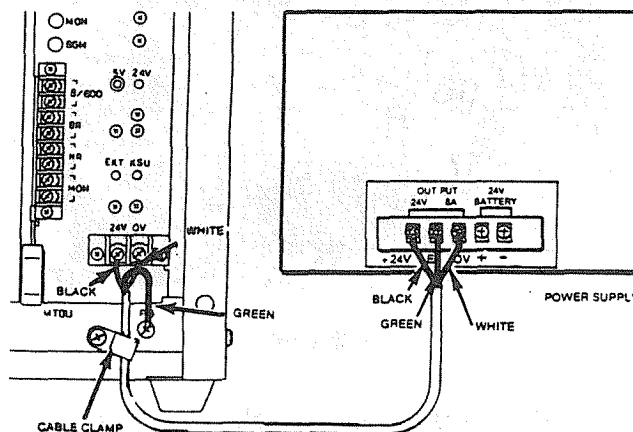


FIGURE 7

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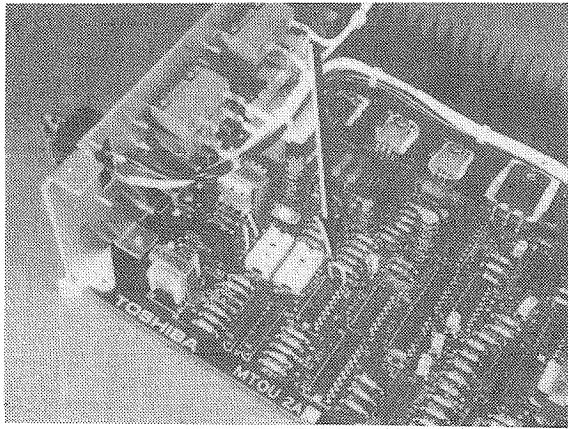


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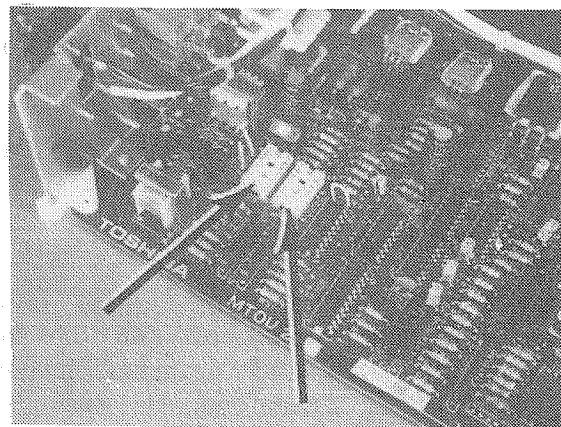


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**SECTION 100-006-200
INSTALLATION**

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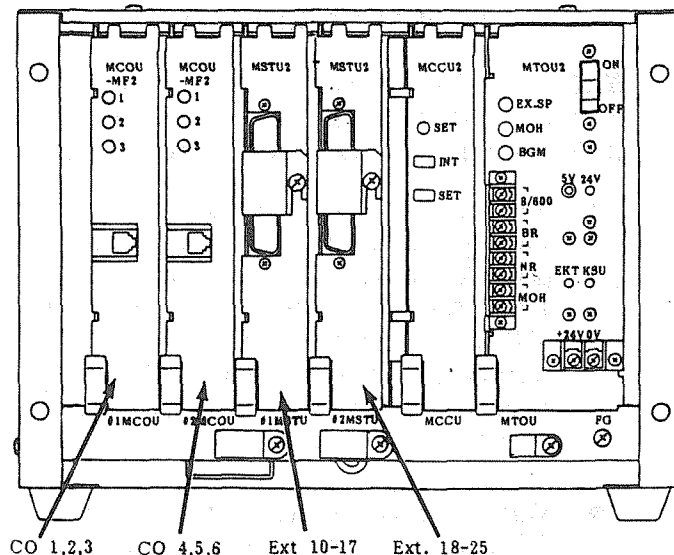


FIGURE 6

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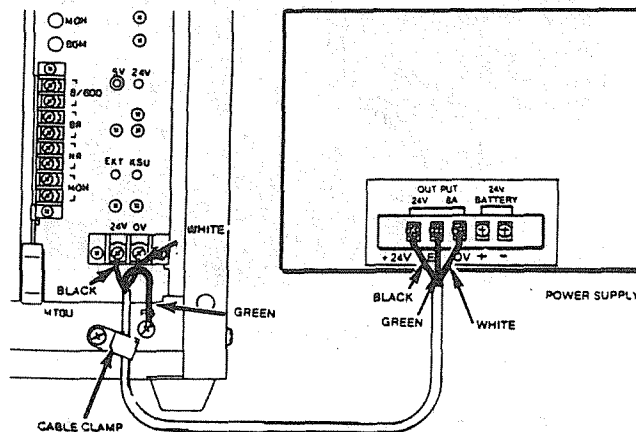


FIGURE 7

06.23 Ensure that the power switch on the MTOU is **OFF**, then plug the EPSA into the 115 VAC outlet and measure the voltage at the MTOU input terminals. Correct any problems, if necessary, before proceeding. Unplug the EPSA.

06.30 PCB Installation

06.31 Mount the CRDU on the MCCU if required (see Figure 8).

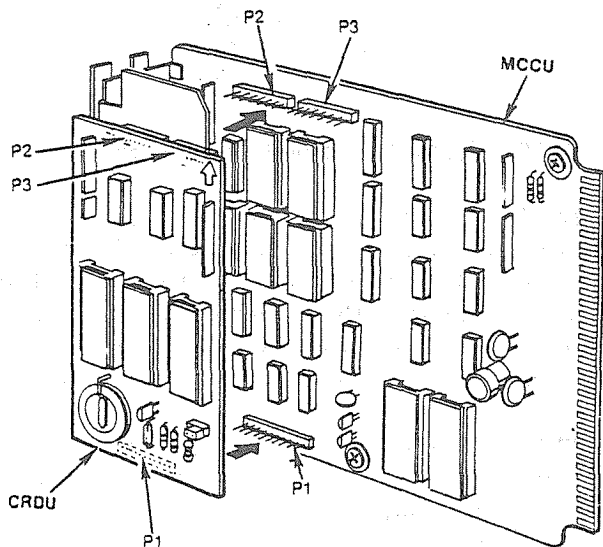


FIGURE 8

06.32 Connect the memory back-up battery on the MCCU (and on the CRDU if the system is so equipped). Refer to Figure 9, locate the SW1 battery strap on the CRDU, and the SW3 battery strap on the MCCU; the plugs are shown in the off or disconnected position. To connect each battery, remove and reinstall the strapping plugs so that they bridge the center pin with the pin labeled **ON**.

06.33 Install the MCCU in the correct MKSU position (Figure 6).

06.34 Follow the position arrangement in Figure 6, and install the required MSTU PCB(s).

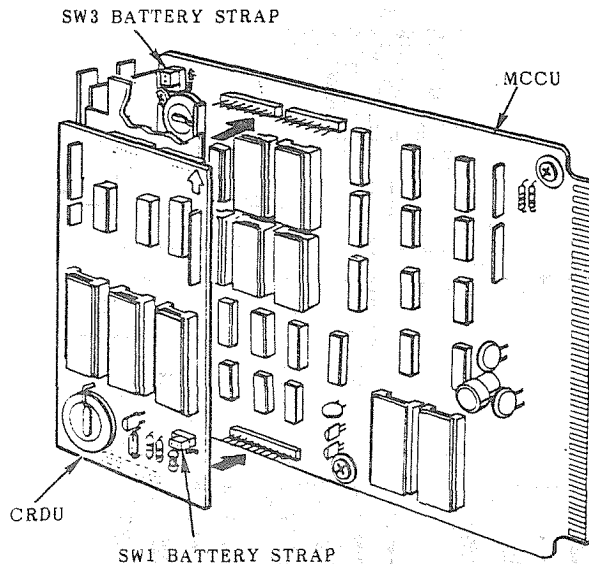


FIGURE 9

- #1 MSTU serves extensions 10-17.
- #2 MSTU serves extensions 18-25.

06.35 Select the proper type of MCOU PCB (MF or DP) and install the required number in the position(s) shown in Figure 6.

- #1 MCOU serves CO lines 1-3.
- #2 MCOU serves CO lines 4-6.

07 CABLE CONNECTIONS

07.01 Main Distribution Frame (MDF) Configuration

07.02 Two 66MI-50 split connection blocks (Figure 10) are recommended as the STRATA VI Main Distribution Frame (MDF).

07.03 A 25-pair male-amphenol-ended cable is connected directly to the front of each MSTU PCB and fastened with the metal bracket that is provided (Figure 11).

07.04 Secure the cables to the bottom of the MKSU shelf (Figure 11)

**SECTION 100-006-200
INSTALLATION**

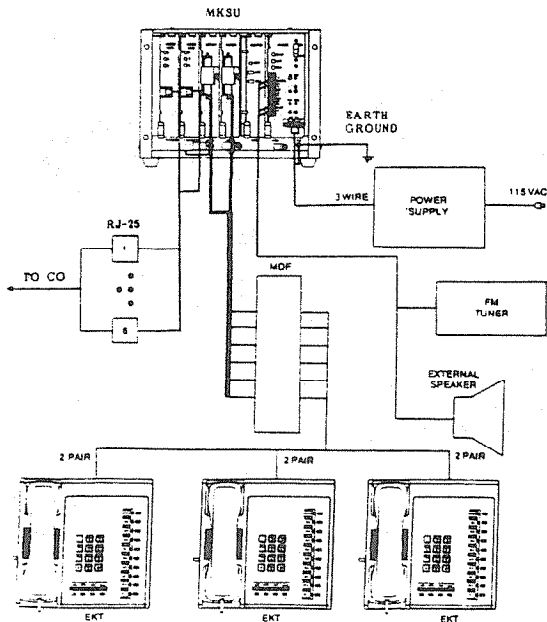


FIGURE 10

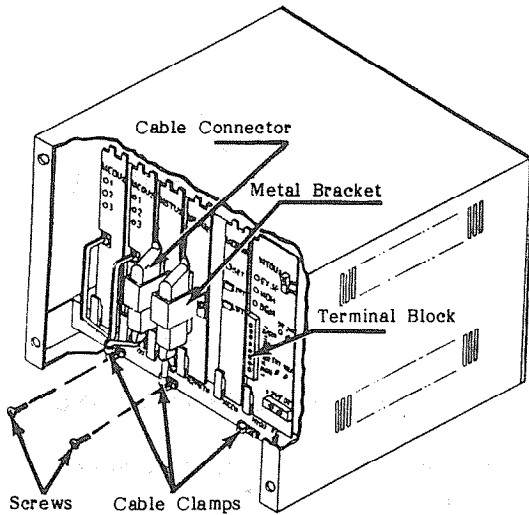


FIGURE 11

using the plastic cable clamps that are provided. Run the cable under the MKSU and toward the rear, as shown in Figure 12.

07.05 Route the cable from #1 MSTU (Ext. 10-17) to Block A and the cable from #2 MSTU (Ext. 18-25) to Block B.

07.06 Use the standard color code sequence and terminate the cables from

the MSTU PCBs on the MDF blocks as shown in Figures 13 and 14. (Use one side of each block for each cable.)

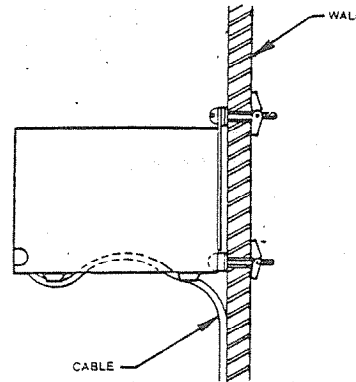


FIGURE 12

07.10 Station Cable Connections

07.11 Terminate the individual 2-pair station cables consecutively on each MDF block; attach them to the side opposite the MSTU cable. Use bridging clips to connect the MSTU cable pairs to the station cable pairs.

07.12 The cables used for station wiring should be industry standard quad or twisted pair.

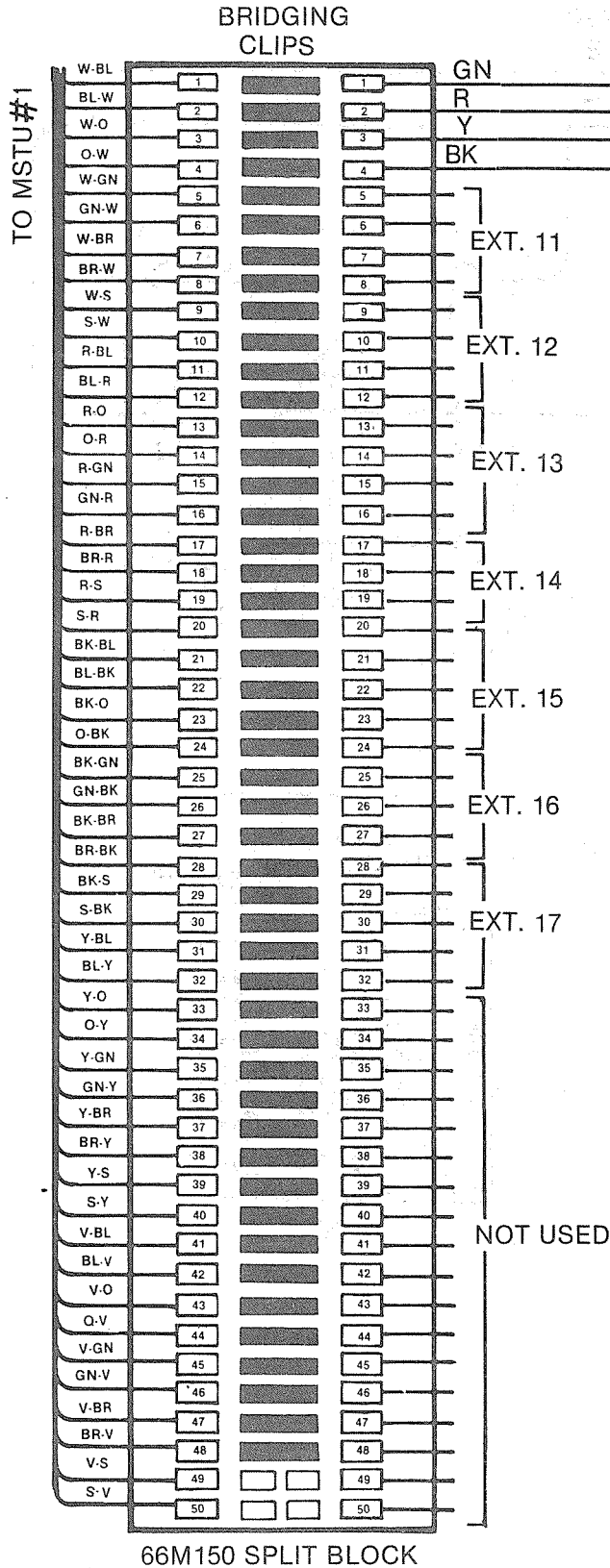
07.13 The overall length of the cable run must not exceed 1000 ft. for 24 AWG wire.

WARNING:

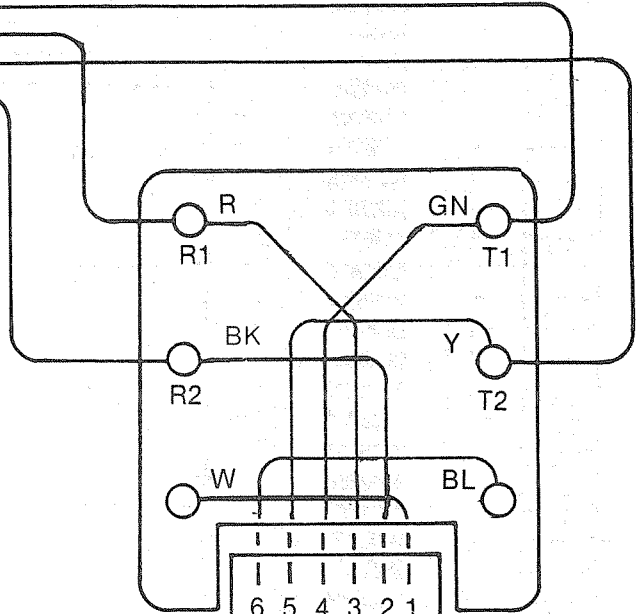
When installing station cable, do not run parallel to and within 3 ft. of an AC power line. Such power lines should be crossed at right angles (90°) only.

07.14 At the station locations, terminate the station cable in a conventional 4- or 6-conductor modular station connector to accommodate the modular line cord from the EKT. The standard modular EKT cord length is 7 ft., while the maximum allowed length is 25 ft.

07.15 Figures 13 and 14 show the EKT wiring arrangement.

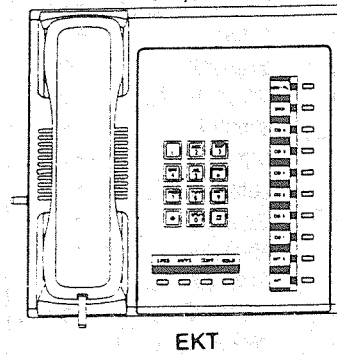


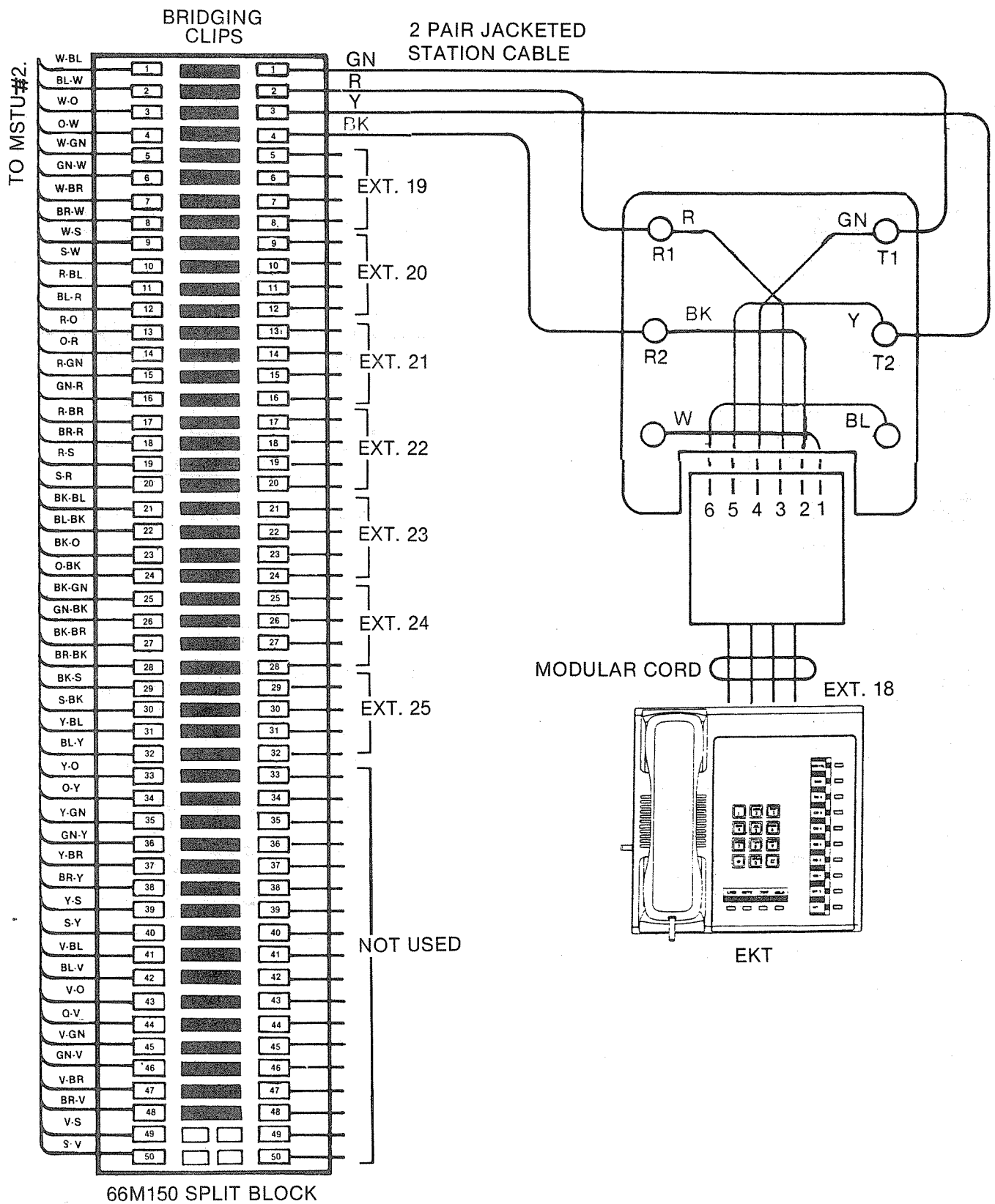
**2 PAIR JACKETED
STATION CABLE**



MODULAR CORD

EXT. 10





07.16 The various manufacturers of modular station blocks have employed different color codes to indicate the sequence of pairs in their blocks. However, the color code most commonly used is shown in Figure 15. Verify the configuration of your modular blocks before connecting the station cables.

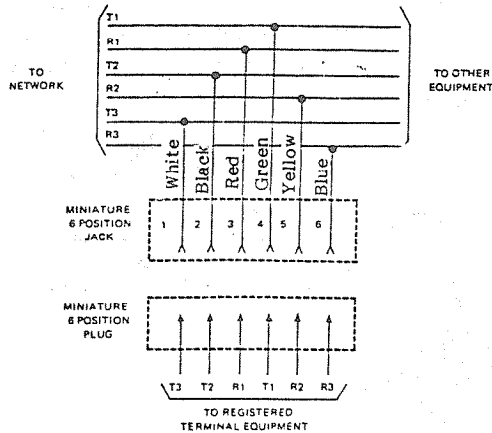


FIGURE 15

07.20 Intercom Code Assignment

07.21 Intercom codes are assigned permanently to specific MSTU cable appearances in STRATA VI. Make sure the station cables are connected to the proper terminals (Figure 15).

07.30 CO Line Connection

07.31 The CO/PBX lines are introduced into the STRATA VI system via modular line cords (no longer than 25 ft.) connected directly to a jack on the MCOU PCB. Each modular cord contains three lines. The opposite end of each cord then terminates directly into an RJ-25 jack provided by the telephone company.

- #1 MCOU serves CO lines 1-3.
- #2 MCOU serves CO lines 4-6.

07.32 Secure the modular cords to the MKSU shelf (Figure 16) using the plastic cable clamps that are provided.

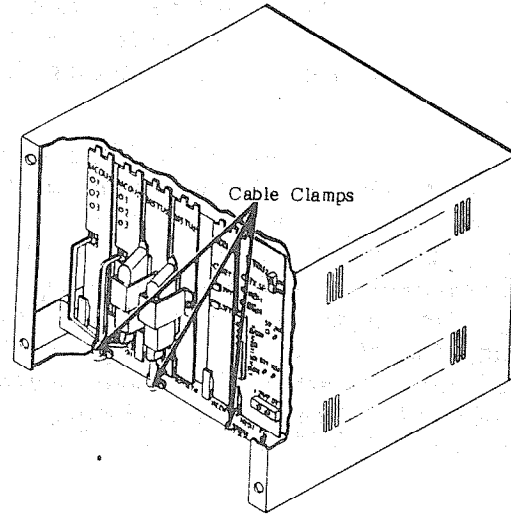


FIGURE 16

08 ELECTRONIC KEY TELEPHONE INFORMATION

08.01 General

08.02 All STRATA VI EKTs may be used as desk units or wall-mounted telephones. Each one measures:

- Width 8.8 inches (224 mm)
- Depth 9.1 inches (230 mm)
- Height 4.0 inches (102 mm)

and is equipped with 14 line and feature keys in addition to its push-button dial pad. Six of the keys are utilized for central office/PBX lines, two for intercom lines and the remaining six keys are used for feature operation (see Figure 17).

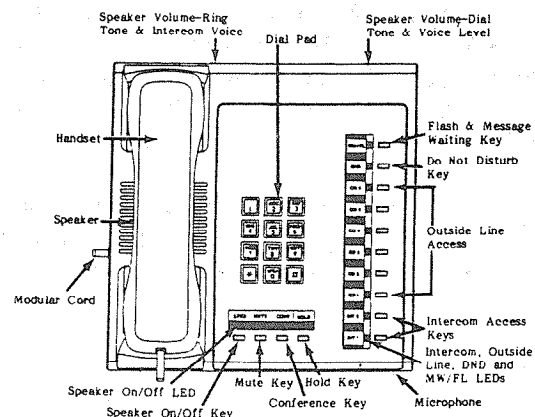


FIGURE 17

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08.03 Each EKT features a modular handset cord and is connected to the system via a 4-conductor modular line cord.

08.04 The 20-key EKT (Figure 18) has the same overall dimensions as the standard EKT, and is installed in exactly the same manner. See Program 5XX in Section 100-006-300, Programming, for inputting information concerning the 20-key. It is equipped with 10 additional feature keys—see Section 100-006-100, General Description, for additional information.

FUTURE OPTION

(20-key EKT)

FIGURE 18

08.10 EKT Wall Mounting

08.11 An optional handset hanger kit is required to convert either type of EKT for wall mounting. The EKT may be mounted on a wall or any other flat, vertical surface to which the base can be secured.

08.12 When selecting the mounting site, consider the EKT weight and the additional stresses to which the mounting will be subjected.

08.13 Mounting screws or mollies, appropriate for the surface on which the telephone is to be secured, must be provided by the installer.

08.14 Locking tabs secure the base to the EKT. The direction in which the base is attached to the EKT determines whether it will be used as a desk unit or wall unit (it is factory-configured as a desk unit). Disengage the locking tabs (A & B, Figure 20) by pushing downward on the base. Refer to Figure 19, choose which of the two lower choices is appropriate, and cut the holes through which the tail cord will be routed.

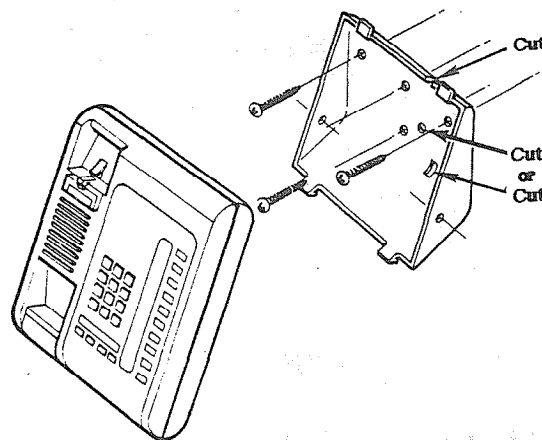


FIGURE 19

08.15 Secure the base to the desired wall site. Use a spirit level and make certain the top of the base is level and that the deeper portion is down.

08.16 Route the tail cord through the holes in the base and secure the EKT (Figure 20). Test the sturdiness of the EKT mounting.

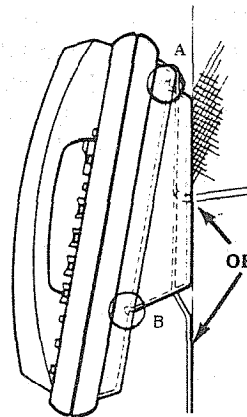


FIGURE 20

08.20 Converting the EKT

08.21 Refer to Figure 21, the optional handset hanger kit (available from Toshiba Telecom) must be used whenever the EKT is wall-mounted.

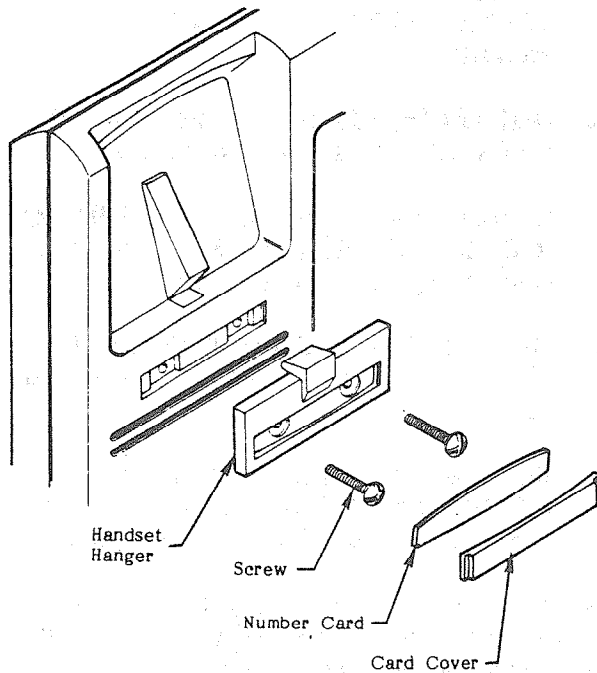


FIGURE 21

08.22 Remove the card cover by inserting a paper clip in the hole at one end. Bend the cover up and remove it and the number card.

08.23 Install the handset hanger into place and tighten the self-tapping screws. Reinstall the number card and card cover and connect the modular plug to the modular jack.

09 SYSTEM POWER-UP INITIALIZE

09.01 The STRATA VI has a list of standard system data assignments stored in ROM that can be entered at any time by activating the **SET** switch on the MCCU PCB. The system must be initialized when it is first installed or whenever the MCCU PCB is changed. This will allow the system to be tested and any faults to be corrected before time is spent on programming.

09.02 Plug in the EPSA and check the 24 VDC output. Make sure the voltage is within tolerances before proceeding.

- Refer to Figure 22 and verify that the battery on the MCCU (and CRDU, if equipped) is connected to ensure that data changes entered after initialization will not be lost due to power failure.

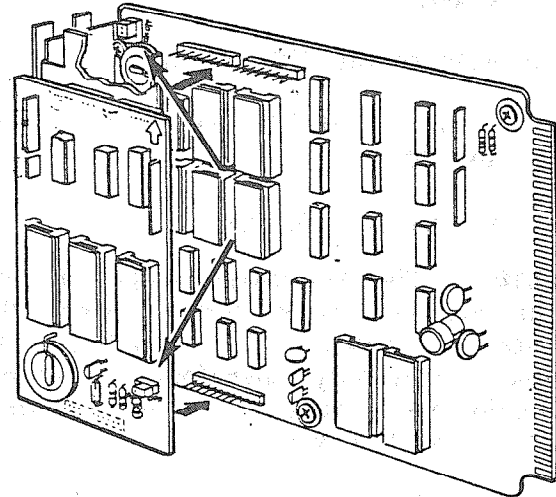


FIGURE 22

NOTE:

The SET LED will not function if the MCCU battery is not connected.

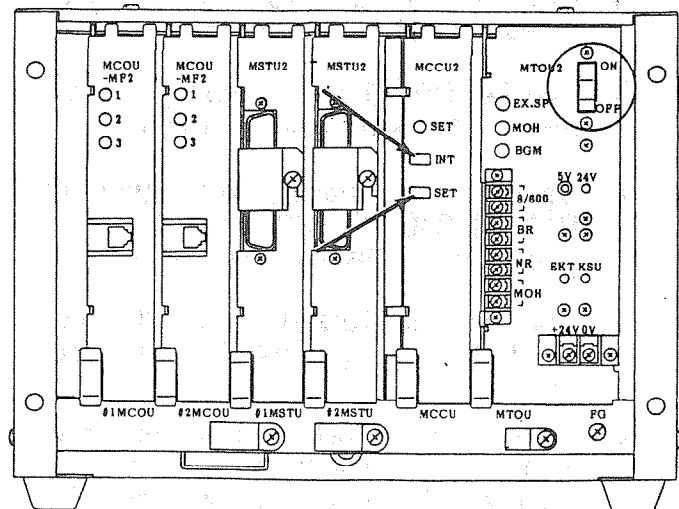


FIGURE 23

SECTION 100-006-200
INSTALLATION

09.03 To initialize the system data memory, refer to Figure 23 and perform the following steps:

- a) Make sure the power switch on the MTOU PCB is in the **ON** position.
- b) Hold in the **INT** switch on the MCCU. Simultaneously depress the **SET** switch and allow it to lock. Depress and release the **SET** switch again.
- c) Release the **INT** switch.
- d) Cycle the MTOU power switch **OFF** and **ON**.
- e) System is initialized.

09.10 The Automatic Dialing memory will contain random numbers when the system is powered up initially. To clear the memory; therefore, preventing meaningless numbers from being dialed, proceed as follows:

09.11 To clear Automatic Dial-System memory (24 numbers):

- Lock in the **SET** switch on the MCCU—the MCCU LED and the MW/FL LED on Ext. 17 will be on.
- Operate the **[SPKR]** key on Ext. 17—SPKR LED will be on steadily.
- Dial **[#] [*] [*]** on the dial pad—the SPKR LED will flash continuously.
- Operate the following keys: **[INT 1] [CO 1] [CO 3] [CO 5]** —the corresponding LEDs will light steadily.
- Operate the **[HOLD]** key—all Ext. 17 LEDs (except MW/FL) will go off.
- Release the **SET** switch on the MCCU—the MCCU LED and the MW/FL LED on Ext. 17 will go off.

09.12 To clear the optional Auto-

matic Dial-Station memory:

- Lock in the **SET** switch on the MCCU—the MCCU LED and the MW/FL LED on Ext. 17 will go on.
- Operate the **[SPKR]** key on Ext. 17—the SPKR LED will be on steadily.
- Dial **[#] [*] [#]** on the dial pad—the SPKR LED will flash steadily.
- Operate the following keys: **[INT 2] [CO 2] [CO 4] [CO 6]** —the corresponding LEDs will light.
- Operate the **[HOLD]** key—all Ext. 17 LEDs (except MW/FL) will go off.
- Release the **SET** switch on the MCCU—the MCCU LED and the MW/FL LED on Ext. 17 will go off.

09.13 If the appropriate sequence above fails, refer to Section 100-006-500, Troubleshooting, for assistance in locating the fault.

09.14 If the appropriate initialization sequence above appears successful, proceed to test system.

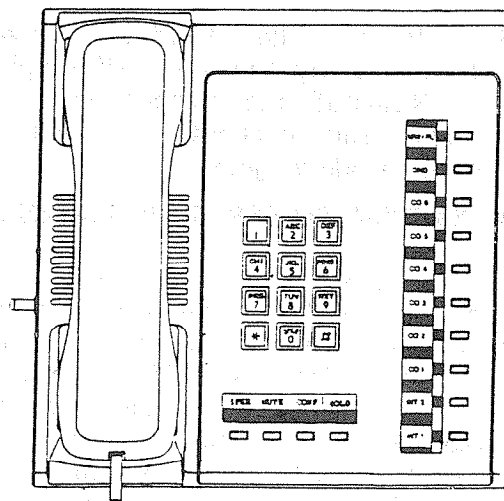


FIGURE 24

10 SYSTEM TEST PROCEDURES

10.01 EKT functional check—the following procedures verify the basic system functions and confirm the proper functioning of the EKT itself. Refer to Figure 24, and perform the following test procedure at each station. Begin with Ext. 10.

10.02 With handset on-hook:

- Operate **[INT 1]** key
INT 1 LED: I-use flash
SPKR LED: on steady
Listen for INT dial tone via EKT speaker
- Adjust speaker volume with the volume control on the rear right side of the EKT.
- Operate **[INT 2]** key
INT 2 LED: I-use flash
SPKR LED: on steady
Listen for INT dial tone via EKT speaker
- Operate **[CO 1]** key
CO 1 LED: I-use flash
SPKR LED: on steady
Listen for CO/PBX dial tone via EKT speaker
- Dial any digit on the dial pad and dial tone will stop.
- Tap the EKT microphone and verify that the sound can be heard over the speaker.
- Press the **[MUTE]** key while continuing to tap the microphone and verify that the sound cannot be heard via the speaker.
- Operate **[SPKR]** key
CO 1 LED: off
SPKR LED: off
- Operate **[CO 2]** key
CO 1 LED: I-use flash
SPKR LED: on steady
Listen for CO/PBX dial tone via EKT speaker

- Operate **[MW/FL]** key
Listen for circuit break followed by dial tone after approximately 2 seconds.

NOTE:

If no CO/PBX facility is connected to a CO key, dial tone will not be heard but the LED is still functional.

- Operate **[CO 3]** key
CO 3 LED: I-use flash
SPKR LED: on steady
Listen for CO/PBX dial tone via EKT speaker
- Operate **[CO 4]** key
CO 4 LED: I-use flash
SPKR LED: on steady
Listen for CO/PBX dial tone via EKT speaker
- Operate **[CO 5]** key
CO 5 LED: I-use flash
SPKR LED: on steady
Listen for CO/PBX dial tone via EKT speaker
- Operate **[CO 6]** key
CO 6 LED: I-use flash
SPKR LED: on steady
Listen for CO/PBX dial tone via EKT speaker
- Operate **[SPKR]** key
SPKR LED: off
EKT speaker: off
- Operate **[DND]** key
DND LED: on
- Operate **[DND]** key
DND LED: off
- Operate **[CO 1]** key
CO 1 LED: I-use flash
SPKR LED: on
Listen for CO/PBX dial tone via EKT speaker

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INSTALLATION**

- Operate **[HOLD]** key
CO 1 LED: I-hold flash
Speaker off (no dial tone)
SPKR LED: off
- Operate **[CO 1]** key
CO 1 LED: I-use flash
SPKR LED: on
Listen for CO/PBX dial tone via EKT speaker
- Operate **[CONF]** key
CO 1 LED: Conference call flash rate
Dial tone continues
- Operate **[SPKR]** key
CO 1 LED: off
SPKR LED: off
Dial tone: off
- Call EKT from another station
Listen for caller's voice via speaker after warning tone
INT LED at called station: I-called flash
- Dial **[1]** at calling station
Tone signalling heard via speaker
- Adjust tone signalling volume with the volume control on the rear left-hand side of the EKT being tested.
- Operate **[INT 1]** key
INT 1 LED: I-use flash
SPKR LED: on
Listen for INT dial tone via EKT speaker
- Lift handset
SPKR LED: off
Speaker: off
Listen for dial tone via handset receiver
- Speak into handset transmitter
Verify that side tone is present at a comfortable level

- Dial another station and talk into the handset transmitter
Verify that your voice can be heard via the speaker on the called EKT.
- Set handset back on-hook
INT 1 LED: off

10.03 This completes the station functional check; repeat the procedure for all stations in the system.

10.10 Feature Check—verify that all system features function properly as instructed in the Operating Procedures.

11 MISCELLANEOUS EQUIPMENT CONNECTIONS

11.01 Wiring Connections

11.02 All connections to the equipment (other than EKTs or CO/PBX lines) are made via the barrier strip mounted on the front of the MTOU PCB, as shown in Figure 25.

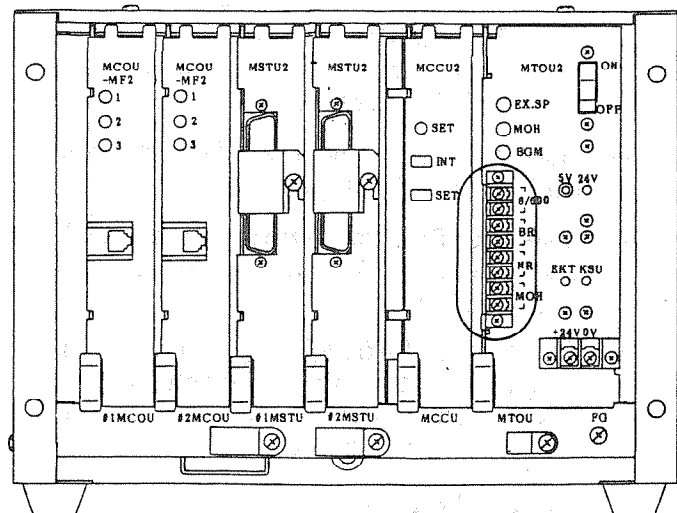


FIGURE 25

11.10 Music-on-Hold/Background Music Source

11.11 Connect the customer-provided MOH/BGM program source (tape deck, tuner, or commercial source) via

the two MOH terminals on the MTOU barrier strip. Input impedance is 600 ohms.

11.20 Music-On-Hold Volume Control

11.21 Adjust the MOH volume with the **MOH** volume control on the front of the MTOU. Maximum volume is limited by internal circuits in order to comply with FCC regulations. See Paragraph 11.80 for the correct volume setting sequence.

11.30 External Paging Connections

11.31 The STRATA VI provides access to an external paging system by dialing a single digit (7). The single output connection is made via the 8/600 terminals on the front of the MTOU terminal, and can be used in one of three ways:

- To operate a customer-provided speaker directly, via an internal 3-watt amplifier located on the MTOU PCB.
- If more than 3 watts are required, an external customer-provided amplifier can be connected to operate the external speaker.
- If talk-back capability is required, a customer-provided talk-back amplifier/speaker can be connected.

NOTE:

See Paragraph 11.80 for the correct volume setting sequence.

11.40 Direct External Speaker Connection

11.41 The exact number of speakers that may be connected to the 8-ohm, 3-watt output will depend on the type of speaker used, the conductor resistance, and the desired volume.

11.42 The 8-ohm output impedance must be selected with the SW2 switch on the MTOU (Figure 26). The switch must be on the side labeled "8".

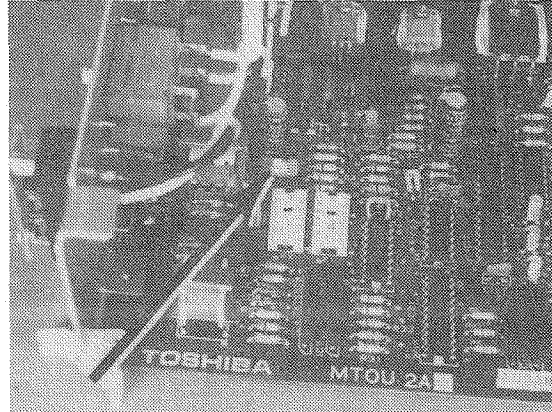


FIGURE 26

11.43 Connect the external speakers to the two 8/600 terminals on the MTOU PCB.

11.44 Adjust the speaker volume with the **EX.SP** volume control on the front of the MTOU. See Paragraph 11.80 for the correct volume setting sequence.

11.50 External Amplifier Connection

11.51 If more power is required than the MTOU amplifier can deliver, a customer-provided external amplifier may be connected to the 8/600 terminals on the MTOU. The external speakers should then be connected to the external amplifier.

11.52 Determine which output impedance is most suitable for the amplifier being used, and make the selection with the SW2 switch on the MTOU (Figure 26).

11.53 If the 8-ohm impedance is chosen, the **EX.SP** volume control may be used to control the **input** level to the external amplifier. If the 600-ohm impedance is chosen, the level is fixed and the input must be controlled by the

**SECTION 100-006-200
INSTALLATION**

external amplifier itself. See Paragraph 11.80 for the correct volume setting sequence.

11.60 Talk-back Amplifier

11.61 A customer-provided talk-back speaker/amplifier may be connected to the external page (8/600) terminals on the MTOU.

11.62 For talk-back operation, the SW2 switch on the MTOU must be set to "600". The MTOU amplifier is not used for the 600-ohm mode in order to permit a 2-way voice path.

11.63 The **EX.SP** volume control on the front of the MTOU will not function when the 600-ohm mode is selected.

11.70 Background Music

11.71 Background music (BGM) can be provided in two ways through the STRATA VI system:

- Internal to the system using the MOH source.
- External to the system when an external amplifier is used on the External Page feature.

11.72 Internal BGM uses the music-on-hold program source that is connected to the MOH input terminals on the MTOU. It is broadcast through all EKT speakers (under the individual control of each station user) and will be heard if the **[SPKR]** key is operated with the handset on-hook and no line selected.

11.73 As a programmable option, the BGM from the MOH source can be heard via the external page (see Section 100-006-300, Programming).

11.74 The BGM is automatically preempted when a page or ringing

signal must be output from an EKT speaker or the external page.

11.75 Overall system BGM volume is set with the BGM volume control on the front of the MTOU PCB (see Paragraph 11.80 for the correct volume setting sequence). The volume at individual stations is set with the volume control on the rear right-hand side of the EKT.

11.76 If BGM is connected via an external amplifier on the external page, it can be heard from the external speakers only. The STRATA VI, if required, can provide a dry contact control signal for muting the BGM when a page is in progress.

11.77 To provide BGM control, obtain and install the optional BR (K1) relay on the MTOU PCB, see Paragraph 05.02. Connect the BR terminals on the MTOU to the control terminals (mute, mike switch, etc.) on the amplifier.

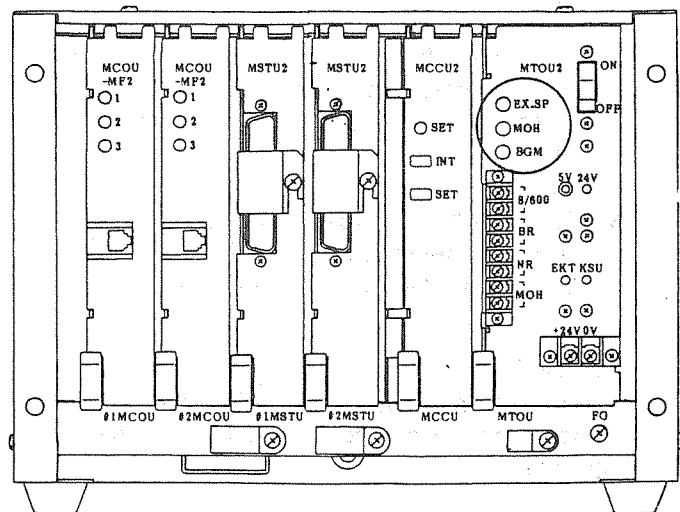


FIGURE 27

11.80 Volume Setting Sequence

11.81 Refer to Figure 27. Adjust the volume for MOH, BGM and Ext. Page with the following sequence:

- 8-ohms:
 - a) Adjust external page level while talking over the intercom external page feature.
 - b) Adjust music source volume to a comfortable level (approximately -20 dbm).
 - c) Adjust the MOH level for maximum volume without clipping.
 - d) Adjust the BGM level to the desired volume using the music source.
- 600-ohms:
 - a) Set the external amplifier volume level to about one-half.
 - b) Adjust music source volume to a comfortable level (approximately -20 dbm).
 - c) Adjust the MOH level for maximum volume without clipping.
 - d) Adjust the BGM level to the desired volume using the music source.

NOTE:

The EX.SP volume control will not function in the 600 ohm mode.

11.90 External Night Bell

11.91 As an option, the STRATA VI can provide a dry contact for the purpose of controlling an external loud

ringing bell (or similar device) when the system is in the "Nite" mode.

11.92 To provide this service, obtain and install the optional NR (K2) relay on the MTOU PCB per Paragraph **05.02**. Connect the external device to the NR contacts on the front of the MTOU.

IMPORTANT:

The NR relay contacts are rated at 24 VDC/1.0 Amp and are not intended to operate high power devices directly. If the power required for the device being controlled exceeds the contact ratings, an external slave relay must be used.

11.93 The W3 strap option on the MTOU allows the NR relay to function in one of two modes.

- a) Answering Machine Control—if the W3 strap is not cut, the relay is operated continuously when the system is in night service. This mode is intended for indirect control of an answering machine.
- b) Night Bell Control—if the W3 strap is cut, the relay pulses at a 1-sec. on, 3-sec. off rate when the system is in night service and an incoming call is ringing the system. The mode is intended to be used for indirect control of an external night bell.

**TOSHIBA SYSTEM PRACTICES
ELECTRONIC KEY TELEPHONE SYSTEM**

**SECTION 100-006-250
POWER SUPPLY INSTALLATION**

StrataVI[®]

**POWER SUPPLY
AND
BACK-UP BATTERY
INSTALLATION INSTRUCTIONS**

StrataVI

POWER SUPPLY (EPSA) & BACK-UP BATTERY (PBBU)

INSTALLATION INSTRUCTIONS

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**SECTION 100-006-250
POWER SUPPLY INSTALLATION**

01 POWER SUPPLY MOUNTING

01.01 All models of the External Power Supply Assembly (EPSA) are equipped with a built-in wall mounting bracket, as shown in Figure 1, to allow the EPSA to be mounted on a wall or other flat, vertical surface.

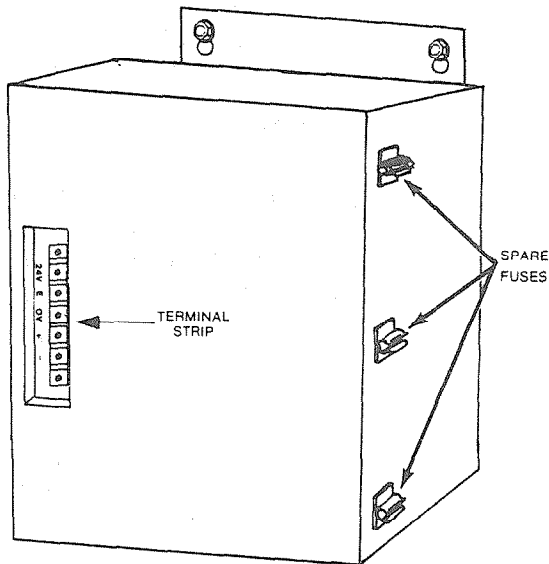


FIGURE 1

01.10 Preparing the Mounting Surface

01.11 Unpack and inspect the EPSA and the enclosed hardware. The following hardware, which is required to mount and connect the EPSA to the system, is supplied with each EPSA.

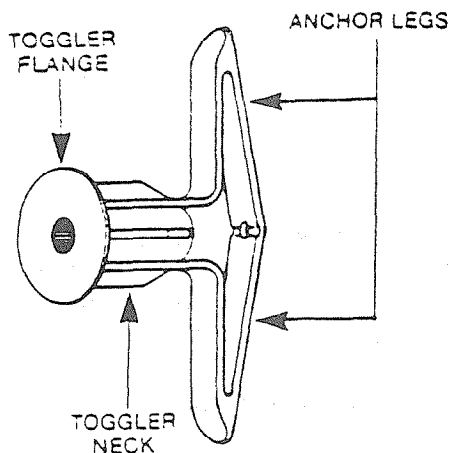


FIGURE 2

ENCLOSED HARDWARE

Quantity	Item
2	T.C. Toggler Wall Fasteners (Figure 2).
2	#14 Hex Head Sheet Metal Screws.
1	Toggler Key.
1	Template P/N 117260-001 (to space the wall fasteners properly).
1	AC Fuse (spare) P/N 116438-088 (F1, 5 amp, SLO-BLO 125 VAC).
1	DC Fuse (spare) P/N 116438-030 (F2, 10 amp, Fast-BLO, 32 VDC).
1	16 AWG, 3 wire Jacketed Cable (54 inches).

01.12 Choose a suitable location on a vertical surface for the EPSA, and attach the P/N 117260-001 template to that location temporarily. Use a spirit level to verify that the indicated drilling points are level.

01.13 Place punch marks on the mounting surface through the "+" marked drilling positions on the template.

01.14 Enlarge the two punch marks with an 1/8-inch drill bit.

01.15 With a 5/16-inch bit, drill through the mounting surface to complete the anchoring holes.

01.20 Securing the EPSA

01.21 Press the anchoring legs of a toggler together and insert them into one of the anchoring holes, as shown in Figure 3.

01.22 Insert the toggler into the hole until the neck flange is flush with the mounting surface. If it is difficult to insert it completely by hand, tap it lightly with a hammer.

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POWER SUPPLY INSTALLATION**

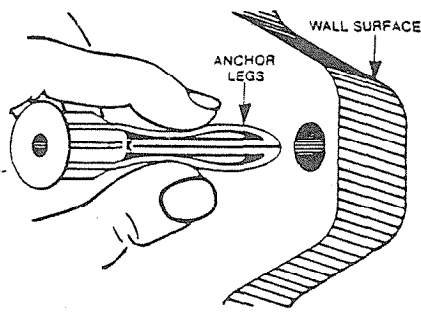


FIGURE 3

01.23 Insert a togger key into the small hole in the neck of the fastener, as shown in Figure 4. This should cause the anchoring legs to "pop" open. Even if the mounting surface is too thick to permit the legs to open fully, adequate support for the EPSA should be provided when the screws are in place. Remove the togger key.

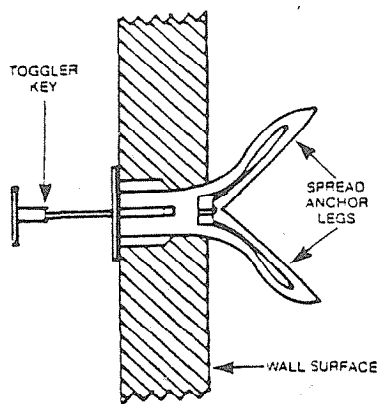


FIGURE 4

01.24 Repeat the steps outlined in Paragraphs **01.21** to **01.23** for the second hole.

01.25 Thread the #14 hex head sheet metal screws into the small holes in the center of the togglers. Leave approximately 3/16-inch clearance between the bottom of each screw head and the mounting surface (Figure 5).

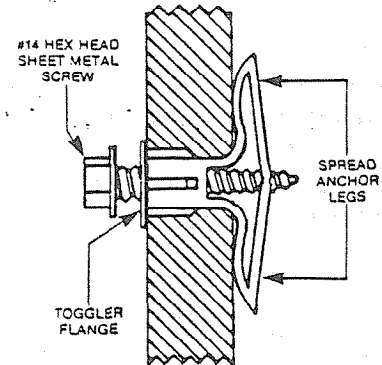


FIGURE 5

01.26 Align the EPSA mounting bracket's holes with the sheet metal screws as shown in Figure 6. Place the EPSA against the mounting surface with the screws protruding through the holes.

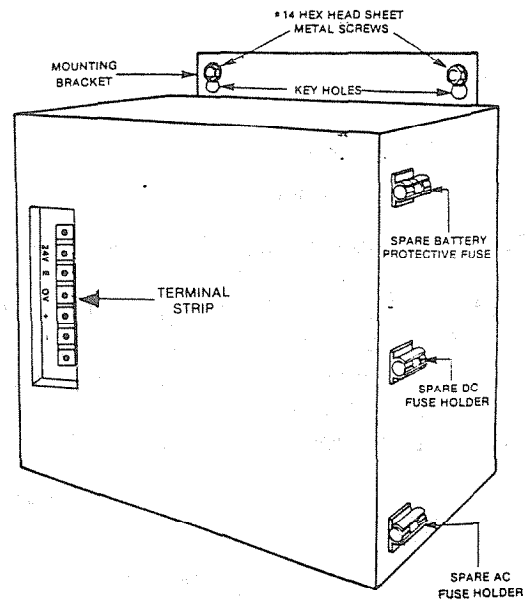


FIGURE 6

01.27 Lower the EPSA so that the narrower portions of the holes slip over the screws and the weight of the EPSA is supported. Tighten the screws.

01.30 Fuse Protection for the EPSA

01.31 Remove the spare fuses from the hardware carton.

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01.32 Place the spare 10 amp DC fuse in the center fuse storage clip located on the side panel of the EPSA (Figure 6).

01.33 Place the spare 5 amp SLO-BLO AC fuse in the clip below the DC fuse clip.

01.34 Remove and inspect the fuses that were shipped inside the EPSA. If the visual inspection reveals a defective fuse, remove the appropriate spare from its storage clip and replace the defective fuse. (Order another spare fuse.)

02 BATTERY BACK-UP INSTALLATION

02.01 General

02.02 The Power Battery Back-up Assembly (PBBU) in Figure 7 is an optional PCB which may be installed in the EPSA 104 to interface with two auxiliary 12V batteries. In the event of an electrical power failure, the PBBU provides an automatic battery power source, permitting a typical STRATA VI system to continue normal operations for up to 12 hours.

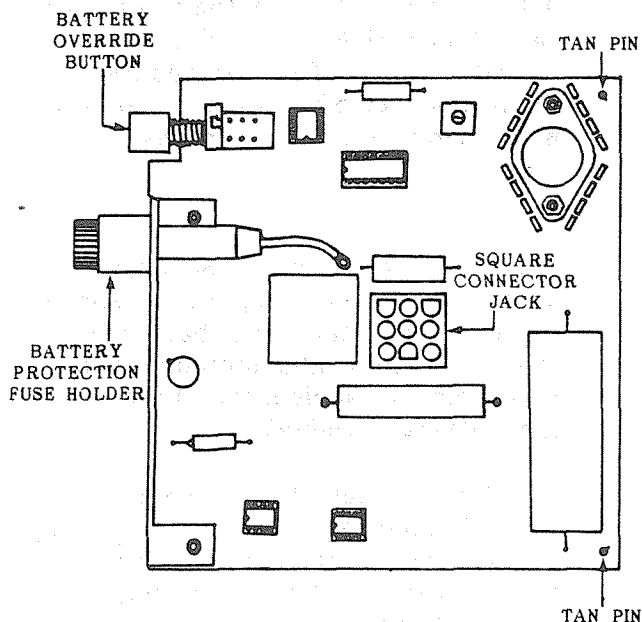


FIGURE 7

02.03 The PBBU contains a voltage sensing circuit which causes an electromechanical relay to connect the back-up battery power supply to the system before the EPSA output voltage drops below 21VDC (at which point system functions would be disrupted and existing calls would be disconnected).

02.04 When the normal source of electrical power is restored, the voltage sensing circuit relay will disconnect the standby battery power source.

02.05 If the standby battery power source output falls below 21VDC while it is connected to the system, the voltage sensing circuit will cause the relay to disconnect the standby battery from the system.

02.06 The standby battery power supply will not reconnect unless:

- The normal source of electrical power is restored, causing the PBBU to disconnect the battery power supply from the system, or...
- The "Battery Override" switch (Figures 7 and 8) is placed in the ON position, or...
- The depleted batteries are replaced by a freshly charged pair and the "Battery Override" switch is turned on and then released.

02.07 The PBBU also contains circuitry to provide the charge current necessary to maintain the batteries at a satisfactory level of charge while the STRATA VI system is in normal operation. An external fast charger may also be connected across the battery output terminal connections.

02.08 The PBBU kit contains the following items:

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POWER SUPPLY INSTALLATION**

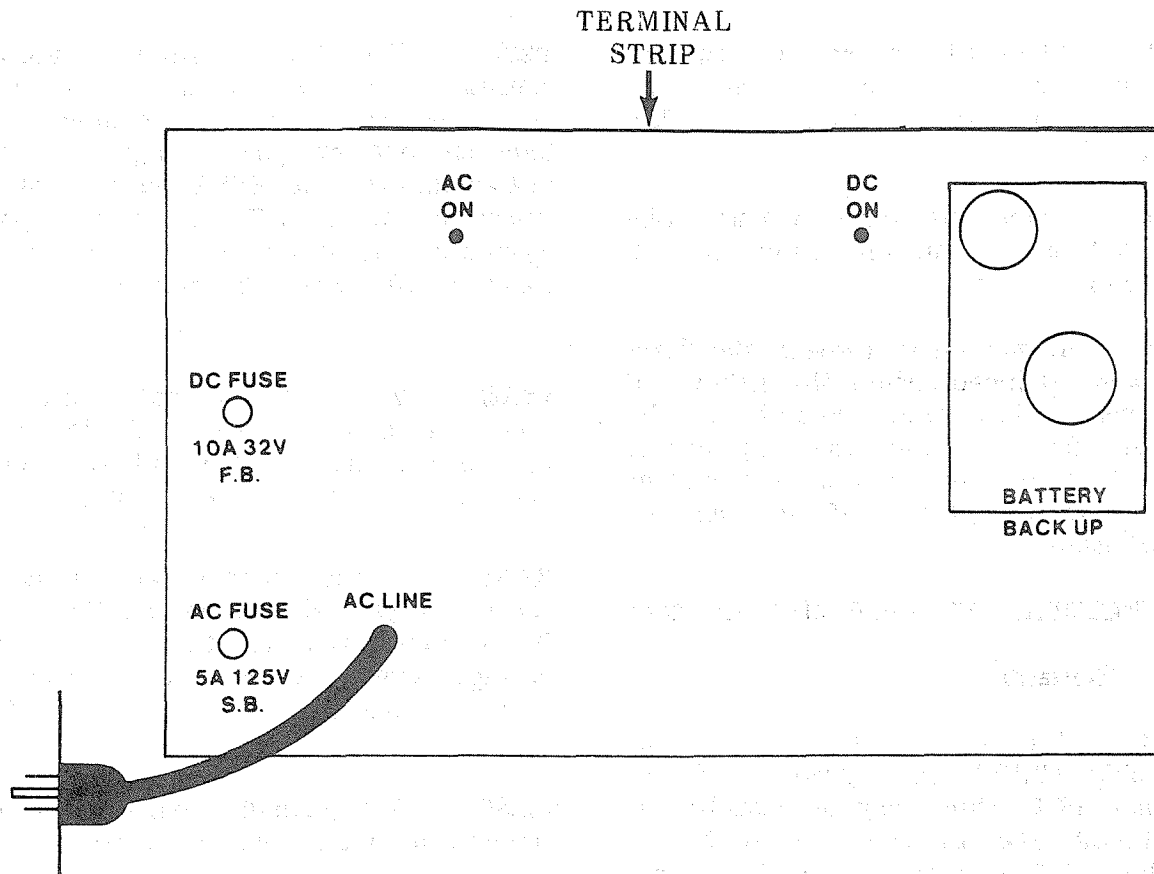


FIGURE 8

- PBBU—Power battery backup PCB.
 - Fuse—A spare battery protection fuse.
 - Cable Clamp—A 7/16-in. cable clamp which may be needed to secure the wiring harness inside the EPSA.
 - "PBBU-REV 3"—An adhesive-backed decal to be placed on the front face of the EPSA.
 - Warning Tag—A warning tag to be attached to the EPSA 115VAC power cord.
 - Two Batteries—Two 12V/80 amp-hour, lead-acid, automotive-type, maintenance-free batteries are recommended. The procedures in Paragraph 02.50 assume batteries with side-mounted terminals are used.
 - Battery Rack and Separator—A battery rack and separator should be used to secure the batteries to prevent tipping and spilling of battery acid or accidental shorting of the battery terminals.
 - Two-Wire Connecting Cable—A 2-wire connecting cable terminating at one end with 3/8-in. ring terminals and at the other end with 1/8-in. hooked spade terminals is required to provide the connection
- 02.09** In addition to those items supplied in the PBBU kit, the following additional items are needed to install a PBBU in an EPSA:

between the batteries and the EPSA. The minimum wire size must be determined by the loop length of the connecting cable as indicated in Table A.

TABLE A—MINIMUM WIRE GAUGE

LOOP LENGTH	RECOMMENDED SIZE
12 ft.	16 gauge
20 ft.	14 gauge
30 ft.	12 gauge
50 ft.	10 gauge

- Single Wire Cable—A 16 AWG single wire cable, approximately 18 inches in length and equipped with ring terminals, is required to connect the two batteries in series.
- Cable Clamp—A cable clamp should be used to relieve strain on the battery cable to prevent cable movement from affecting the batteries.
- Battery Fuse—A 10 amp, 32V (minimum) fuse, or a 10 amp DC instantaneous tripping circuit breaker is to be located adjacent to the batteries in series with the negative lead of the 2-wire connecting cable. The battery fuse (or circuit breaker) is required to protect the batteries from damage due to a power surge or a short circuit.
- Hex Head Bolts—Four 3/8in. hex head bolts are required to connect the cable terminals to the batteries.
- Washers—Eight 3/8-in. flat washers and four 3/8-in. internal-tooth lock washers are required for the above cable terminal connections.
- Battery Cabinet—If the batteries are not located in a well-ventilated closet or other secure area, protected from fire or sparks, a properly ventilated protective cabinet is required to safeguard them.

NOTE:

The EPSA-104 is currently being supplied with all STRATA VI systems; however, an EPSA-103 is shown in the illustrations. Installation in each of these EPSAs is similar except for minor differences in the location of harnesses or connectors. If required by local code, see the permanent wiring instructions on the tag attached to the power supply cord. The "Warning Tag" attachment at the same location is always required.

CAUTION:

The EPSA, battery, battery rack, and the interconnecting wiring shall be installed only by qualified installers, in accordance with all applicable electrical codes and Article 480 of the National Electrical Code. Before installing see the "Installation Instructions" enclosed with each item.

WARNING:

Only trained personnel may service or install the PBBU and EPSA-104.

02.10 PBBU Installation

02.11 EPSA Preparation

NOTE:

Before attempting to install a PBBU PCB, the EPSA must be mounted and connected to the MKSU; (Section 100-006-200, Installation).

02.12 Verify that the power switch on the MTOU is in the OFF position, and then disconnect the EPSA's 115 VAC power cord.

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POWER SUPPLY INSTALLATION**

02.13 Remove the terminal strip cover from the **OUTPUT/24V, 8A-24V/BATTERY** terminals (Figure 9).

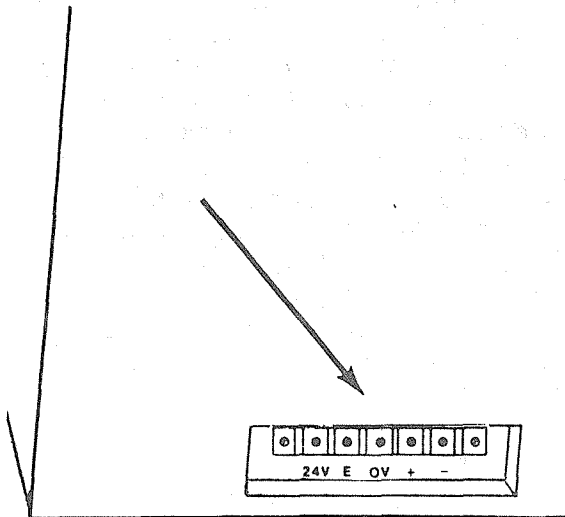


FIGURE 9

02.14 The EPSA cover is secured by seven screws. Viewing the EPSA as if it is wall-mounted, two screws will be located at the rear edge of the top of it, three on the side facing outward and two on the rear edge of the bottom.

02.15 Remove all seven screws.

02.16 Remove the cover and set it aside.

02.17 Locate and trace the multi-wire harness in the lower portion of the EPSA (the area away from the built-in mounting bracket). The harness originates from the transformer and the terminals and fuse holders mounted in the control panel. This harness terminates in a rust-colored square connector.

02.18 The harness is secured to the bottom of the chassis with a cable clamp as shown in Figure 10. Loosen the screw and nut slightly to allow movement of the harness.

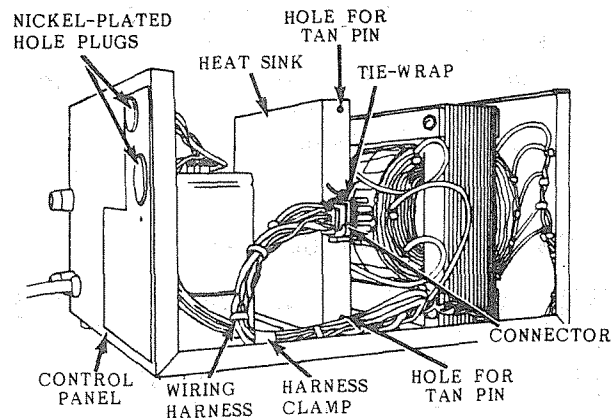


FIGURE 10

02.20 Installing the PBBU Assembly

02.21 Mounted in the EPSA control panel are two nickel-plated hole plugs. Bend in the retaining tabs on both plugs; remove and discard them.

02.22 Unwrap the PBBU and locate the screw in the PBBU's mounting bracket (Figure 11). Remove and save the screw.

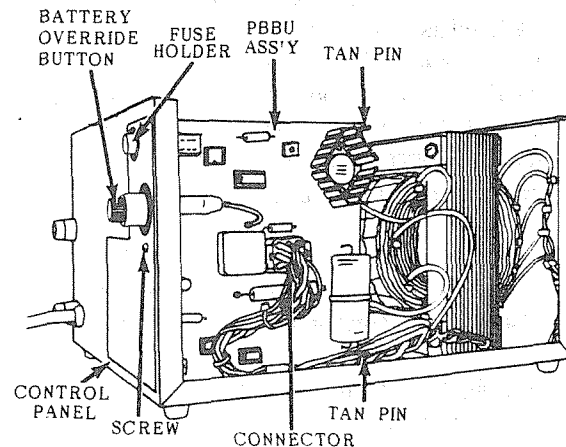


FIGURE 11

02.23 Slip the PBBU's battery protection fuse holder and the battery override button through their respective ports in the control panel (Figure 11). The PBBU's mounting bracket should be

flush against the rear of the control panel with the fuse holder and override button protruding through it. The harness should flow around the PBBU PCB, with no wires beneath it.

02.24 Align the two tan-colored PBBU pins with the two holes in the heat sink (Figure 10). Press the pins into the holes until they catch and hold the PBBU PCB.

02.25 Use the previously removed screw and secure the PBBU mounting bracket to the control panel. See Figure 11.

02.26 Plug the rust-colored connector into the nine-hole jack in the center of the PBBU PCB. Do not force the connector's prongs into the jack, they are keyed so that they can be mated in only one position.

02.27 Replace the EPSA cover and secure it with the seven screws originally removed.

02.28 Press in the battery override button (Figure 8). If it catches and stays in, press it again to cause it to release and protrude out of the control panel. Out is off, and the position of the button must be in for the EPSA to operate normally.

02.29 Remove the spare fuse from the PBBU kit. If the original fuse is missing or defective, replace it with the spare. If not, put the spare fuse in the holder located on the side of the EPSA away from the control panel.

02.30 Required Labels and Warning Tags

02.31 Remove the warning tag from the kit and tie it to the power cord where it emerges from the EPSA.

02.32 A "PBBU-REV 3" decal must be placed on the control panel of the

EPSA. Remove the decal from the kit, peel the backing off, and place it on the control panel (Figure 8).

02.40 Battery Connection

CAUTION:

Do not attempt to connect the batteries to the EPSA while the AC power cord is plugged in, or without the EPSA being connected to the MKSU. Do not connect the 2-wire cable to the batteries before connecting it to the EPSA. Once the batteries are connected to the EPSA the 24V 8A output terminals are live.

02.41 Select a location for the batteries near the EPSA. The loop length of the cable connecting them to the EPSA will determine the minimum gauge wire which can be used in the cable. See Table A.

NOTE:

The area in which the batteries are to be located must be well ventilated to prevent a dangerous accumulation of battery gases. The batteries must also be protected from moisture and extreme temperatures.

02.42 Secure the batteries in the battery rack and separator, which should be located in a minimum access area, such as a closet or a well ventilated cabinet.

02.43 Verify that the battery override button is in the OFF position (out).

02.44 Loosen the two screws on the terminal strip identified as 24V/BATTERY.

02.45 Attach the cable's two spade tips to these connectors. Each wire,

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POWER SUPPLY INSTALLATION

as well as the EPSA terminals, are marked positive (+) or negative (-). See Figure 12. Match positive to positive and negative to negative.

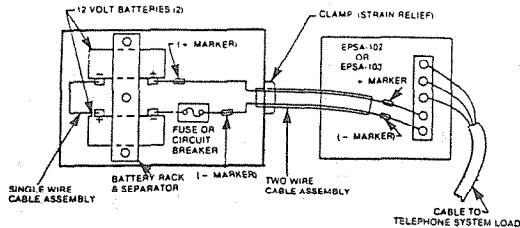


FIGURE 12

02.46 Connect the battery fuse (or circuit breaker) lead to the negative terminal on one battery (Figure 13).

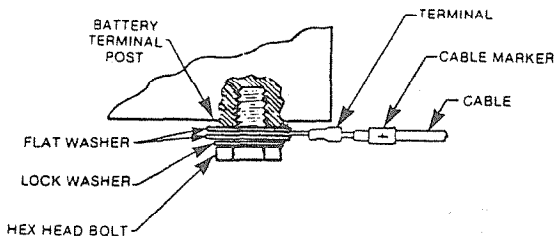


FIGURE 13

02.47 Attach the negative wire from the connecting cable to the battery fuse (or circuit breaker).

02.48 Connect the positive wire to the positive pole of the battery to which the fuse is not connected (see Figure 12).

02.49 Connect one end of the single-wire cable to the positive terminal on the battery with the fuse. Connect the other end to the negative terminal on the battery without the fuse (Figure 12).

NOTE:
 Place the cable clamp over the two-wire cable and secure it to either the battery rack or the protective cabinet. Adjust the clamp to relieve strain on the cable.

02.50 Installation Finalization

02.51 Plug the AC power cord in, and verify that the **AC ON** indicator is lit.

02.52 Unplug the AC power cord, and verify that the **DC ON** indicator is lit to indicate the batteries are supplying electrical power as needed.

02.53 Replace the terminal strip cover and test the STRATA VI system functions under both AC and battery back-up power.

CAUTION:
 When testing is complete, make certain that the battery override button is in the **OFF** position and that the **AC ON** indicator is lit.

TOSHIBA SYSTEM PRACTICES
ELECTRONIC KEY TELEPHONE SYSTEM

SECTION 100-006-300
SYSTEM PROGRAMMING

StrataVI[®]

SYSTEM PROGRAMMING PROCEDURES

StrataVI

SYSTEM PROGRAMMING PROCEDURES

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01 INTRODUCTION

01.01 The STRATA VI operating system governing overall system operation and feature execution is stored in read-only-memory (ROM) and cannot be altered in the field. The data controlling the operation of the various options, both system and station, is stored in random-access-memory (RAM) and can easily be changed according to individual installation requirements.

01.02 All STRATA VI options are controlled by selections made in the system data tables. An initialization process is provided for verifying pre-determined system assignments. The installer can then proceed with any necessary changes.

01.03 All system data changes are made with the Electronic Key Telephone (Ext. 17) as the input-output device. Whenever the system is placed in the programming mode, Ext. 17's keys are used to enter data while its LEDs display the current data. After initialization, while Ext. 17 is in the programming mode, the remainder of the system may still be used in the normal fashion.

01.04 Internal battery power is provided for the system data memory to prevent loss in the event of a system power failure.

NOTE:

When a system is installed or the MCCU is changed, the system must be initialized. See Paragraph 02.20.

02 PROGRAMMING PROCEDURES

02.01 General

02.02 The STRATA VI system must be placed in the programming mode before system data can be altered. With the exception of Ext. 17, normal system functions are not suspended while the programming mode is active.

02.03 When the system is in the programming mode, Ext. 17 is used to enter the system data in one of two ways:

- In the majority of programs (Type 1), the [INT] and [CO] keys are used to change "bits" of system data. The LEDs associated with the [INT] and [CO] keys show the status of that "bit" before and after key operation. A particular key and LED will have a different meaning, depending upon the program number being used.
- In Type 2 programs, the dial pad is used to enter data. In this case, the system, using the INT and CO LEDs, verifies the entered data by displaying the number in a Binary Coded Decimal (BCD) format.

02.04 The programming mode is activated by locking in the SET switch on the MCCU PCB and then operating the [SPKR] key on Ext. 17. After the station has been activated, a program number is dialed on the station dial pad, and the system will respond as follows:

- Type 1 programs—the LEDs of Ext. 17 will display the existing data in these categories.
- Type 2 programs—the CO 4 LED on Ext. 17 will flash continuously. Actual data can be reviewed without alteration by multiple operation of the [#] key.

02.05 Data can be altered while it is being displayed. To input new data perform the following:

- Type 1 program—the state of an LED is altered by operating its associated key. Operating the key while the LED is "on" will turn it off and vice-versa.

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- Type 2 program—data is entered via the dial pad. The LEDs on Ext. 17 will display the data and digit number in BCD format.

02.06 Once the desired data is entered and displayed it is written into memory by operating the [HOLD] key on Ext. 17. When the [HOLD] key is depressed, the data is either written into a temporary storage location or the main data memory.

- System and CO line options are written into temporary storage when the [HOLD] key is depressed. After all changes in these categories have been made, release the SET switch on the MCCU. All data is then transferred into the main data memory by cycling (rocking) the MTOU power switch off and on.
- Station option data (with the exception of CO line access assignments) are written into the main data memory; therefore, all changes are effective immediately after the [HOLD] key is depressed. However, it is recommended that the MTOU power switch be cycled for added programming protection.

02.10 Preparation

02.11 Before the STRATA VI system data can be programmed, option selections must be made and then listed on the System Record Sheet (shown in Table 1). The Record Sheet will then serve as a programming guide and installation record.

02.12 Programming options are grouped according to the three categories listed below, with several program numbers associated with each category. A different program number is used for each option or group of options being selected.

• **Program**

• **System Options**

- 01: System Assignments (Basic)
- 02: System Assignments (Options)
- 05: Automatic Recall From Hold Timing

• **CO Line Options**

- 06: Automatic Release From Hold (AROH) Disable
- 07: Automatic Release From Hold Timing
- 10: PBX Backup
- 1X: PBX Access Codes
- 20: Toll Restriction Disable
- 2X: Toll Restriction Exception Codes

• **Station Options**

- 3XX: Station CO Line Access
- 5XX: Station Class of Service
- 6XX: Toll Restriction Class
- 7XX: Station Outgoing Restriction
- 8XX: CO Ringing Assignment-Day
- 9XX: CO Ringing Assignment-Nite

02.13 The System Record Sheet in Table 1 is used to record the assignment of each key/LED for any given program number. For Type 1 programs an "X" placed in the record indicates that the associated LED should be turned on (lit) during the programming process. For Type 2 programs the actual data is recorded.

02.14 Using the System Record Sheet (Table 1) to record the various choices, make the system option selections per the following instructions. Use the tables at the end of this section for detailed programming instructions.

02.15 System Options:

01 Program—System Assignments (Basic)

Six options are selected with this program, using [INT] and [CO] keys to change the status of their respective LEDs. For the options selected, mark an "X" as indicated.

- Extension 10—mark an X next to CO 6 if Ext. 10 is to be used as the message waiting center.
- Extension 11—mark an X next to CO 5 if Ext. 11 is to be used as the message waiting center.
- 3-second Pause Time—mark an X next to CO 2 if a 3-second pause (for dial tone delay) is required after a PBX CO access code is dialed by the Automatic Dialing feature. Leave blank if a 1.5-second pause is sufficient.
- Flash Time—mark an X next to CO 1 if the line-open interval produced by the [MW/FL] key is to be 0.5 seconds for behind PBX operation. Leave blank if the 2.0-second flash for Dial Tone recall is required.
- Ext. 10 DND/NITE Key—mark an X next to INT 2 if the DND/NITE key on Ext. 10 is to be used as a DND key. Leave blank if NITE is required.
- Tone First—mark an X next to INT 1 if Tone First intercom signalling is required. Leave blank if Voice First signalling is required.

NOTE:

1. Only one message center is permitted; if both Ext's 10 and 11 are chosen as message waiting centers, Ext. 10 will have priority.
2. CO 3 & 4 are not used.

02 Program—System Assignments (Options)

Four options are selected with this program by using the [INT] and [CO] keys. For the options that are selected, mark an X as indicated.

- Automatic Dialing-Station—mark an X next to CO 6 if the Automatic Dialing-Station option (CRDU PCB) is installed in the system. Leave blank if the CRDU PCB is not installed.
- Nite Ring Over External Page—mark an X next to CO 1 if Nite Ringing Over External Page is required.
- Background Music over External Page—mark an X next to INT 2 if BGM is to be heard over the External Page circuit.
- External Page with All Call—mark an X next to INT 1 if the External Page circuit is to be included in an All Call Page.

NOTE:

CO lines 2, 3, 4, & 5 are not used.

05 Program—Automatic Recall from Hold Timing

Sets the timing for the Automatic Recall from Hold feature.

- If a recall is desired, select a time period of 16-160 seconds and mark an X next to the appropriate key in the System Record Sheet. The times are not accumulative—only one key can be selected.
- If no recall is required, mark an X next to INT 1.

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02.16 CO Line Options

06 Program—Automatic Release on Hold Enable

Selects whether or not the Automatic Release on Hold (AROH) feature is to function on a given CO line; the CO line keys represent themselves.

- Mark an X next to each CO line that requires AROH.

07 Program—Automatic Release on Hold Timing

Selects Cross Bar (XB) or ESS timing for the AROH feature using each CO line key to represent itself.

- Mark an X next to each CO line that requires XB timing; leave blank if ESS timing is required.

NOTE:

This selection will have no meaning if the AROH feature was rejected in Program 03.

10 Program—PBX Backup

Informs the system if the CO line key is actually connected to a PBX extension line. The system will recognize PBX access codes on selected line(s).

- Mark an X next to each CO line that is to be connected to a PBX extension line.

1X Program—PBX Access Codes

Informs the system of the access codes used by the PBX that is connected to the lines selected in **Program 10**. The STRATA VI will recognize the access codes and react appropriately for Toll Restriction, Automatic Dialing and Repeat Last Number Dialed.

- Enter the actual access codes (maximum: 4).

NOTE:

If the access code is a single digit, enter "" in the second column. If all combinations following a particular 1st digit are to be considered access codes (e.g. 91, 92, 93, etc.), enter "D" (do not care) in the second column.*

20 Program—Toll Restriction Disable

Selects whether or not the Toll Restriction feature is to function on a given CO line; the CO line keys represent themselves.

- Mark an X next to each CO line on which Toll Restriction is not to function.

2X Program—Toll Restriction Exception Codes

Informs the system of a maximum of five 4-digit codes (area codes or office codes) that are allowed to be dialed by Toll Restricted stations.

- Enter the actual 4-digit codes (maximum: 5).

02.17 Station Options

3XX Program—Station CO Line Access

The ability of an individual station to access any of the CO lines is determined by selections made using this program. A station denied access to a CO line by this program will have neither key nor LED functions for that CO line.

- Selections must be repeated for all stations—mark an X next to each

CO line that is to be accessed by the station in question.

5XX Program—Station Class of Service

Seven options are selected with this program by using the [INT] and [CO] keys to change the status of their respective LEDs. The selections listed below must be repeated for each station. In all cases, mark an X where indicated.

- Privacy Override—mark an X next to CO 6 if the station is allowed the Privacy Override feature.

NOTE:

A maximum of two stations are permitted to use the Privacy Override feature. If more than two are programmed, the two lowest numbered extensions will be allowed to use this feature and the others will be ignored.

- DND Override—mark an X next to CO 5 if the station is allowed the DND Override feature.
- 20-key EKT—mark an X next to CO 3 if the station is equipped with a 20-key EKT.
- Speakerphone—mark an X next to CO 2 if the station is allowed to use the Speakerphone feature.
- Automatic Dialing—mark an X next to CO 1 if the station is allowed to use the Automatic Dialing feature.
- Automatic Line Preference—mark an X next to INT 2 if the station is allowed the Automatic Line Preference feature.
- All Call—mark an X next to INT 1 if the station is included in an All Call page.

6XX Program—Toll Restriction Class

Defines the type of Toll Restriction that will be functional on individual stations.

- Selections must be made for each station:
 - a) Mark an X next to CO 6 if the station will be allowed to dial 411.
 - b) Mark an X next to CO 5 if the station will be allowed to dial [1] plus 7-digit numbers.
 - c) Mark an X next to CO 4 if the station will be toll restricted.

7XX Program—Station Outgoing Restriction

Restricts a station from outgoing access to any number of CO lines (1-6) while leaving it free to answer these lines when they are ringing or on hold.

- Selections must be made for each station—mark an X next to the CO line that is to have restricted access by the station in question.

8XX Program—CO Ringing Assignments—Day

Selects which CO lines will ring at a given station when the system is in the "DAY" mode.

- Selections must be made for each station—mark an X next to each CO line that is to ring at the station in question.

NOTE:

Each line can ring on only eight stations. If more than eight are programmed, the stations with the lowest extension numbers will ring.

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**9XX Program—CO Ringing Assignment-
Night**

Selects which CO line will ring at a given station when the system is in the "NITE" mode.

- Selections must be made for each station—mark an X next to each

CO line that is to ring at the station in question.

NOTE:

Each line can ring on only eight stations. If more than eight are programmed, the stations with the lowest extension numbers will ring.

NOTES:

SYSTEM RECORD SHEET

TABLE 1-SYSTEM OPTIONS

PROGRAM 01-SYSTEM ASSIGNMENTS (BASIC)

KEY/LED	LED ON	LED OFF
CO 6	M.W.* Ext. 10	Not Equipped
CO 5	M.W.* Ext. 11	Not Equipped
CO 4	--	--
CO 3	--	--
CO 2	3-sec. Pause	1.5-sec. Pause
CO 1	0.5-second Flash	2-sec. Flash
INT 2	Ext. 10 DND Key	NITE
INT 1	Tone First	Voice First

*Message Waiting Center

X=Select (LED on)

Initialized Data: All LEDs off except CO 6

NOTE:

Only one message center is permitted; if both Ext's 10 and 11 are chosen as Message Waiting Centers, Ext. 10 will have priority.

PROGRAM 02-SYSTEM ASSIGNMENTS (OPTION)

KEY/LED	LED ON	LED OFF
CO 6	Auto Dial (Station)	Not Equipped
CO 5	--	--
CO 4	--	--
CO 3	--	--
CO 2	--	--
CO 1	Nite Ring/Ext. Page	Not Equipped
INT 2	BGM/Ext. Page	Not Equipped
INT 1	Ext. Page W/All Call	Ext. Page Not Included

X=Select (LED on)

Initialized Data: All LEDs off except CO 6

PROGRAM 05-AUTOMATIC RECALL FROM HOLD TIMING

KEY/LED	TIME
CO 6	160 Seconds
CO 5	128 Seconds
CO 4	96 Seconds
CO 3	64 Seconds
CO 2	48 Seconds
CO 1	32 Seconds
INT 2	16 Seconds
INT 1	No Recall

X=Select (LED on)

Initialized Data: 32 seconds

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CO LINE OPTIONS

**PROGRAM 06
AUTO RELEASE
ON HOLD ENABLE**

CO 6	
CO 5	
CO 4	
CO 3	
CO 2	
CO 1	

X=enable (LED on)
Initialized Data:
All LEDs off

**PROGRAM 07
AUTO RELEASE
ON HOLD TIMING**

CO 6	
CO 5	
CO 4	
CO 3	
CO 2	
CO 1	

X=XB (LED on)
Blank=ESS
Initialized Data:
All LEDs off

**PROGRAM 10
PBX BACKUP**

CO 6	
CO 5	
CO 4	
CO 3	
CO 2	
CO 1	

X=Connected to PBX Line (LED on)
Init. Data: All LEDs off

PROGRAM 1X—PBX ACCESS CODES

Code	1st digit	2nd digit
#1 (11)		
#2 (12)		
#3 (13)		
#4 (14)		

Enter Access Codes (Max: 4)
Initialized Data: None

NOTE:

If the access code is a single digit, enter "" in the second column. If all combinations following a particular 1st digit are to be considered access codes (e.g., 91, 92, 93, etc.), enter "D" (do not care) in the 2nd column.*

PROGRAM 20-TOLL RESTRICTION DISABLE

CO 6	
CO 5	
CO 4	
CO 3	
CO 2	
CO 1	

X=disable (LED on)
Init. Data: All LEDs off

PROGRAM 2X-TOLL RESTRICTION EXCEPTION CODES

Code	1st	2nd	3rd	4th
#1(21)				
#2(22)				
#3(23)				
#4(24)				
#5(25)				

Enter Actual Exception Codes (Max: 5)
Initialized Data: None

NOTE:

If codes are less than four digits, enter "*" in the remaining spaces.

PROGRAM 3XX-STATION CO LINE ACCESS

KEY/LED	Feature	Ext. No.																								
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25									
CO 6	Allow Access																									
CO 5	Allow Access																									
CO 4	Allow Access																									
CO 3	Allow Access																									
CO 2	Allow Access																									
CO 1	Allow Access																									

X=select (LED on)
Initialized Data: All LEDs on

PROGRAM 5XX-STATION CLASS OF SERVICE

KEY/LED	Feature	Ext. No.																								
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25									
CO 6	Privacy Override Allowed																									
CO 5	DND Override Allowed																									
CO 4	--																									
CO 3	20-key EKT																									
CO 2	Speakerphone Enable																									
CO 1	Auto Dial Allowed																									
INT 2	Auto Line Pref. Allowed																									
INT 1	Include in All Call																									

X=select (LED on)
Initialized Data: CO 1 & 2, INT 1 & 2 LED on; all others off

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PROGRAM 6XX—TOLL RESTRICTION CLASSIFICATION

KEY/LED	Feature	Ext. No.																								
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25									
CO 6	Allow 411																									
CO 5	Allow 1 + 7 digits																									
CO 4	Restrict: 1,0 1st digit 1,0 2nd digit More than 7 digits Allow: 911, 800 Exception Codes (Prog 2X)																									
CO 3	--																									
CO 2	--																									
CO 1	--																									

X=Select (LED on) Init. Data: No Restriction

PROGRAM 7XX—STATION OUTGOING RESTRICTION

KEY/LED	Feature	Ext. No.																								
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25									
CO 6	Restricted																									
CO 5	Restricted																									
CO 4	Restricted																									
CO 3	Restricted																									
CO 2	Restricted																									
CO 1	Restricted																									

X=select (LED on) Initialized Data: All LEDs off

PROGRAM 8XX—CO RINGING ASSIGNMENTS-DAY

KEY/LED	Feature	Ext. No.																								
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25									
CO 6	Ring in Day																									
CO 5	Ring in Day																									
CO 4	Ring in Day																									
CO 3	Ring in Day																									
CO 2	Ring in Day																									
CO 1	Ring in Day																									

X=select (LED on) Init. Data: Ext 10-all on; all others off

PROGRAM 9XX—CO RINGING ASSIGNMENTS-NITE

KEY/LED	Feature	Ext. No.																								
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25									
CO 6	Ring in Nite																									
CO 5	Ring in Nite																									
CO 4	Ring in Nite																									
CO 3	Ring in Nite																									
CO 2	Ring in Nite																									
CO 1	Ring in Nite																									

X=select (LED on) Init. Data: Ext 11-all on; all others off

TABLE 2
PROGRAM 6XX—TOLL RESTRICTION CLASSIFICATION

CLASS/FUNCTIONS	Coding CO Keys		
	4	5	6
CLASS 1: No Restriction			
CLASS 2: Restrict: "O" in 1st or 2nd digit "1" in 2nd digit More than 7 digits total Allow: 911 and 800 Exception Codes-Program 2X* "1" + 7 digits 411	X	X	X
CLASS 3: Restrict: "O" in 1st or 2nd digit "1" in 2nd digit More than 7 digits total Allow: 911 and 800 Exception Codes-Program 2X* "1" + 7 digits	X	X	
CLASS 4: Restrict: "O" in 1st or 2nd digit "1" in 1st or 2nd digit More than 7 digits total Allow: 911 and 800 Exception Codes-Program 2X* 411	X		X
CLASS 5: Restrict: "O" in 1st or 2nd digit "1" in 1st or 2nd digit More than 7 digits total Allow: 911 and 800 Exception Codes-Program 2X*	X		

***NOTE:**

The Exception Codes (4 digits) may be programmed using Program 2X. These codes can be any combination of digits, and will cause Toll Restriction to be bypassed just as with 911 and 800.

02.20 Initialization

02.21 The STRATA VI has a list of standard system data assignments stored in ROM that can be entered at any time by activating the SET switch on the MCCU PCB. The system must be

initialized when it is first installed or whenever the MCCU PCB is changed. This will allow the system to be tested and any faults to be corrected before time is spent on programming. Standard data assignments are listed in Table 3.

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02.22 To initialize the STRATA VI system:

- Make sure the MTOU power switch is in the **ON** position.
- Verify that the battery is connected on the MCCU (and CRDU if equipped) to ensure that data entered after system initialization will not be lost due to power failure. The **SET** LED on the MCCU will not function if the battery on the MCCU is not connected.
- Hold in the **INT** switch on the MCCU. Simultaneously depress the **SET** switch and allow it to lock. Depress and release the **SET** switch again.
- Release the **INT** switch.
- Cycle the MTOU power switch **OFF** and **ON**.
- The system is initialized.

02.23 The Automatic Dialing memory will contain random numbers when the system is powered up initially. To clear the memory; preventing, therefore, meaningless numbers from being dialed, proceed as follows:

02.24 To clear the basic Automatic Dial-System memory (24 numbers):

- Operate the **SET** switch on the MCCU—the MCCU LED and MW/FL LED on Ext. 17 will be on.
- Operate the **[SPKR]** key on Ext. 17—SPKR LED will be on steadily.
- Dial **[#] [*] [*]** on the dial pad—the SPKR LED will flash steadily.

- Operate the following keys: **[INT 1] [CO 1] [CO 3] [CO 5]**—the corresponding LEDs will light steadily.

- Operate the **[HOLD]** key—all Ext. 17 LEDs (except MW/FL) will go off.

- Operate the **SET** switch on the MCCU—the MCCU LED and MW/FL LED on Ext. 17 will go off.

02.25 To clear the optional Automatic Dial-Station memory:

- Operate the **SET** switch on the MCCU—the MCCU LED and MW/FL LED on Ext. 17 will be on.

- Operate the **[SPKR]** key on Ext. 17—SPKR LED will be on steadily.

- Dial **[#] [*] [#]** on the dial pad—SPKR LED will flash steadily.

- Operate the following keys: **[INT 2] [CO 2] [CO 4] [CO 6]**—the corresponding LEDs will light.

- Operate the **[HOLD]** key—all Ext. 17 LEDs (except MW/FL) will go off.

- Operate the **SET** switch on the MCCU—the MCCU LED and MW/FL LED on Ext. 17 will go off.

02.30 System Data Entry

02.31 System Data is entered via Ext. 17 while the system is in the "Programming Mode".

02.32 The system is placed in the Programming Mode by operating the **SET** switch on the MCCU. The LED on the MCCU and the MW/FL LED on Ext. 17 will light when the system is in the programming mode.

02.33 Once the system is in the programming mode, refer to the System Record Sheet for the changes that must

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be made and select the required program number. Refer to the proper table for detailed instructions for using each different program. Each program should be accomplished sequentially

until all necessary changes are made.

02.34 The table numbers for the various programs are:

Title	Program	Table	Page
Initialized Data	—	3	13
System Assignments (Basic)	01	4	15
System Assignments (Options)	02	5	16
Automatic Recall from Hold Timing	05	6	17
AROH Disable	06	7	18
AROH Timing	07	8	19
PBX Backup	10	9	20
PBX Access Codes	1X	10	21
Toll Restriction Disable	20	11	22
Toll Restriction Exception Codes	2X	12	23
Station CO Access	3XX	13	24
Station Class of Service	5XX	14	25
Toll Restriction Class	6XX	15	26
Station Outgoing Restriction	7XX	16	27
CO Ringing Assignments—Day	8XX	17	28
CO Ringing Assignments—Nite	9XX	18	29

TABLE 3

INITIALIZED DATA

SYSTEM OPTIONS

System Assignments (Basic)—01 Program
 Message Waiting Center Ext. 10=Not Equipped
 Message Waiting Center Ext. 11=Not Equipped
 Pause Timing=1.5 seconds
 Flash Key Timing=2 seconds
 Ext. 10 DND/Nite Key=Nite key
 Intercom Signalling=Voice first
 System Assignments (Options)—02 Program
 Automatic Dialing-Station **not equipped**
 Night Ringing **excluded** from External Page
 Background Music **excluded** from External Page

External Page **excluded** from All Call Page
 Automatic Recall From Hold Timing—05 Program
 32 Seconds

CO LINE OPTIONS

Automatic Release On Hold Assignment—06 Program
 Enable—all CO lines
 Automatic Release On Hold Timing—07 Program
 ESS Timing—all CO lines
 PBX Backup—10 Program
 CO Operation—all CO lines
 PBX Access Codes—1X Program
 No Codes Assigned
 Toll Restriction—20 Program
 Restriction Enable—all CO lines

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Toll Restriction Exception Codes-
-2X Program
No Codes Assigned

STATION OPTIONS

Station CO Line Access-3XX Program

Access Allowed—all lines, all stations

Station Class of Service-5XX Program

All Call—include all stations

Automatic Line Preference—enable all stations

Automatic Dialing—allowed all stations

NOTES :

Speakerphones—allowed all stations
DND Override—not allowed all stations

Privacy Override—not allowed all stations

Toll Restriction Class-6XX Program

No Restrictions—all lines, all stations

Station Outgoing Restrictions-7XX Program

No Restrictions—all stations

CO Ringing Assignments-Day-8XX Program

All lines ring Ext. 10

CO Ringing Assignments-Nite-9XX Program

All lines ring Ext. 11

TABLE 4

PROGRAM 01—SYSTEM ASSIGNMENTS (BASIC)

1. Operate SET switch on MCCU	LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17		
2. Operate [SPKR] key on Ext 17	SPKR LED steady on		
3. Dial [0] [1] on dial pad	SPKR LED flashes continuously INT & CO LEDs will be on according to present data		
4. Refer to the System Record Sheet. Using the [INT] and [CO] keys, turn the associated LEDs on or off as required. The detailed meaning of each key/LED is shown below.	An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set		
Feature	Key/LED	Data Meaning	
		LED on	LED off
Message Waiting Ext. 10	CO 6	Yes	No
Message Waiting Ext. 11	CO 5	Yes	No
Not Used	CO 4	--	--
Not Used	CO 3	--	--
Pause Timing	CO 2	3.0 sec.	1.5 sec.
Flash Key Timing	CO 1	0.5 sec.	2.0 sec.
Ext. 10 DND/Nite Key	INT 2	DND	Nite
ICM Signalling	INT 1	Tone First	Voice First
<p>NOTE:</p> <p>1. <i>Initialized data: All LEDs off except CO 6.</i></p> <p>2. <i>If both Ext's 10 and 11 are chosen as Message Waiting Centers, Ext. 10 will have priority.</i></p>			
5. Operate [HOLD] key to place new data in temporary memory	All Ext. 17 LEDs (except MW/FL) go off		
6A. Go to another program table ...or...			
6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on	LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased		

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TABLE 5

PROGRAM 02—SYSTEM ASSIGNMENTS (OPTIONS)

1. Operate SET switch on MCCU		LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17	
2. Operate [SPKR] key on Ext 17		SPKR LED steady on	
3. Dial [0] [2] on dial pad		SPKR LED flashes continuously INT & CO LEDs will be on according to present data	
4. Refer to the System Record Sheet. Using the [INT] and [CO] keys, turn the associated LEDs on or off as required. The detailed meaning of each key/LED is shown below.		An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set	
Feature	Key/LED	Data Meaning	
		LED on	LED off
Auto Dial-Station	CO 6	Equipped	Not equipped
Not Used	CO 5	--	--
Not Used	CO 4	--	--
Not Used	CO 3	--	--
Not Used	CO 2	--	--
Nite Ring over Ext Page	CO 1	Yes	No
BGM over Ext. Page	INT 2	Yes	No
Ext. Page w/All Call	INT 1	Yes	No
<p>NOTE: <i>Initialized data: All LEDs off except CO 6.</i></p>			
5. Operate [HOLD] key to place new data in temporary memory		All Ext. 17 LEDs (except MW/FL) go off	
6A. Go to another program table ...OR...			
6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on		LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased	

TABLE 6

PROGRAM 05—AUTOMATIC RECALL FROM HOLD TIMING

1. Operate SET switch on MCCU	LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17																		
2. Operate [SPKR] key on Ext 17	SPKR LED steady on																		
3. Dial [0] [5] on dial pad	SPKR LED flashes continuously INT & CO LEDs will be on according to present data																		
4. Refer to the System Record Sheet. Using the [INT] and [CO] keys, turn the associated LEDs on or off as required. The detailed meaning of each key/LED is shown below.	An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa Only one LED is allowed to be on																		
<table border="1"> <thead> <tr> <th>KEY/LED</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>CO 6</td> <td>160 Seconds</td> </tr> <tr> <td>CO 5</td> <td>128 seconds</td> </tr> <tr> <td>CO 4</td> <td>96 seconds</td> </tr> <tr> <td>CO 3</td> <td>64 seconds</td> </tr> <tr> <td>CO 2</td> <td>48 seconds</td> </tr> <tr> <td>CO 1</td> <td>32 seconds</td> </tr> <tr> <td>INT 2</td> <td>16 seconds</td> </tr> <tr> <td>INT 1</td> <td>No Recall</td> </tr> </tbody> </table>	KEY/LED	TIME	CO 6	160 Seconds	CO 5	128 seconds	CO 4	96 seconds	CO 3	64 seconds	CO 2	48 seconds	CO 1	32 seconds	INT 2	16 seconds	INT 1	No Recall	
KEY/LED	TIME																		
CO 6	160 Seconds																		
CO 5	128 seconds																		
CO 4	96 seconds																		
CO 3	64 seconds																		
CO 2	48 seconds																		
CO 1	32 seconds																		
INT 2	16 seconds																		
INT 1	No Recall																		
5. Operate [HOLD] key to place new data in temporary memory	All Ext. 17 LEDs (except MW/FL) go off																		
6A. Go to another program table ...or...																			
6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on	LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased																		

SECTION 100-006-300
SYSTEM PROGRAMMING

TABLE 7

PROGRAM 06—AUTOMATIC RELEASE ON HOLD ASSIGNMENT

1. Operate SET switch on MCCU	LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17
2. Operate [SPKR] key on Ext 17	SPKR LED steady on
3. Dial [0] [6] on dial pad	SPKR LED flashes continuously CO LEDs will be on according to present data
4. Refer to the System Record Sheet. Using the [CO] keys, turn the associated LEDs on or off as required. Each CO key/LED represents itself—that is, if CO 1 LED is on, CO 1 will have the AROH function during normal operation. If CO 1 LED is off, AROH will not function on that line.	An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set
5. Operate [HOLD] key to place new data in temporary memory	All Ext. 17 LEDs (except MW/FL) go off
6A. Go to another program table ...or...	
6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on	LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased

TABLE 8

PROGRAM 07—AUTOMATIC RELEASE ON HOLD (AROH) TIMING

1. Operate SET switch on MCCU	LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17
2. Operate [SPKR] key on Ext 17	SPKR LED steady on
3. Dial [0] [7] on dial pad	SPKR LED flashes continuously CO LEDs will be on according to present data
4. Refer to the System Record Sheet. Using the [CO] keys, turn the associated LEDs on or off as required. Each CO key/LED represents itself—that is, if CO 1 LED is on, CO 1 will use XB (crossbar) timing for AROH. If CO 1 LED is off, ESS timing will be used on that line.	An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set
5. Operate [HOLD] key to place new data in temporary memory	All Ext. 17 LEDs (except MW/FL) go off
6A. Go to another program table ...or... 6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on	LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased

**SECTION 100-006-300
SYSTEM PROGRAMMING**

TABLE 9

PROGRAM 10—PBX BACK-UP

<p>1. Operate SET switch on MCCU</p>	<p>LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17</p>
<p>2. Operate [SPKR] key on Ext 17</p>	<p>SPKR LED steady on</p>
<p>3. Dial [1] [0] on dial pad</p>	<p>SPKR LED flashes continuously CO LEDs will be on according to present data</p>
<p>4. Refer to the System Record Sheet. Using the [CO] keys, turn the associated LEDs on or off as required. Each CO key/LED represents itself—that is, if CO 1 LED is on, the system assumes that CO 1 line is connected to a PBX line and will cause features such as Toll Restriction and Automatic Dialing to function accordingly.</p>	<p>An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set</p>
<p>5. Operate [HOLD] key to place new data in temporary memory</p>	<p>All Ext. 17 LEDs (except MW/FL) go off</p>
<p>6A. Go to another program table ...or... 6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on</p>	<p>LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased</p>

TABLE 10

PROGRAM 1X--PBX ACCESS CODES

1. Operate SET switch on MCCU	LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17																																																																	
2. Operate [SPKR] key on Ext 17	SPKR LED steady on																																																																	
3. Dial [1] [X] on dial pad X=1,2,3 or 4—system will store a maximum of 4 access codes. Dial [1] [1] (X=1) to program first access code; [1] [2] (X=2) to program 2nd access code, etc.	SPKR LED flashes continuously CO 4 LED will flash																																																																	
4. Refer to the System Record Sheet. Using the dial pad, enter the required access code (two digits must be entered). ● If access code is a single digit, enter [*] as the second digit. ● If all combinations following a particular 1st digit are to be considered access codes (e.g., 91,92,93, etc.), operate the [DND] (do not care) key for the 2nd digit.	INT 1 & 2, CO 1 & 2 LEDs will light to display data in Binary Coded Decimal (BCD) format CO 4 & 5 LEDs will light steadily to indicate which digit is being displayed																																																																	
<p>NOTE:</p> <p>a) To review data without changing it, dial [#] twice. The first [#] will display the 1st digit; the second [#] will display the 2nd digit.</p> <p>b) To clear existing data without entering a new number, dial [*] two times.</p>	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>Start</th> <th>1st Digit</th> <th>2nd Digit</th> </tr> </thead> <tbody> <tr> <td>CO 6</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CO 5</td> <td></td> <td></td> <td>Steady</td> </tr> <tr> <td>CO 4</td> <td>Flash</td> <td>Steady</td> <td></td> </tr> <tr> <td>CO 3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CO 2</td> <td></td> <td>▲</td> <td>▲</td> </tr> <tr> <td>CO 1</td> <td></td> <td>BCD</td> <td>BCD</td> </tr> <tr> <td>INT 2</td> <td></td> <td>Data</td> <td>Data</td> </tr> <tr> <td>INT 1</td> <td></td> <td>▼</td> <td>▼</td> </tr> </tbody> </table>		Start	1st Digit	2nd Digit	CO 6				CO 5			Steady	CO 4	Flash	Steady		CO 3				CO 2		▲	▲	CO 1		BCD	BCD	INT 2		Data	Data	INT 1		▼	▼																													
		Start	1st Digit	2nd Digit																																																														
CO 6																																																																		
CO 5			Steady																																																															
CO 4	Flash	Steady																																																																
CO 3																																																																		
CO 2		▲	▲																																																															
CO 1		BCD	BCD																																																															
INT 2		Data	Data																																																															
INT 1		▼	▼																																																															
<table border="1" style="width: 100%;"> <thead> <tr> <th>BCD No's:</th> <th>CO 2</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>0</th> <th>DND</th> </tr> </thead> <tbody> <tr> <td>CO 2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>CO 1</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>INT 2</td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>INT 1</td> <td>X</td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table> <p>X=LED on. All LEDs off=No data</p>	BCD No's:	CO 2	1	2	3	4	5	6	7	8	9	0	DND	CO 2									X	X	X	X	CO 1				X	X	X	X					X	INT 2		X	X			X	X				X		INT 1	X		X		X		X		X			X	
BCD No's:	CO 2	1	2	3	4	5	6	7	8	9	0	DND																																																						
CO 2									X	X	X	X																																																						
CO 1				X	X	X	X					X																																																						
INT 2		X	X			X	X				X																																																							
INT 1	X		X		X		X		X			X																																																						
5. Operate [HOLD] key to place new data in temporary memory	All Ext. 17 LEDs (except MW/FL) go off																																																																	
6A. Go to another program table ...or... 6B. Operate [MW/FL] key to advance to next 1X code ...or... 6C. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on	LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased																																																																	

**SECTION 100-006-300
SYSTEM PROGRAMMING**

TABLE 11

PROGRAM 20—TOLL RESTRICTION DISABLE

1. Operate SET switch on MCCU	LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17
2. Operate [SPKR] key on Ext 17	SPKR LED steady on
3. Dial [2] [0] on dial pad	SPKR LED flashes continuously CO LEDs will be on according to present data
4. Refer to the System Record Sheet. Using the [CO] keys, turn the associated LEDs on or off as required. Each CO key/LED represents itself—that is, if CO 1 LED is off, Toll Restriction will function on CO 1. If CO 1 LED is on, Toll Restriction will not function on CO line #1.	An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set
5. Operate [HOLD] key to place new data in temporary memory	All Ext. 17 LEDs (except MW/FL) go off
6A. Go to another program table ...or... 6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on	LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased

TABLE 12
PROGRAM 2X—TOLL RESTRICTION EXCEPTION CODES

1. Operate SET switch on MCCU	LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17
2. Operate [SPKR] key on Ext 17	SPKR LED steady on
3. Dial [2] [X] on dial pad X=1,2,3 or 4—system will store a maximum of 4 access codes. Dial [2] [1] (X=1) to program first access code; [2] [2] (X=2) to program 2nd access code, etc.	SPKR LED flashes continuously CO 4 LED will flash
4. Refer to the System Record Sheet. Using the dial pad, enter the 4-digit exception code.	INT 1 & 2, CO 1 & 2 LEDs will light to display data in Binary Coded Decimal (BCD) format CO 4 & 5 LEDs will light steadily to indicate which digit is being displayed

	Start	1st digit	2nd digit	3rd digit	4th digit
CO 6					Steady
CO 5			Steady	Steady	
CO 4	Flash	Steady		Steady	
CO 3					
CO 2		BCD data	BCD data	BCD data	BCD data
CO 1		BCD data	BCD data	BCD data	BCD data
INT 2		BCD data	BCD data	BCD data	BCD data
INT 1		BCD data	BCD data	BCD data	BCD data

NOTE:

- a) To review data without changing it, dial **[#]** four times. The first **[#]** will display the 1st digit; the second **[#]** will display the 2nd digit, etc.
- b) To clear existing data without entering a new number, dial **[*]** four times.

BCD No's:	CO 2	1	2	3	4	5	6	7	8	9	0	DND	X=LED on. All LEDs off=No data	
	CO 1				X	X	X	X						X
	INT 2		X	X			X	X			X			
	INT 1	X		X		X		X	X			X		

5. Operate [HOLD] key to place new data in temporary memory	All Ext. 17 LEDs (except MW/FL) go off
6A. Go to another program table ...or... 6B. Operate [MW/FL] key to advance to next 2X code ...or... 6C. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on	LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, previous data is erased

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SYSTEM PROGRAMMING

TABLE 13

PROGRAM 3XX—STATION CO LINE ACCESS

<p>1. Operate SET switch on MCCU</p>	<p>LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17</p>
<p>2. Operate [SPKR] key on Ext 17</p> <p>3. Dial [3] [X] [X] on dial pad XX=the extension number of the station to be programmed.</p> <ul style="list-style-type: none"> ● Enter [0] [0] if all stations are to be programmed simultaneously ● Enter [0] [1] if the eight lower numbered (10-17) stations are to be programmed simultaneously ● Enter [0] [2] if the eight higher numbered (18-25) stations are to be programmed simultaneously 	<p>SPKR LED steady on</p> <p>SPKR LED flashes continuously CO LEDs will be on according to present data</p>
<p>4. Refer to the System Record Sheet. Using the [CO] keys, turn the associated LEDs on or off as required.</p> <ul style="list-style-type: none"> ● LED on=Access allowed ● Each CO key/LED represents itself—that is, if CO 1 LED is on, station being programmed (XX) is allowed access to CO 1 	<p>An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set</p>
<p>5. Operate [HOLD] key to place new data in temporary memory</p>	<p>All Ext. 17 LEDs (except MW/FL) go off</p>
<p>6A. Go to another program table ...or...</p> <p>6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on</p>	<p>LED on MCCU goes off Ext. 17 MW/FL LED goes off New data is stored, old data is erased</p>

TABLE 14

PROGRAM 5XX—STATION CLASS OF SERVICE

1. Operate SET switch on MCCU	LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17		
2. Operate [SPKR] key on Ext 17	SPKR LED steady on		
3. Dial [5] [X] [X] on dial pad XX=the extension number of the station to be programmed. <ul style="list-style-type: none"> ● Enter [0] [0] if all stations are to be programmed simultaneously ● Enter [0] [1] if the eight lower numbered (10-17) stations are to be programmed simultaneously ● Enter [0] [2] if the eight higher numbered (18-25) stations are to be programmed simultaneously 	SPKR LED flashes continuously INT & CO LEDs will be on according to present data		
4. Refer to the System Record Sheet. Using the [INT] and [CO] keys, turn the associated LEDs on or off as required. The detailed meaning of each key is shown below.	An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set		
Feature	Key/LED	Data Meaning	
		LED On	LED Off
Privacy Override Allowed	CO 6	Yes	No
DND Override Allowed	CO 5	Yes	No
Not Used	CO 4	--	--
20-key EKT	CO 3	Yes	No
Speakerphone	CO 2	Allowed	Not Allowed
Automatic Dialing	CO 1	Allowed	Not Allowed
Auto Line Preference	INT 2	Allowed	Not Allowed
All Call	INT 1	Include	Exclude
5. Operate [HOLD] key to place new data in memory	All Ext. 17 LEDs (except MW/FL) go off New data is stored, old data is erased		
6A. Go to another program table ...or... 6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on	LED on MCCU goes off Ext. 17 MW/FL LED goes off		

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SYSTEM PROGRAMMING**

TABLE 15

PROGRAM 6XX—TOLL RESTRICTION CLASSIFICATION

<p>1. Operate SET switch on MCCU</p>	<p>LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17</p>								
<p>2. Operate [SPKR] key on Ext 17</p>	<p>SPKR LED steady on</p>								
<p>3. Dial [6] [X] [X] on dial pad XX=the extension number of the station to be programmed.</p> <ul style="list-style-type: none"> ● Enter [0] [0] if all stations are to be programmed simultaneously ● Enter [0] [1] if the eight lower numbered (10-17) stations are to be programmed simultaneously ● Enter [0] [2] if the eight higher numbered (18-25) stations are to be programmed simultaneously 	<p>SPKR LED flashes continuously CO 4, 5 & 6 LEDs will be on according to present data</p>								
<p>4. Refer to the System Record Sheet. Using CO 4, 5 and 6 keys, turn the associated LEDs on or off as required. The detailed meaning of each key is shown below.</p>	<p>An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set</p>								
	<table border="1"> <thead> <tr> <th data-bbox="525 1272 726 1308">KEY/LED</th> <th data-bbox="735 1272 1498 1308">Data Meaning (LED on)</th> </tr> </thead> <tbody> <tr> <td data-bbox="525 1308 726 1340">CO 6</td> <td data-bbox="735 1308 1498 1340">Allow: 411</td> </tr> <tr> <td data-bbox="525 1340 726 1372">CO 5</td> <td data-bbox="735 1340 1498 1372">Allow: 1 + 7 digits</td> </tr> <tr> <td data-bbox="525 1372 726 1596">CO 4</td> <td data-bbox="735 1372 1498 1596"> Restrict: 1 or 0 in 1st digit 1 or 0 in 2nd digit More than 7 digits Allow: 911 800 Exception Codes per Program 2X </td> </tr> </tbody> </table>	KEY/LED	Data Meaning (LED on)	CO 6	Allow: 411	CO 5	Allow: 1 + 7 digits	CO 4	Restrict: 1 or 0 in 1st digit 1 or 0 in 2nd digit More than 7 digits Allow: 911 800 Exception Codes per Program 2X
KEY/LED	Data Meaning (LED on)								
CO 6	Allow: 411								
CO 5	Allow: 1 + 7 digits								
CO 4	Restrict: 1 or 0 in 1st digit 1 or 0 in 2nd digit More than 7 digits Allow: 911 800 Exception Codes per Program 2X								
<p>5. Operate [HOLD] key to place new data in memory</p>	<p>All Ext. 17 LEDs (except MW/FL) go off New data is stored, old data is erased</p>								
<p>6A. Go to another program table ...or... 6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on</p>	<p>LED on MCCU goes off Ext. 17 MW/FL LED goes off</p>								

TABLE 16

PROGRAM 7XX—STATION OUTGOING RESTRICTION

<p>1. Operate SET switch on MCCU</p>	<p>LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17</p>
<p>2. Operate [SPKR] key on Ext 17</p> <p>3. Dial [7] [X] [X] on dial pad XX=the extension number of the station to be programmed.</p> <ul style="list-style-type: none"> ● Enter [0] [0] if all stations are to be programmed simultaneously ● Enter [0] [1] if the eight lower numbered (10-17) stations are to be programmed simultaneously. ● Enter [0] [2] if the eight higher numbered (18-25) stations are to be programmed simultaneously 	<p>SPKR LED steady on</p> <p>SPKR LED flashes continuously CO LEDs will be on according to present data</p>
<p>4. Refer to the System Record Sheet. Using the [CO] keys, turn the associated LEDs on or off as required. The detailed meaning of each key is shown below.</p> <ul style="list-style-type: none"> ● LED on=Restricted outgoing calls ● Each CO key/LED represents itself—that is, if CO 1 LED is on, the station being programmed (XX) is restricted from outgoing calls on CO 1 	<p>An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set</p>
<p>5. Operate [HOLD] key to place new data in memory</p>	<p>All Ext. 17 LEDs (except MW/FL) go off New data is stored, old data is erased</p>
<p>6A. Go to another program table ...or... 6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on</p>	<p>LED on MCCU goes off Ext. 17 MW/FL LED goes off</p>

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SYSTEM PROGRAMMING**

TABLE 17

PROGRAM 8XX—CO RINGING ASSIGNMENTS—DAY

<p>1. Operate SET switch on MCCU</p>	<p>LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17</p>
<p>2. Operate [SPKR] key on Ext 17</p>	<p>SPKR LED steady on</p>
<p>3. Dial [8] [X] [X] on dial pad XX=the extension number of the station to be programmed.</p> <ul style="list-style-type: none"> ● Enter [0] [0] if all stations are to be programmed simultaneously ● Enter [0] [1] if the eight lower numbered (10-17) stations are to be programmed simultaneously ● Enter [0] [2] if the eight higher numbered (18-25) stations are to be programmed simultaneously <p>NOTE: a) Extension designated to ring must be allowed access by Program 3XX. b) A maximum of 8 stations may be assigned to ring for any given CO line. If more are assigned, the lowest 8 extension numbers will ring and the others will be ignored.</p>	<p>SPKR LED flashes continuously CO LEDs will be on according to present data</p>
<p>4. Refer to the System Record Sheet. Using the [CO] keys, turn the associated LEDs on or off as required.</p> <ul style="list-style-type: none"> ● LED on=Ring in DAY mode ● Each CO key/LED represents itself—that is, if CO 1 LED is on, station being programmed (XX) will ring when a call comes in on CO 1 in the DAY mode 	<p>An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set</p>
<p>5. Operate [HOLD] key to place new data in memory</p>	<p>All Ext. 17 LEDs (except MW/FL) go off New data is stored, old data is erased</p>
<p>6A. Go to another program table ...or... 6B. Operate SET switch on the MCCU and cycle the MTOU power switch off and on</p>	<p>LED on MCCU goes off Ext. 17 MW/FL LED goes off</p>

TABLE 18

PROGRAM 9XX-CO RINGING ASSIGNMENTS-NITE

<p>1. Operate SET switch on MCCU</p>	<p>LED on MCCU on Ext. 17 MW/FL LED on System is in program mode Normal functions halt on Ext. 17</p>
<p>2. Operate [SPKR] key on Ext 17</p>	<p>SPKR LED steady on</p>
<p>3. Dial [9] [X] [X] on dial pad XX=the extension number of the station to be programmed.</p> <ul style="list-style-type: none"> ● Enter [0] [0] if all stations are to be programmed simultaneously ● Enter [0] [1] if the eight lower numbered (10-17) stations are to be programmed simultaneously ● Enter [0] [2] if the eight higher numbered (18-25) stations are to be programmed simultaneously 	<p>SPKR LED flashes continuously CO LEDs will be on according to present data</p>
<p>NOTE:</p> <p>a) Extension designated to ring must be allowed access by Program 3XX.</p> <p>b) A maximum of 8 stations may be assigned to ring for any given CO line. If more are assigned, the lowest 8 extension numbers will ring and the others will ignored.</p>	
<p>4. Refer to the System Record Sheet. Using the [CO] keys, turn the associated LEDs on or off as required.</p> <ul style="list-style-type: none"> ● LED on=Ring in DAY mode ● Each CO key/LED represents itself—that is, if CO 1 LED is on, station being programmed (XX) will ring when a call comes in on CO 1 in the NITE mode. 	<p>An X on the record sheet means the LED should be on If the LED is already on, pushing the associated key will turn it off and vice-versa LEDs may be turned off and on until the desired pattern is set</p>
<p>5. Operate [HOLD] key to place new data in memory</p>	<p>All Ext. 17 LEDs (except MW/FL) go off New data is stored, old data is erased</p>
<p>6A. Go to another program table ...or...</p>	
<p>6B. Operate SET switch on the MCCU and cycle the power switch on the MTOU off and on</p>	<p>LED on MCCU goes off Ext. 17 MW/FL LED goes off</p>

TOSHIBA SYSTEM PRACTICES
ELECTRONIC KEY TELEPHONE SYSTEM

SECTION 100-006-400
OPERATING PROCEDURES

StrataVI®

OPERATING PROCEDURES

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OPERATING PROCEDURES

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**SECTION 100-006-400
OPERATING PROCEDURES**

01 INTRODUCTION

01.01 The operation of the STRATA VI Electronic Key Telephone (EKT) will be described in this section. The EKT is a specially designed telephone incorporating, as standard features, Hands-free Answering and full Speakerphone capabilities. Each EKT is connected to the system using industry standard 2-pair wiring.

02 KEY FUNCTIONS

02.01 The STRATA VI EKT has 14 line and feature keys and a push button dial pad. The following is a general description of each key.

CENTRAL OFFICE LINE KEY [CO]

To access an outside line

INTERCOM KEY [INT]

To access an intercom line.

DO NOT DISTURB KEY [DND]

Places the individual telephone in a Do Not Disturb mode.

MESSAGE WAITING & FLASH KEY [MW/FL]

Controls the Message Waiting LED, and disconnects and recalls dial tone on a CO line, or is used to access PBX features.

SPEAKERPHONE KEY [SPKR]

Turns the Speakerphone ON/OFF.

MUTE KEY [MUTE]

Cuts off Speakerphone's microphone for private conversation.

CONFERENCE KEY [CONF]

Sets up conference calls.

HOLD KEY [HOLD]

Places an outside call on hold.

NIGHT TRANSFER [NT]

Takes the place of the [DND] key on the operator's station (Ext. 10), and transfers incoming calls automatically.

NOTE:

See Paragraph 07, 20-key Executive Telephone, for a full explanation of the 20-key EKT features.

03 VOLUME CONTROLS

03.01 The voice and ring tone volume levels on the STRATA VI EKT are controlled by separate volume controls located on the rear of the telephone. The control on the right-hand side adjusts speakerphone volume for dial tone and voice level; the left-hand side control adjusts ring tone and intercom voice-announcement volume.

04 "I"-ILLUMINATION

I-Use:

A steady-double flash rate indicates the CO line presently in use at the EKT that originated the call. Other stations' LEDs will be steady-on for that line.

I-Called:

A medium pulsating on/off flash rate will appear on the EKT intercom LED that is being called.

I-Hold:

A fast flash rate indicates the CO line placed on hold at that EKT. The LEDs of the CO line on hold will flash at a medium rate at the other stations.

05 TELEPHONE TONES

Ringing Tone

CO Line

600 Hz/800 Hz, modulated by 16 Hz,
1 second on, 3 seconds off

Intercom Line

600 Hz, 1 second on, 3 seconds off

Ring-back Tone

Normal

600 Hz, 1 second on, 3 seconds off

Priority

600 Hz, 1 second on, 1 second off

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Dial Tone	
Intercom	600 Hz, continuous
Busy Tone	600 Hz, 0.25 sec. on, 0.25 sec. off
Voice Page Warning Tone	600 Hz, 1 second on
Busy Override Tone	
Normal	2400 Hz, 1 second on, 3 seconds off
Priority	2400 Hz, 1 second on, 1 second off
Do Not Disturb Tone	600 Hz, 0.12 sec. on, 0.12 sec. off

06 OPERATING PROCEDURES

06.01 Outside Calls

06.02 To Place an Outside Call

- Lift the handset.
- Depress an available [CO] line key.
- Listen for a dial tone.
- CO line LED will flash at a steady-double (I-use) rate.
- Dial the desired telephone number.
- Hang up when the call is completed.

06.03 To Receive an Incoming Call

- You will hear a continuous ringing tone.
- The CO line LED will be flashing at a medium on/off rate.
- Lift the handset.
- CO line LED will flash at a steady-double (I-use) rate.
- Hang up when the call is completed.

06.10 Intercom Calls

06.11 To Place an Intercom Call

- Lift the handset.
- Depress an available [INT] key; you will hear a continuous INT dial tone.
- INT LED will flash at a steady-double (I-use) rate.
- Dial the desired extension number; you will hear a single ring tone.
- Speak when the ring tone ends.
- Hang up when the call is completed.

NOTE:

Tone signalling is accomplished by dialing [1] after the extension number. An intercom call may be answered at any station.

06.12 To Receive an Intercom Call

- You will hear a single long tone, followed by the caller's voice.
- INT LED will flash at a medium pulsating on/off (I-called) rate.
- Lift the handset.
- INT LED will flash at a steady-double (I-use) rate.
- Hang up when the call is completed.

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06.13 Tone Signalling (Programmable Option)

- You will hear a ringing tone as the primary method of intercom call signalling.
- Handsfree answerback is inoperative.
- Voice call can be accomplished by dialing [1].

06.20 Paging

06.21 To Place a Paging Call

- Lift the handset.
- Depress an available [INT] key and dial the following:
 - [6] = All speakers (EKT and external)
 - [7] = External speakers only
 - [8] = EKT speakers only
- Make your announcement in a normal voice level and repeat it twice.
- Hang up when you have completed your announcement.

06.30 Call Holding

06.31 To Place a Call On Hold

- While connected to an outside call, depress [HOLD] key.
- The CO line LED will flash at a fast (I-hold) rate.

NOTE:

- When a CO line is placed on hold it may be picked up at any station.*
- An on-hold reminder tone is heard within a pre-determined time at the station that placed the line on hold.*
- Hold is automatically released after the other party hangs up.*

06.40 Call Transfer

06.41 To Transfer a Call

- While connected to an outside call, depress the [HOLD] key.
- CO line LED will flash at a fast (I-hold) rate.
- Depress an available [INT] key; you will hear a continuous INT tone.
- INT LED will flash at a steady-double (I-use) rate.
- Dial the desired extension number to which the call is to be transferred.
- Voice-announce the call.
- Hang up when the call is completed.

06.42 Night Transfer (Programmable Option for Ext. 10 only)

06.43 To Place System in Night Transfer

- Operator (on Ext. 10) depresses the [NT] key.
- All incoming calls are automatically transferred to selected stations.
- The operator may return the system to normal ringing by depressing the [NT] key again.

06.50 Speakerphone

06.51 To Place an Outside Call With Speakerphone (On-hook Dialing)

- Leave the handset on-hook.
- Depress any available [CO] line key.
- Listen for dial tone.
- Dial the desired telephone number.

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- CO LED will flash at a steady-double (I-use) rate.
- Speak at a normal voice level in the direction of telephone.
- Depress the [SPKR] key when the call is completed.

06.52 To Receive an Incoming Call (Handsfree)

- You will hear a ringing tone.
- Leave the handset on-hook.
- Depress the key of the CO line that is flashing at a medium on/off rate.
- CO LED will flash at a steady-double (I-use) rate.
- Speak at a normal voice level in the direction of telephone.
- Depress the [SPKR] key when the call is completed.

06.53 To Place an Intercom Call With Speakerphone (On-hook Dialing)

- Leave the handset on-hook.
- Depress any available [INT] key.
- Listen for INT dial tone.
- Dial the desired intercom extension.
- INT LED will flash at a steady-double (I-use) rate and you will hear a single ring tone.
- Speak at a normal voice level in the direction of telephone.
- Depress the [SPKR] key when the call is completed.

06.54 To Receive an Intercom Call Via Speakerphone

- You will hear a single long tone, followed by the caller's voice.
- Leave the handset on-hook.
- To assure a private conversation depress the [INT] key opposite the LED flashing at a medium pulsating on/off (I-called) rate.

NOTE:

If privacy is not required, it is not necessary to depress the [INT] key. However, any other station(s) can access the conversation by depressing the appropriate [INT] key.

- INT LED will flash at a steady-double (I-use) rate.
- Speak at a normal voice level in direction of telephone.
- Depress the [SPKR] key when the call is completed.

06.55 Background Music

Must have a music source connected to the system.

- To listen to background music via the EKT speaker, depress the [SPKR] key.
- Adjust the volume level with the control on the right side of your telephone.
- Depress the [SPKR] again to cancel the music.

06.60 Conference Calls

06.61 To Place a Conference Call

06.62 One Station and Two CO Lines

- Lift the handset.
- Depress an available [CO] line key.
- Dial the desired telephone number.
- Depress the [HOLD] key after the party answers.
- Depress a second available [CO] line key.
- Dial the second party's telephone number.
- Depress the [CONF] key after the second party answers.
- Depress the original [CO] line.
- Station is now connected to both CO lines.
- Hang up when conference call is completed.

06.63 Two or Three Stations and Two CO Lines

- Lift the handset.
- Depress an available [CO] line key.
- Dial the desired telephone number.
- Depress the [HOLD] key after the party answers.
- Depress a second available [CO] line key.
- Dial the second party's telephone number.
- Depress the [CONF] key and advise a second station to depress the flashing [CO] line on the second call.

For Third Station:

Depress the [CONF] key and advise a third station to depress the flashing [CO] line of the second call.

- Depress the [CONF] key.
- Depress the original [CO] line.
- Stations are now connected to CO lines.
- Hang up when conference call is completed.

06.64 Two Stations and One CO Line

- Lift the handset.
- Depress an available [CO] line key.
- Dial the desired telephone number.
- Depress [CONF] key and advise a second station to depress the flashing [CO] key.
- Both stations are now connected to the same CO line.
- Hang up when conference call is completed.

06.65 Three or Four Stations and One CO Line.

- While engaged in a two-station and one-CO line conference, depress [CONF] key and advise a third station to depress the flashing [CO] key.
- Follow above procedure for the fourth station.

06.66 Three or Four Stations and One Intercom Line

- While engaged in a two-station intercom call, depress the [CONF] key and advise third station to depress the flashing [INT] key.

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- Follow above procedure for the fourth station.

NOTE:

Conferencing is permitted to a maximum of:

*3 stations and 2 CO lines
4 stations and 1 CO line
or 1 intercom line*

06.70 Automatic Dialing

06.71 To Automatically Dial a Frequently Called Number

- Lift the handset.
- Depress an available [CO] line key.
- Listen for dial tone.
- Dial the [*] key.
- Dial the 2-digit code number that corresponds to the desired telephone number.
- STRATA VI will automatically dial the number for you.
- Hang up when the call is completed.

06.72 To Automatically Redial the Last Number Called

- Depress an available [CO] line key.
- Listen for a dial tone.
- Depress the [#] key.
- STRATA VI automatically redials the last telephone number you dialed.
- Hang up when the call is completed.

06.73 To Chain Dial Automatically

Automatically dials two or more sets of numbers during one call.

- Lift the handset.
- Depress an available [CO] line key.
- Listen for a dial tone.
- Depress the [*] key.
- Dial the 2-digit code number that corresponds to the first telephone number to be dialed.
- Depress the [*] key.
- Dial the 2-digit code number that corresponds to the second telephone number to be dialed.
- Repeat the above steps for each subsequent number.
- STRATA VI automatically dials the number for you.
- Hang up when the call is completed.

NOTE:

Only the first number dialed during the chain dial will be repeated by the automatic redial.

06.74 To Store a Telephone Number in System Memory (Standard Feature)

Telephone numbers can be stored in the system memory by Ext. 10 only.

- Lift the handset (do not activate a [CO] or [INT] line).
- Dial the [#] and [*] keys, respectively.
- Dial a 2-digit address code.

NOTE:

Codes run consecutively from 60 through 83 with the standard feature, and 60 through 99 if the system is equipped with the optional expansion card (CRDU).

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- Dial the telephone number to be stored.

NOTE FOR BEHIND PBX:

It is necessary to insert a pause after the trunk access code to allow for dial tone delay. Press the [MW/FL] key after entering the PBX access code.

- Depress the [#] key to record the number in memory.
- Repeat the above steps with every number (up to the standard 24, or optional 40) to be stored.
- Return the handset to on-hook.
- Write down the address codes and telephone numbers for future reference.

NOTE:

Repeat this procedure to replace stored telephone numbers with new ones.

06.75 To Store a Telephone Number in Station Memory (Optional Feature)

Telephone numbers can be stored by each station.

- Lift the handset (do not activate a [CO] or [INT] line).
- Dial the [#] and [*] keys, respectively.
- Dial a 2-digit address code (codes run consecutively from 10 through 49).
- Dial the telephone number to be stored.

NOTE FOR BEHIND PBX:

It is necessary to insert a pause after the trunk access code to allow for dial tone

delay. Press the [MW/FL] key after entering the PBX access code.

- Depress the [#] key to record the number in memory.
- Repeat the above steps with every number to be stored (up to 40).
- Return the handset to on-hook.
- Write down the address codes and telephone numbers for future reference.

NOTE:

Repeat this procedure to replace stored telephone numbers with new ones.

06.76 To Output [*] and [#] Tones

NOTE:

When the special [] or [#] tones must be output (for computer input service or other use), they may be dialed by disabling the Automatic Dialing feature. To permit manual dialing of the special [*] and [#] tones.*

- Press any available [CO] line key. Dial any desired numbers utilizing the Automatic Dialing feature in the usual manner.
- To disable the Automatic Dialing feature, permitting the special [#] and [*] tones to be manually output, first press the [*] key and then the [#] key.

NOTE:

Manual dialing will be unrestricted and the special tones of [] and [#], as well as digits "0-9", will be output as dialed. The Automatic Dialing feature*

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will be restored when the telephone is hung up, or placed on hold.

06.80 Do Not Disturb

06.81 To Place a Telephone in the Do Not Disturb Mode

- Depress the [DND] key.
- DND LED will light steady.

06.82 To Release the Do Not Disturb Mode

- Depress the [DND] key.
- DND LED will be off.

06.90 Override

06.91 To Place a Busy Override Call

- After reaching a busy station, you may signal that station that a call is waiting by dialing [2]. A tone burst will be heard at the busy station.

06.92 To Place a DND Override Call (Programmable Option)

- After reaching a DND station, you may signal that station that an emergency call is waiting by dialing [3]. A tone burst will be heard at the DND station.

06.93 To Place an Executive Override Call (Programmable Option)

Overrides the CO line and intercom privacy feature, and is able to enter any existing conversation within the system. Only two stations can be programmed for this feature.

- After reaching a busy station, you may enter the conversation on that station by depressing the appropriate [CO] or [INT] key.

- A warning tone is sounded before the overriding station is actually connected.

07 EXECUTIVE TELEPHONE

07.01 An optional executive telephone (20-key EKT) provides, via ten additional feature keys; seven one-button auto-dial (AD 1-7) telephone numbers, auto-redial, pause and auto-dial access.

07.10 Key Functions

07.11 The optional EKT has 24 line and feature keys and a push button dial pad. The following is a general description of each additional key.

AUTO-DIAL KEYS [AD1-7]

One-button auto-dialing for seven different telephone numbers after accessing a CO line.

REDIAL KEY [RDL]

Will automatically redial the last telephone number dialed after accessing a CO line. Also functions as a replacement for the [#] key.

REPERTORY KEY [REP]

Provides access to the auto-dial address codes. Also functions as a replacement for the [*] key.

NOTE:

The [#] and [] keys will not have the functions they perform on the standard EKT; they are now free to use for computer access.*

PAUSE KEY [PAU]

Applies a pause after the CO line access code in auto-dialing telephone numbers behind a PBX. The MW/FL key will not perform this function on this unit.

NOTE:

The remaining function keys retain the same functions as their counterparts on the standard EKT.