

TELEPHONE STATION EQUIPMENT

ITT 110-CX1 ANNOUNCE-A-CALL INTERCOM

DESCRIPTION AND INSTALLATION

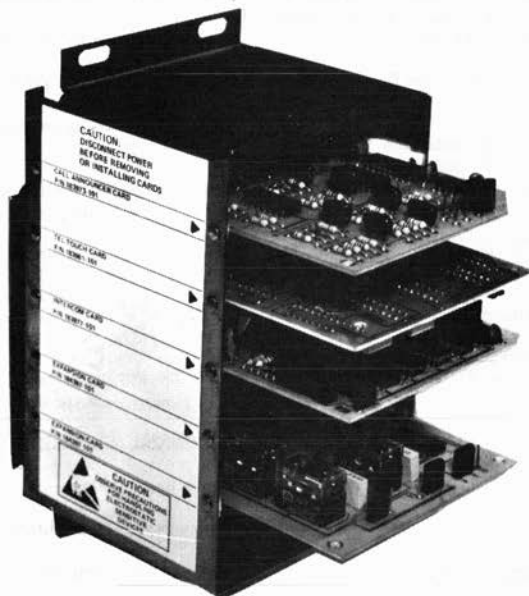


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Fig. 1 — Announce-a-Call Intercom Unit

CAUTION: The Announce-a-Call Intercom unit uses static-sensitive components. Personnel who may be required to handle printed circuit cards or wiring must have knowledge of proper handling techniques and the necessary safeguard equipment for protecting static-sensitive devices. One supplier of static-protection devices is "Static Control Systems/3M, 223-2SW, 3M Center, St. Paul, MN 55101."

CAUTION: This intercom is not compatible with automatic exclusion (feature code 76) telephones.

Note: Factory installation of the 110-CX1 Intercom in 501A and 512A KSUs differs from the instructions contained in this KSP. To duplicate factory installation, the following cables and instructions are required:

For 501A KSU:

Cable P/N 185348-101

KSP 501-A10

For 512A KSU:

Cable P/N 185351-101

KSP 512-A10.

1. GENERAL

1.01 This intercom unit is designed for use in 1A2 type key systems to provide dial selective intercom featuring dial tone, ringback, intermittent signaling and call announcing with handsfree answerback* for up to 30 stations.

1.02 This KSP is reissued to revise Figures 3, 4, 6, 7 and 8.

1.03 The Announce-a-Call Intercom provides a single common talk path and 2-digit dial selection of and signaling to a maximum of 30 stations.

1.04 The Announce-a-Call intercom unit can be flange-mounted directly on most 1A2 KSU frames if space permits, or it may be wall-mounted with an optional wall mounting frame and cover.

1.05 External connections are made via two 50-contact plugs on the back of the unit.

FEATURES

Standard

1.06 Standard Features Include:

- 10-station rotary dial intercom
- Busy lamp signaling at all stations
- Dial tone
- Intermittent audible signaling
- Ring back
- Call announcing with handsfree answerback*
- Mixed Signaling, ringers on some stations, call announcers on others.

* Call announcing requires a 174B Call Announcer or a telephone with built-in call announcer (870, 871, 2870, 2871) at each station to be signaled in this manner.

Optional

1.07 Optional Features Include:

- Tel-Touch (tone) dialing
- Expansion to 20 or 30 station capacity

RELATED PUBLICATIONS

1.08 The following publications cover PC boards used in the unit.

- (a) 184243-101 Instruction sheet for 183977-101 intercom card.
- (b) 184246-101 Instruction sheet for 183973-101 Call Announcer Card.
- (c) 184247-101 Instruction sheet for 183981-101 T-T Adapter
- (d) 184435-101 Instruction sheet for 184397-101 Intercom Expansion Card

TECHNICAL SUMMARY

Power Requirements:

- (a) -24V dc Talk Battery (AB);
- (b) 10V ac Lamp Battery (LB);
- (c) 105V ac, 30 Hz for Ringer Signaling
- (d) 18 V ac, for Buzzer Signaling (Where Required)

Number of Stations:

10, 20, or 30

Approximate Dimensions Inches (cm)

- (a) Width 4 (10)
- (b) Height 7 (18)
- (c) Depth 7 (18)
- (d) Approx. Weight Lb. (kg)
Fully Equipped: 3 (1.35)

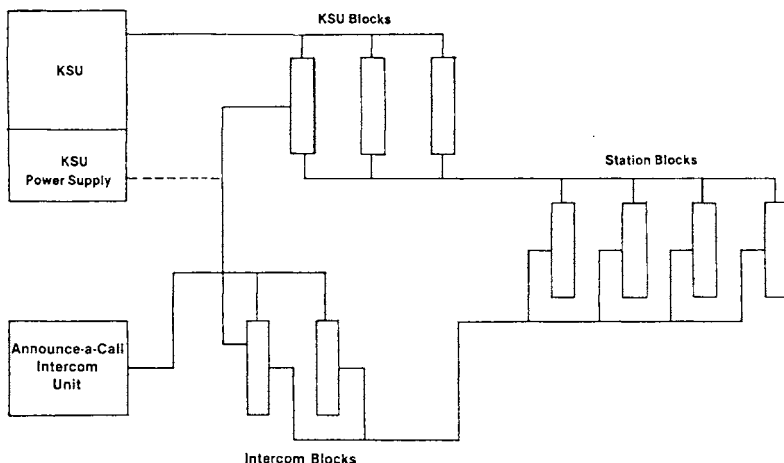


Fig. 2 — Typical Announce-a-Call Intercom Installation

2. IDENTIFICATION

THE ANNOUNCE-A-CALL INTERCOM UNIT 110-CX1

2.01 The "Announce-a-Call" intercom unit consists of a Card-Mounting Assembly (184600-101), a 10-station Rotary Dial Intercom Card (183977-101), and a Call Announcing/Tone Card (183973-101).

A. Card-Mounting Assembly (184800-101)

2.02 The Card-Mounting Assembly consists of a metal surround, a motherboard, four edge (card) connectors, and two 50-contact plugs for external connections.

B. Rotary-Dial Intercom Card (183977-101)

2.03 This card provides rotary dial intercom for 10 or fewer stations.

C. Call Announcing/Tone Card (183973-101)

2.04 The CA/T card provides dial tone, intermittent signaling, and ringback for intercom calls when ringers are used; or dial tone, ringback

and two-way call announcing when call announcers are used.

OPTIONAL COMPONENTS

A. Tel-Touch Adapter Card (183981-101)

2.05 The T-T Adapter card is used to permit tone dialing on intercom calls. It is mounted piggyback on the intercom card.

B. Intercom Expansion Card (184397-101)

2.06 This card is used to add 10 stations to the intercom. A maximum of two expansion cards may be used in a system, giving a total of 30 intercom stations.

C. Wall-Mounting Frame and Cover Assembly (184948-101)

2.07 Consists of wall frame (184598-101) and cover (184596-101). Used to mount the Announce-a-Call unit outside of the KSU.

D. Voice Paging

CAUTION: *The 110-CX1 Intercom KTU is not compatible with the 401PA Paging Adapter Unit as it does not provide a switched ground.*

2.08 Voice Paging through a customer owned PA system from any station can be provided by either of two means: (1) button access to PA amplifier, or (2) dial access to PA amplifier.

2.09 *Button-Accessed Paging.* A K401B Manual Intercom card may be used to access the PA amplifier. A person at any station can page by holding down a line-pickup button that has been converted to non-locking operation and talking into his handset. In planning this type of installation, remember that a button will be used at each phone and a line card position in the KSU.

2.10 *Dial-Accessed Paging.* In a system using call announcers for intercom signaling, an intercom number may be assigned to paging. An interface circuit consisting of a .1 Mfd, 25 V, capacitor and a 600-OHM resistor must be connected to the PA amplifier input. In a system not using call announcer, a 410A Paging Adapter KSU must be used.

3. INSTALLATION

MOUNTING

3.01 If space permits, the Announce-a-Call intercom unit may be flange-mounted directly on most 1A2 KSU frames. Mounting dimensions are given in Figure 5.

NOTE: There must be enough clearance behind the intercom unit for the two 50-pin jacks that connect to the intercom unit.

3.02 If the Announce-a-Call intercom cannot be mounted inside the KSU, it may be wall-mounted outside with a mounting frame (184598-101) and cover (184596-101).

INSTALL DISTRIBUTION BLOCK(S)

3.03 Install two 66-type quick-connect blocks and label them IC-A and IC-B, or one split block can be used and the sides labeled A and B.

CONNECT UNIT TO IC BLOCKS (TABLES A & B)

3.04 Make up two cable assemblies, each consisting of a short length of 25-pair cable and a 50-pin jack.

3.05 Install one cable on plug P1 on the intercom, and standard-wire the opposite end to block IC-A.

3.06 Install the other cable on plug P2, and standard-wire the opposite end to block IC-B.

CONNECT KEY SYSTEM BLOCKS TO INTERCOM BLOCKS

3.07 From the KSU blocks, connect RG to IC-A45, RB to IC-A46, GND to IC-A47. If buzzers are used instead of ringers, connect BZ Ground and 18V ac to IC-A45 and IC-A46 instead of RG and RB.

3.08 From the KSU blocks, connect AB to IC-A48, and AG to IC-A49. A50 on intercom block A is not connected.

3.09 From the KSU block, connect lamp battery to IC-A3.

CONNECT STATION BLOCKS TO INTERCOM BLOCKS

3.10 Multiple the "tip" lead for the desired intercom button from all station blocks and connect to IC-A1.

3.11 Multiple the "ring" lead for the desired intercom button from all station blocks and connect to IC-A2.

3.12 Multiple the "lamp" lead for the desired intercom button from all station blocks and connect to IC-A4.

3.13 Multiple the "LG" or lamp ground lead for the desired intercom button from all station blocks and connect to IC-A5.

3.14 Terminal A6 is not connected.

3.15 Connect each station RT lead to the designated RT pin on block A or B. The RT number on the block will be the station intercom number.

3.16 Connect the RG lead of each station to the designated RG pin on block A. For stations 29 through 39, connect this lead to any RG terminal.

3.17 If the "A1" lead of each station is not already connected to "AG" or GND in the key system, multiple the "A1" lead from all stations and connect to "AG", terminal 47 on Intercom block A.

CALL ANNOUNCING CARD

3.16 If the call announcing card is used, connect the "A" lead for the intercom button of each station block to the corresponding station number on block IC-B. (Terminals 1 through 30. Refer to Table B.)

3.19 The CARST (Call Announcer Reset) lead for each call announcer must be connected to the appropriate pin on block IC-B. Multiple the CARST lead for stations 10-19 and connect to IC-B45; multiple stations 20-29 and connect to IC-B46; multiple stations 30-39 and connect to IC-B47.

3.20 If it is desired to have a call announcer where there is no station for paging purposes; connect the black lead (-24VT) to IC-A48 (AB). Connect the yellow lead (GND) to IC-A47 (AG). Connect the red call announcer lead (call announcer reset) to IC-B45, IC-B46, or IC-B47, depending upon what the dial access code to the call announcer is. Connect the green (voice/signal path) lead to the desired RT terminal on blocks IC-A or IC-B.

SYSTEM STRAPPING

3.21 Strap the Announce-a-Call unit cards according to Table C for the type configuration desired.

INSTALL PLUG IN KTU's



CAUTION: Handle cards by the edges to prevent damage from static electricity.

3.22 Install the cards in the Announce-a-Call unit as shown in Figure 5 with component side up.

3.23 To adapt the intercom for tone dialing, install the Tel-Touch adapter card (183981-101) on the intercom card:

- (a) Remove the "W" plug from the intercom card (see Figure 6).
- (b) Place the two cards with components facing each other and with the small end of the Tel-Touch card toward the connector edge of the intercom card.
- (c) Insert the two rows of pins on the Tel-Touch card into the two connectors on the intercom card making sure that no pins slip outside the connectors.
- (d) Install the Intercom/Tel-Touch card assembly in the intercom card slot as shown in Figure 5.

OPERATIONAL CHECKS

3.24 To check for proper system operation, follow the instructions given in Table D.

APPLICATION NOTE FOR CALL ANNOUNCING SYSTEMS

3.25 A second *talking-only* link can be provided by installing a 401B manual intercom card in the key system. (If KSU space is available and if a pickup button is available at each phone.) The call-announcing link is used for signaling and for brief two-way conversations. To avoid tying up the call-announcing link for long conversations, both parties can go to the manual talking link and thus free the call announcing link for another caller or for the attendant's use in announcing calls.

BUTTON-ACCESSED PAGING (K401B KTU)

3.26 Pushbutton access to a PA system for voice paging from intercom stations can be provided by installing a K401B KTU.

3.27 The 401B KTU can be installed in any vacant CO/PBX line card slot of the KSU or mounted in a 359A Panel.

3.28 After determining the line card slot to be used, strap AB to pin 18 and AG to pin 3 of that card connector.

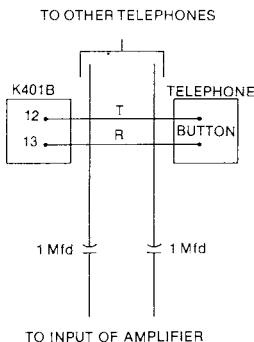


Fig. 3 — Schematic, Button-Accessed Paging

3.29 Convert a spare button of each telephone to non-locking operation by unscrewing the interlock pin from the plunger until the pin clears the interlock slides. (See instructions packed with telephone.)

3.30 Connect the T and R leads from this button to T and R of the K401B KTU on the KSU block.

3.31 Connect a 1-mfd capacitor in series with each amplifier input and the T and R leads from the stations (see Fig.3).

3.32 Button-accessed paging is accomplished by going off-hook, holding down the designated non-locking button, and talking into the telephone handset. The user's voice will go out over the PA system. When the button is released, the connection is broken.

DIAL-ACCESSED PAGING

General

3.33 Dial access to a customer furnished PA system for voice paging from intercom stations can be provided by one of the following methods:

(1) In a system using all call announcers for intercom signaling, any intercom number may be assigned to voice paging.

(2) In a system using ringers and buzzers for intercom signaling (with or without dial tone and ringback) a K410A Paging Adapter KTU may be installed in any vacant line card position. Any unused intercom number may be assigned to the feature.

3.34 In a mixed system, using call announcers at some stations and ringers or buzzers at other stations, either of the above methods may be used.

Dial Accessed Voice Paging Using Call Announcing Intercom Number

3.35 If the system uses all call announcers for intercom signaling, any intercom number may be assigned to voice paging. If the system is mixed (call announcers and ringers or buzzers), an odd intercom number must be assigned to voice paging.

3.36 Connect the RT lead assigned to voice paging to the amplifier input using interface circuit shown in Figure 4.

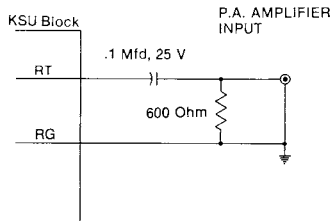


Fig. 4 — Wiring Connections For Voice Paging With A System Using Call Announcers

Installation of 410A KTU to Provide Dial-Accessed Voice Paging

3.37 Connect Amplifier Leads. Determine the line card slot to be used for installing the 410A KTU and connect the amplifier input leads to the "T" and "R" terminals of that line position (on Block C).

3.38 Connect Intercom RT Leads. Determine the intercom number that will be assigned to voice-paging and install a jumper from that "R" terminal on Block B to the "R1" terminal for the line position used.

3.39 Connect Intercom "T" Leads. Install a jumper from "T" terminal of the line position used to intercom "T".

3.40 Connect Intercom "R" Leads. Connect a 56 Ohm resistor between the "R" terminal of the line position used and the intercom "R" terminal.

3.41 Additional connections when switched contacts are used for control of paging amplifier power source are as follows:

- (1) If the -24 V dc on pin 18 of the K410A KTU is used to operate a relay, connect the lead from the relay to terminal 16 of the line position used for the K410A KTU and strap the K410A for option "X". Connect AB to pin 18.
- (2) If a separate power supply is to be fed via the contacts, connect one amplifier power lead to the "A" terminal (on station block) for the K410A, connect the other amplifier power lead to voltage, and strap the K410A for option "W".

4. ANNOUNCE-A-CALL INSTALLATION IN PREVIOUSLY INSTALLED KEY SYSTEMS

4.01 Factory installation of the 110-CX1 Intercom in 501A and 512A KSUs differs from the instructions contained in this KSP. To duplicate factory installation, the following cables and instructions are required:

For 501A KSU:
 Cable P/N 185348-101
 KSP 501-A10
 For 512A KSU:
 Cable P/N 185351-101
 KSP 512-A10.

5. ANNOUNCE-A-CALL MOTHERBOARD INTERWIRING CHARTS FOR TROUBLESHOOTING

5.01 Tables E and F show internal wiring between plugs and connections on the motherboard.

NOTE: These tables are not necessary for system installation, and should only be used as a troubleshooting aid.

5.02 Tables and page numbers are listed below:

E. Connections to plug 1	Page 17
F. Connections to plug 2	Page 18

Table A — Connections To Plug 1

CIRCUIT DESIG- NATION	PLUG 1 PIN NO.	RUNNING CABLE	BLOCK IC-A	STATION CONNECTIONS	POWER SUPPLY
T	26	W-BL	1	T	
R	1	BL-W	2	R	LB *
LB*	27	W-O	3	L	
L	2	O-W	4	LG	LG *
LG	28	W-G	5		
NC	3	G-W	6		
RG20	29	W-BN	7		
RT20	4	BN-W	8		
RG21	30	W-SL	9		
RT21	5	SL-W	10		
RG22	31	R-BL	11		
RT22	6	BL-R	12		
RG23	32	R-O	13		
RT23	7	O-R	14		
RG24	33	R-G	15		
RT24	8	G-R	16		
RG25	34	R-BN	17		
RT25	9	BN-R	18		
RG26	35	R-SL	19		
RT26	10	SL-R	20		
RG27	36	BK-BL	21		
RT27	11	BL-BK	22		
RG28	37	BK-O	23		
RT28	12	O-BK	24		
RG10	38	BK-G	25		
RT10	13	G-BK	26		
RG11	39	BK-BN	27		
RT11	14	BN-BK	28		
RG12	40	BK-SL	29		
RT12	15	SL-BK	30		
RG13	41	Y-BL	31		
RT13	16	BL-Y	32		
RG14	42	Y-O	33		
RT14	17	O-Y	34		
RG15	43	Y-G	35		
RT15	18	G-Y	36		
RG16	44	Y-BN	37		
RT16	19	BN-Y	38		
RG17	45	Y-SL	39		
RT17	20	SL-Y	40		
RG18	46	V-BL	41		
RT18	21	BL-V	42		
RG19	47	V-O	43		
RT19	22	O-V	44		
RG* †	48	V-G	45		RG*
RB* †	23	G-V	46		RB*
AG*	49	V-BN	47		AG*
AB*	24	BN-V	48		AB*
GND*	50	V-SL	49		NC
NC	25	SL-V	50		NC

* This connects to KSU Power Supply. See Paragraph 3.09

† If buzzers are used 18Vac connects here.

Table B — Connections To Plug 2

CIRCUIT DESIG- NATION	PLUG 2 PIN NO.	RUNNING CABLE	BLOCK IC-B						TERMINAL ON STATION BLOCK(S)
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A32	26	W-BL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intercom Station "A" Lead
A33	1	BL-W	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A24	27	W-O	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A23	2	O-W	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A34	28	W-G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A25	3	G-W	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A22	29	W-BN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A35	4	BN-W	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A26	30	W-SL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A31	5	SL-W	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A27	31	R-BL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A27	6	BL-R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A37	32	R-O	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A37	7	O-R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A28	33	R-G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A21	8	G-R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A38	34	R-BN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A29	9	BN-R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A18	35	R-SL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A39	10	SL-R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A20	36	BK-BL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A11	11	BL-BK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A30	37	BK-O	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A13	12	O-BK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A16	38	BK-G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A19	13	G-BK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A14	39	BK-BN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A17	14	BN-BK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A12	40	BK-SL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A15	15	SL-BK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT31	41	Y-BL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intercom Station Signal Lead
RT30	16	BL-Y	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT33	42	Y-O	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT32	17	O-Y	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT35	43	Y-G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT34	18	G-Y	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT37	44	Y-BN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT36	19	BN-Y	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT39	45	Y-SL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RT38	20	SL-Y	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
---	46	V-BL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CA RT when Call Announcers are used.
RT29	21	BL-V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
---	47	V-O	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
---	22	O-V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CARST 10-19	48	V-G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Call Announcer Reset.
CARST 20-29	23	G-V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CARST 30-39	49	V-BN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
---	24	BN-V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
---	50	V-SL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
---	25	SL-V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note: To provide Ring Ground Terminals for Stations 29-39, connect a Jumper from RG (on Power Supply or on KSU Block) to terminals 48, 49, and 50.

TABLE C — P.C.B. Programming Chart

P.C.B. to be Strapped	Desired System Condition	Required Strapping
183977 Intercom Card (Figure 4)	All Call Announcers only	In TC1 install B-C. In TC2 install B-C. Remove X, Y, and Z straps.
	*See Note 1 "Mixed" system, i.e. ringers or buzzers and Call Announcers	In TC1 install A-B for 105 V ring or buzzers at even stations. In TC2 install B-C for C.A.'s at odd stations.
	*See Note 3	Remove X, Y, and Z straps (for Call Announcing).
	All ringers or buzzers	In TC1 install A-B. In TC2 install A-B. Remove X, Y, and Z straps.
183973 Call Announcer Card (Figure 5)	For Tel-Touch/Rotary Dialing	Install W strap for rotary dialing. Remove W strap for Tel-Touch/Rotary dialing.
	Mandatory strapping when either "Mixed" system or all Call Announcers are used.	Install J-K and G-H straps.
	To provide dial tone and ring-back for dial intercom. No C.A.'s	Install C-D jumper. Remove L-M and E-F straps. Remove A-B jumper.
	(Future)	Install J-K and G-H straps. Install A-B jumper. Remove L-M and E-F straps. Remove C-D jumper.
184397 Intercom Expansion Card (Figure 6) *See Note 2	All Call Announcers only	In TC1 install B-C jumper. In TC2 install B-C jumper. Install E-F strap.
	*See Note 1 "Mixed" system, i.e. ringers and Call Announcers	In TC1 install A-B for 105 V ring or buzzers at even stations. In TC2 install B-C for C.A.'s at odd stations. Install E-F strap.
	All ringers or buzzers	In TC1 install A-B jumper. In TC2 install A-B jumper. Install E-F strap.
Announce-a-Call System "Motherboard" (Figure 7)	All Call Announcers only	Install A-B strap. Install E-F strap. Remove A-C strap. Remove A-D strap.
	*See Note 1 "Mixed" system, i.e., Ringers and Call Announcers	Install A-C strap. Install E-F strap. Remove A-B strap. Remove A-D strap.
	All Ringers or buzzers	Install A-D strap. Install E-F strap. Remove A-B strap. Remove A-C strap.

1. Caution: Call Announcers must be on odd stations in a "Mixed" system, (Call Announcers at some stations, ringers at others.)
2. On the expansion board, the TC2 jumper is between the D-E-F strap position and the TC1 jumper position.
3. The X, Y, and Z straps are required when there is no Call-Announcing/Tone card. The Call Announcing/Tone card provides dial tone, ringback and intermittent signaling for dial intercom when call announcers are not used.

Table D. — Intercom Expansion, and Call Announcer Test

Test No.	Test	Check for These Conditions
1	Depress Intercom button on any station, pick up handset.	Intercom indicator lamps on for all stations. Dial tone audible
2	Dial 1 for access to stations #10 thru #19.	Dial tone not audible.
3	Dial any digit, 0 - 9	Tone burst at end of dial tone. Dialed station rings or Call Announcer at dialed stations turns on with tone burst (where Call Announcer is required). Indicator lamps flash.
4	Lift handset on dialed station and press intercom button.	Indicator lamps are on. Station no longer rings. Transmission possible. Call Announcer is no longer active (where applicable).
5	Replace both handsets.	All lamps are off.
6	Repeat step 2 dialing a "2" instead of a "1" for access to stations #20 thru #29 — repeat steps 3 thru 5.	
7	Repeat step 2 dialing a "3" instead of a "1" for access to stations #30 thru #39 — repeat steps 3 thru 5	

Note: For functional tests without Call Announcer/Tone Card, delete requirement for tones in Table D above. Operation without the Call Announce/Tone Card gives simple single burst ring with no tones.

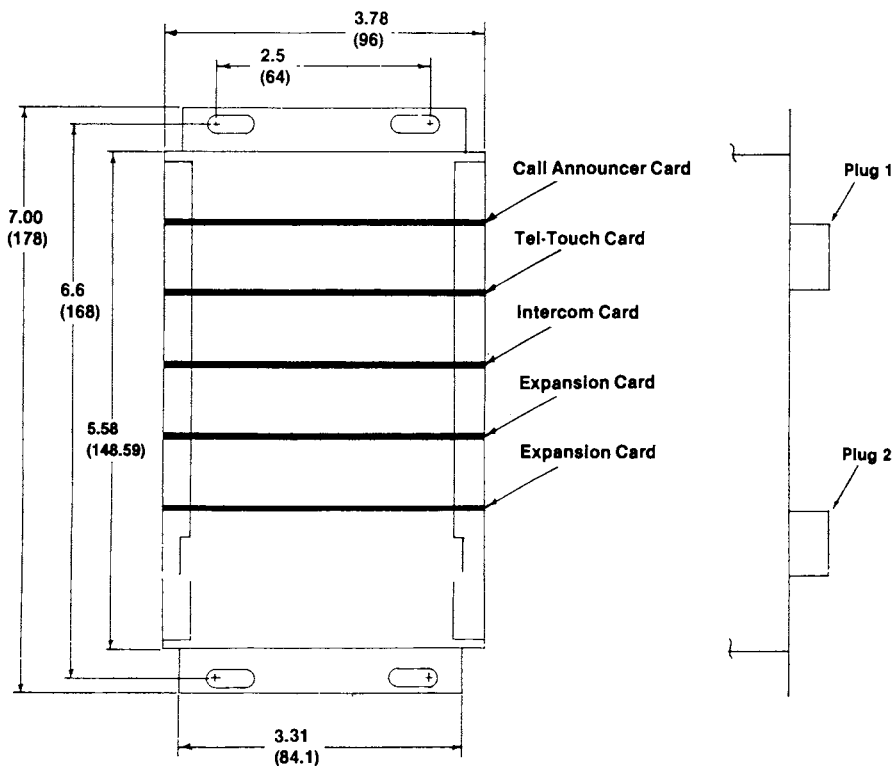


Fig. 5 — Mounting Dimensions and Card Position of the Announce-a-Call Unit

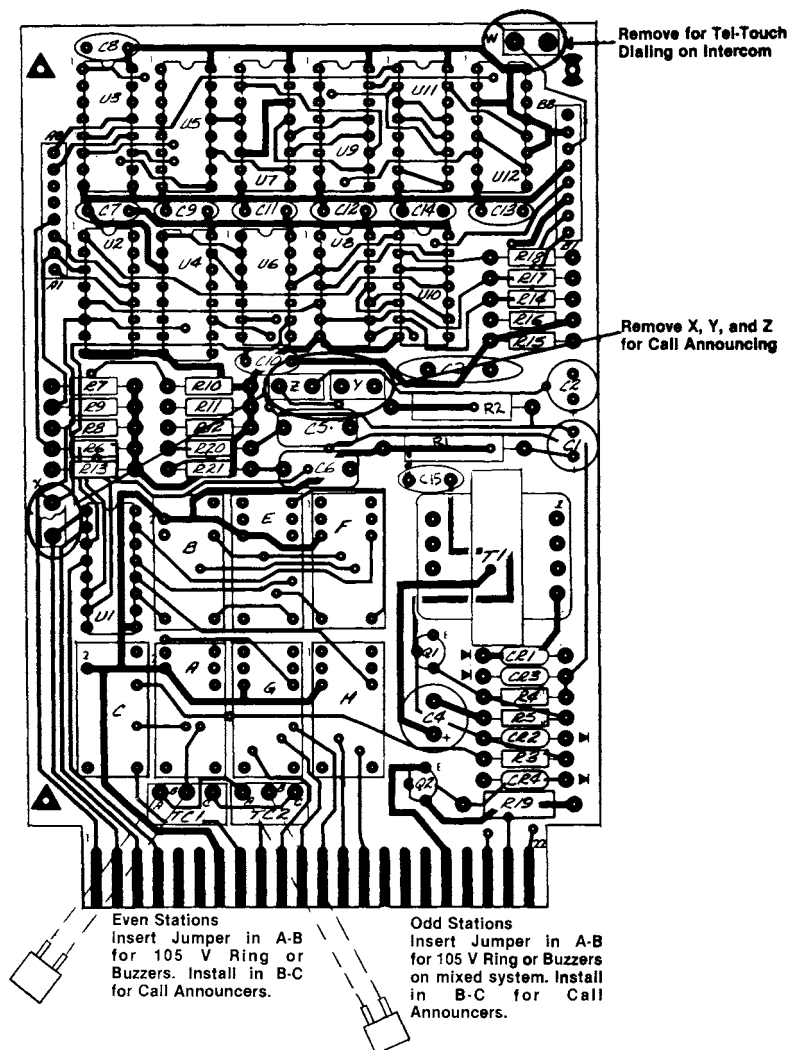


Fig. 6 — Strapping Options on Intercom Card
(See Table C)

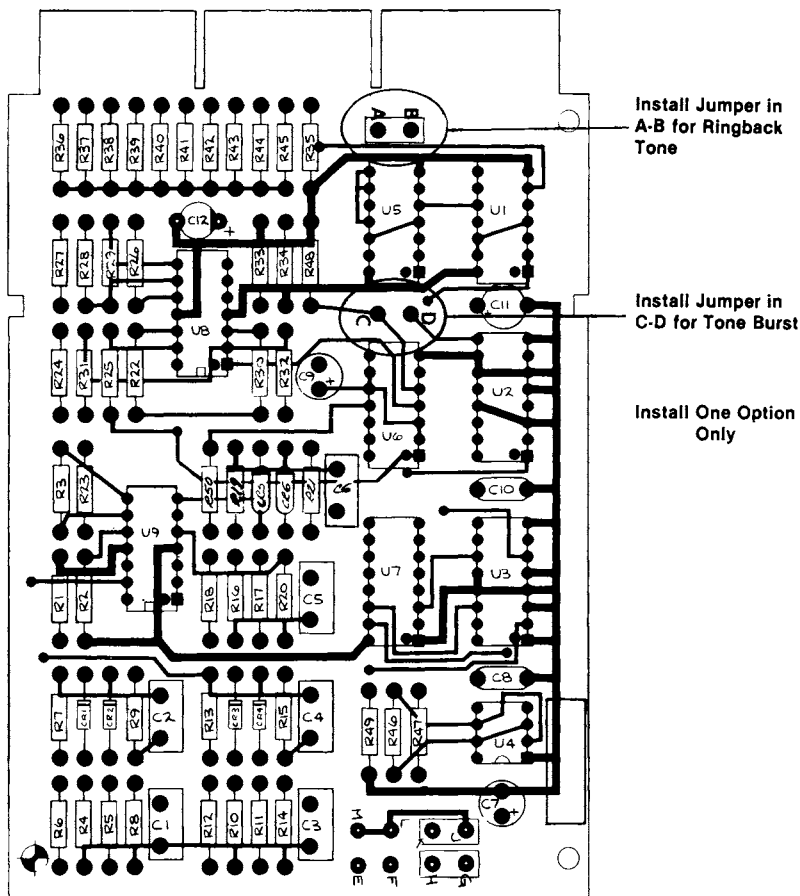


Fig. 7 — Strapping Options on Call Announcing Card
(See Table C)

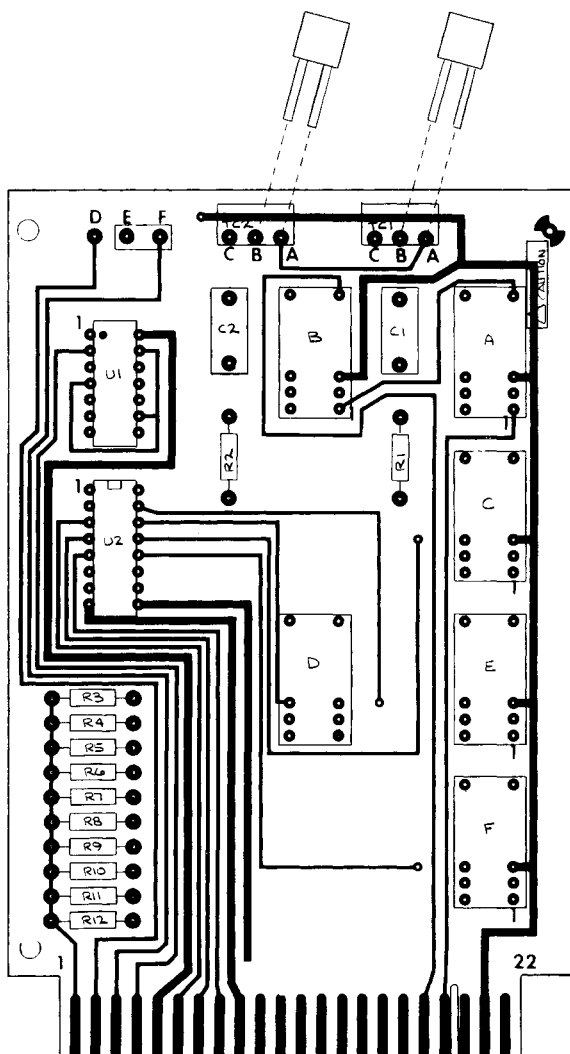


Fig. 8 — Strapping Options on Intercom Expansion Card
(See Table C)

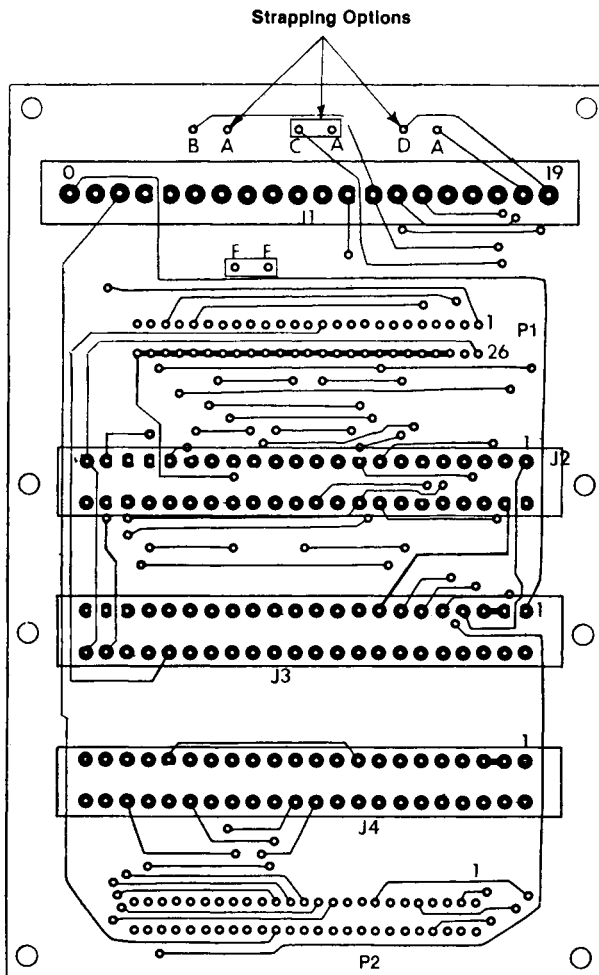


Fig. 9 — Strapping Options on Intercom System Motherboard
(See Table C)

TABLE E — Internal Wiring, Connections to Plug 1

FROM				TO			
Plug 1 Pin #	Plug 1 Running Cable Color Code	Quick Connect Block IC-A Terminal No.	Destination Connector Terminal #	Destination PCB #	Connector PIN #	PCB Information Lead Designation	Multiple Appearance Destination
1	BL-W	2	J2-20	183977	20	R	
2	O-W	4	J2-8	183977	8	Lamps	
3	G-W	6	N.C.	---	--	---	
4	BN-W	8	J3-26	184397	W	0 (RT 20)	
5	SL-W	10	J3-28		U	1 (RT 21)	
6	BL-R	12	J3-31		R	2 (RT 22)	
7	O-R	14	J3-34		M	3 (RT 23)	
8	G-R	16	J3-25		X	4 (RT 24)	
9	BN-R	18	J3-30		S	5 (RT 25)	
10	SL-R	20	J3-32		P	6 (RT 26)	
11	BL-BK	22	J3-33		N	7 (RT 27)	
12	O-BK	24	J3-27		V	8 (RT 28)	
13	G-BK	26	J2-33	183977	N	0 (RT 10)	
14	BN-BK	28	J2-32		P	1 (RT 11)	
15	SL-BK	30	J2-35		L	2 (RT 12)	
16	BL-Y	32	J2-11		11	3 (RT 13)	
17	O-Y	34	J2-13		13	4 (RT 14)	
18	G-Y	36	J2-31		R	5 (RT 15)	
19	BN-Y	38	J2-10		10	6 (RT 16)	
20	SL-Y	40	J2-12		12	7 (RT 17)	
21	BL-V	42	J2-34		M	8 (RT 18)	
22	O-V	44	J2-14		14	9 (RT 19)	
23	G-V	46	J2-36		K	105 V ac (RB)	J3-24, J4-24
24	BN-V	48	J2-24		Y	-24 V (AB)	(See J1-19)
25	SL-V	50	N.C.	---	--	---	
26	W-BL	1	J2-22		22	T	
27	W-O	3	J2-37		J	10 V ac (LB)	
28	W-G	5	J2-30		S	GND (LG)	J3-30 (See J3-21)
29	W-BN	7	} gnd.				
30	W-SL	9					
31	R-BL	11					
32	R-O	13					
33	R-G	15					
34	R-BN	17					
35	R-SL	19					
36	BK-BL	21					
37	BK-O	23					
38	BK-G	25					
39	BK-BN	27					
40	BK-SL	29					
41	Y-BL	31					
42	Y-O	33					
43	Y-G	35					
44	Y-BN	37					
45	Y-SL	39					
46	V-BL	41					
47	V-O	43					
48	V-G	45					
49	V-BN	47					
50	V-SL	49					

TABLE F — Internal Wiring Connections to Plug 2

FROM				TO			
Plug 2 Pin #	Plug 2 Running Cable Color Code	Quick Connect Block IC-B Terminal No.	Destination Connector Terminal #	Destination PCB	Connector PIN #	PCB Information Lead Designation	Multiple Appearance Destination
1	BL-W	2	J4-42	184397	C	A33	
2	O-W	4	J3-42		C	A23	
3	G-W	6	J3-40		E	A25	
4	BN-W	8	J4-40		E	A35	
5	SL-W	10	J4-44		A	A31	
6	BL-R	12	J3-38		H	A27	
7	O-R	14	J4-38		H	A37	
8	G-R	16	J3-44		A	A21	
9	BN-R	18	J3-36		K	A29	
10	SL-R	20	J4-36		K	A39	
11	BL-BK	22	J1-1	183973	1	A11	
12	O-BK	24	J1-3		3	A13	
13	G-BK	26	J1-9		9	A19	
14	BN-BK	28	J1-7		7	A17	
15	SL-BK	30	J1-5		5	A15	
16	BL-Y	32	J4-26	184397	W	0 (RT 30)	
17	O-Y	34	J4-31		R	2 (RT 32)	
18	G-Y	36	J4-25		X	4 (RT 34)	
19	BN-Y	38	J4-32		T	6 (RT 36)	
20	SL-Y	40	J4-27		V	8 (RT 38)	
21	BL-V	42	J3-29		T	9 (RT 29)	
22	O-V	44	N.C.		--	---	
23	G-V	46	J3-19		19	CARST (20-29)	
24	BN-V	48	N.C.		--	---	
25	SL-V	50	N.C.		--	---	
26	W-BL	1	J4-43		B	A32	
27	W-O	3	J3-41		D	A24	
28	W-G	5	J4-41		D	A34	
29	W-BN	7	J3-43		B	A22	
30	W-SL	9	J3-39		F	A26	
31	R-BL	11	J4-39		F	A36	
32	R-O	13	J1-10	183973	10	A10	
33	R-G	15	J3-37	184397	J	A28	
34	R-BN	17	J4-37	184397	J	A38	
35	R-SL	19	J1-8	183973	8	A18	
36	BK-BL	21	J3-35	184397	L	A20	
37	BK-O	23	J4-35	184397	L	A30	
38	BK-G	25	J1-6	183973	6	A16	
39	BK-BN	27	J1-4		4	A14	
40	BK-SL	29	J1-2		2	A12	
41	Y-BL	31	J4-28	184397	U	1 (RT 31)	
42	Y-O	33	J4-34		M	3 (RT 33)	
43	Y-G	35	J4-30		S	5 (RT 35)	
44	Y-BN	37	J4-33		N	7 (RT 37)	
45	Y-SL	39	J4-29		T	9 (RT 39)	
46	V-BL	41	N.C.	---	--	---	
47	V-O	43	N.C.	---	--	---	
48	V-G	45	J2-40	183977	E	CARST (10-19)	
49	V-BN	47	J4-19	184397	19	CARST (30-39)	
50	V-SL	49	N.C.	---	--	---	

NOTES

[illegible]

