

INTERCOM 4 ANALYSIS

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INTERCOM V4 ANALYSIS

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TX

DEFINITIONS

1. Protocol - Predefined interface between higher level processor and terminal.
2. Synchronous Transmission - Use of formatted message to sync up with a transmission line {looking glass approach}. This allows for a predefined error detection recovery implementation.
3. Asynchronous Transmission - 1 character at a time/resync each character. Note lack of recovery possibilities.
4. Baud - Unit of signaling rate {common baud rates: 110, 134, 150, 300, 600, 1200, 2000, 2400, 4800, 9600, 14.2 KB, 40.8 KB, 50 KB}
5. Hardwired {non-switched} Communication Line - Carrier is always present. Theoretically, line is "always" present.
6. Partyline {switched} Communication Line - Carrier up when line connected, down when line disconnected. This is also referred to as a dial up line.
7. Multi drop Communication Line - More than one terminal concurrently on a communication line, that is more than one terminal can answer a poll request. We currently support 711's/714's or emulators of the MODE4C protocol.
8. Carrier - Hardware signal allowing access to a communication line existing as a single frequency tone upon which the data is super imposed.
9. Modem/Data Set - Device used to convert from bit serial form into recognizable data characters.
10. Half duplex - Two way alternate transmission when applied to a communication line. Unable to simultaneously send one message while receiving another.
11. Full duplex - Two way simultaneous transmission when applied to a communication line. Independent operation of input/output messages being transmitted/received by a terminal.
12. Poll {200 UT protocol} - Message type to check for an outstanding read request.
13. Emulator - Specific piece of hardware programmed to simulate another equipment. This could include multiplexor, front-end, or terminal simulation.
14. Strapping - Specific anding of RS232 signals. RTS, CTS, DSR, DTR, RI.

Multiplexer Types

6671	Synchronous/Asynchronous/16 ports/Mode 3/ Mode 4
6676	Asynchronous/64 ports/Mode 3 only
6673/6674	Synchronous/2-4 ports/Wide band protocol
7077/791	Synchronous/Asynchronous/up to 48 ports/ Mode 2/Mode 3/Mode 4
2550-1 {INTERCOM 4/5}	Synchronous/Asynchronous/up to 128 ports/ Mode 3/Mode 4
2550-100	6671/6676 emulation

Terminal Types

214-11
214-12
217-11
217-12
217-13
217-14
711-10
731-12
732-12
734
714-10
714-20
Model 33 TTY
Model 35 TTY
Model 38 TTY
713
1700
8231
731-10
732-10
733-10
751

Data Sets

103A	Up to 300 baud/ full duplex, direct distance dial-up, Async
201A	2400 baud, half/full duplex, D.D.D., Sync
201B	2400 baud, half/full duplex, privateline
358 transceivers	
301	40.8
303	19-230K

Protocols

Mode 3

Single character/No framing
Two streams interactive IN/OUT
8 bits/character plus
Start bit
1 or 2 stop bits
110/134/150/300/600/1200....9600 baud asynchronous
Dial up lines
Dedicated lines {hardwired} 2550 only

Mode 4

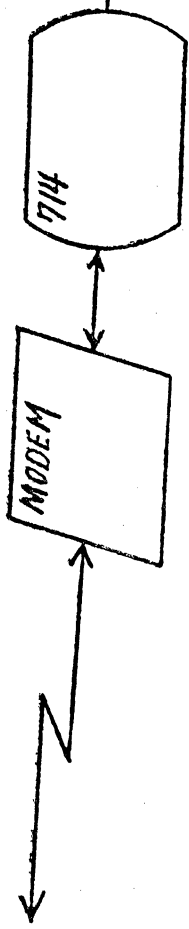
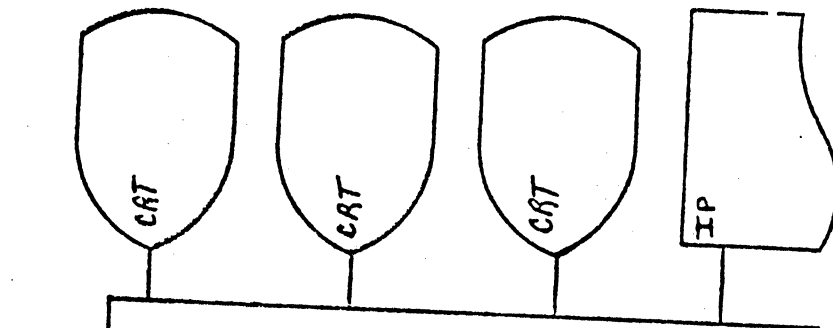
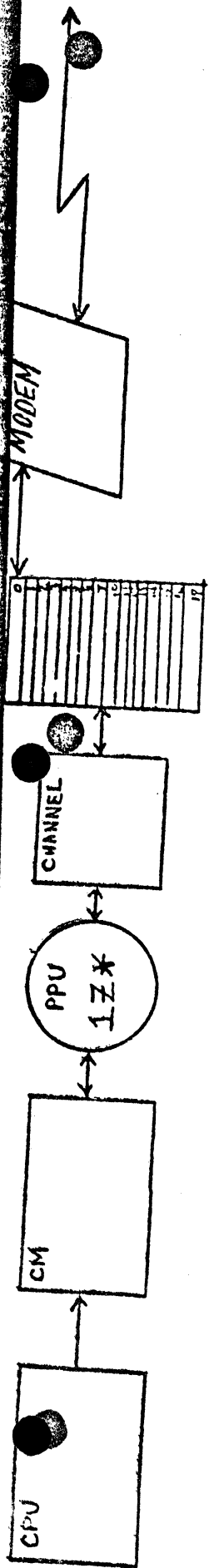
Dial-up or dedicated lines
Multi drop/multi station
8 bits/character plus
Longitudinal redundancy check
No binary capability
2000/9600 BPS synchronous

Wide Band {High Speed}

Dedicated line
Display code data
6 data streams
12 bits/character
Cyclic Redundancy check
12 bit binary
40.8/50 KBPS synchronous

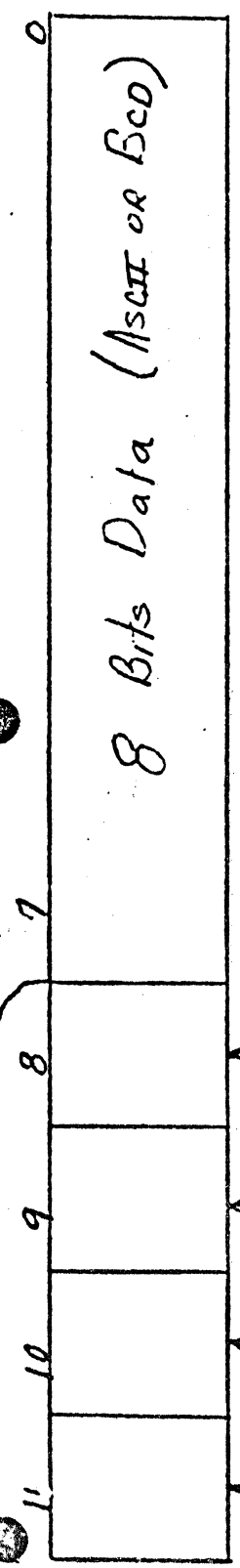
Mode 2

Full duplex
Hard wired
40.8 KBPS synchronous



- *DEFINE, CT71 - 1Z2/8Z2 - 1 6671A up to 2400 or 1 6671 up to 4800
- *DEFINE, CT7176 - 1Z3/8Z3 1 6671 up to 4800 and 1 6676
- *DEFINE, T76 - 1Z6/8Z6 1 6676 1 6676
- *DEFINE, CT96 - 1Z7/8Z7 1 6671 lowest 4 ports only up to 9600
- *DEFINE, ST76 - 1Z8/8Z8 1 stimulated 6676

66711
INPUT
WORD



8 Bits Data (ASCII or BCD)

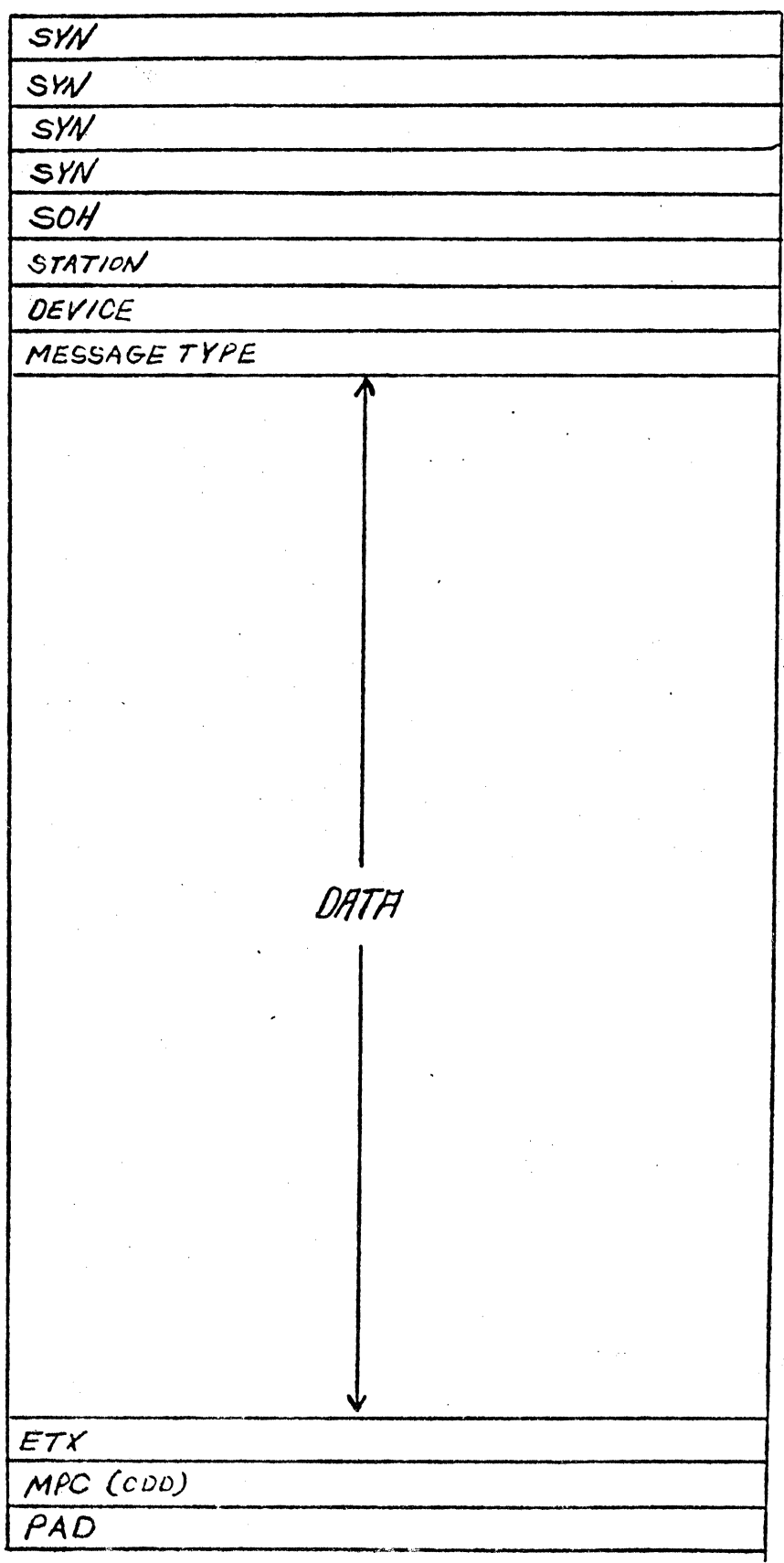
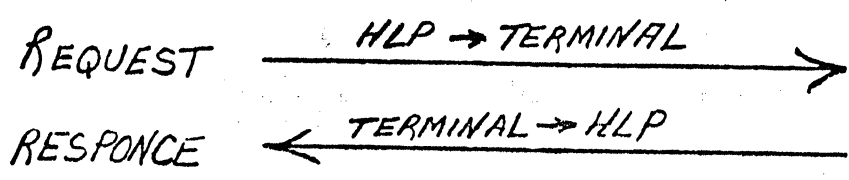
DATA NOT
ACCEPTED
(OUTPUT)

CARRIER ON

LOST DATA (IF CARRIER IS ON)
MODEM READY

VALID CHARACTER RECEIVED
INPUT & TTY OUTPUT
(CAT ONLY ON INPUT)

MODE 4
PROTOCOL

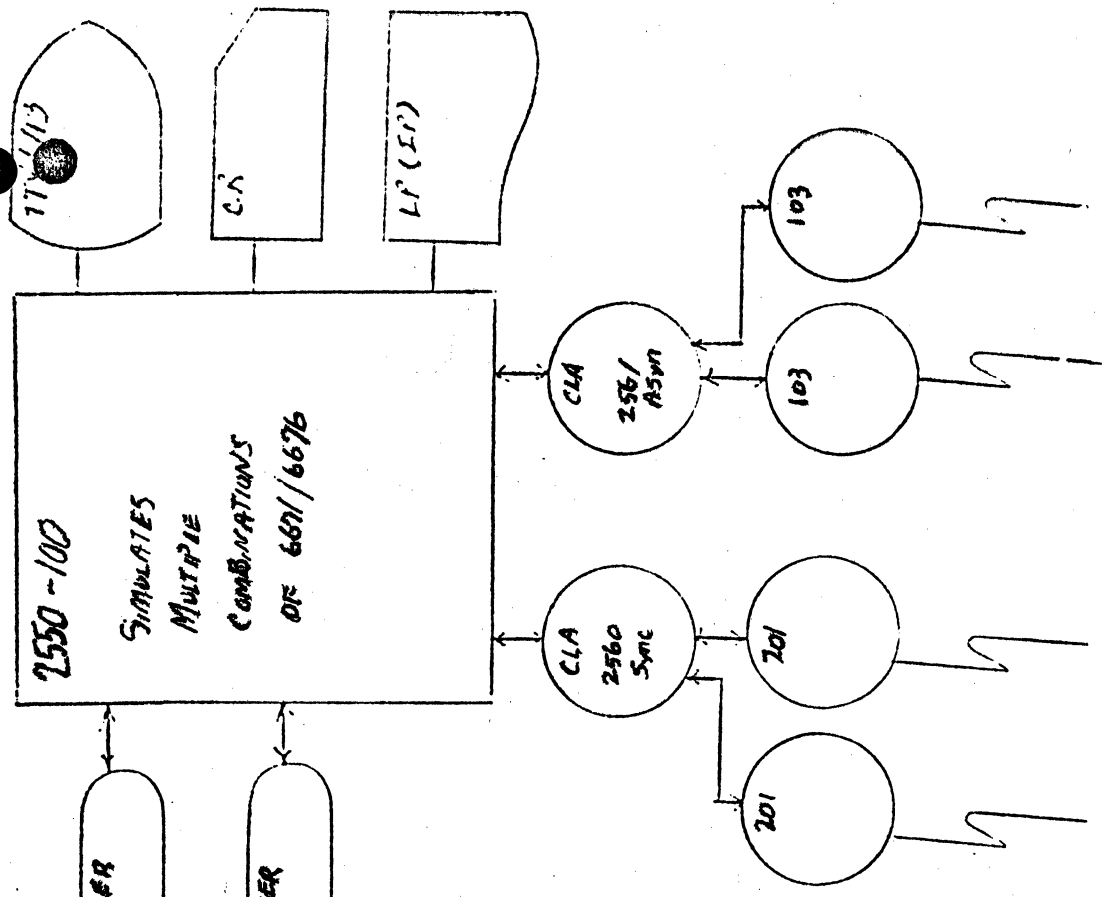


MESSAGE TYPES

- POLL
- ALERT
- WRITE
- RESET WRITE
- CLEAR WRITE
- DIAGNOSTIC WRITE
- STATUS
- CONFIGURATION

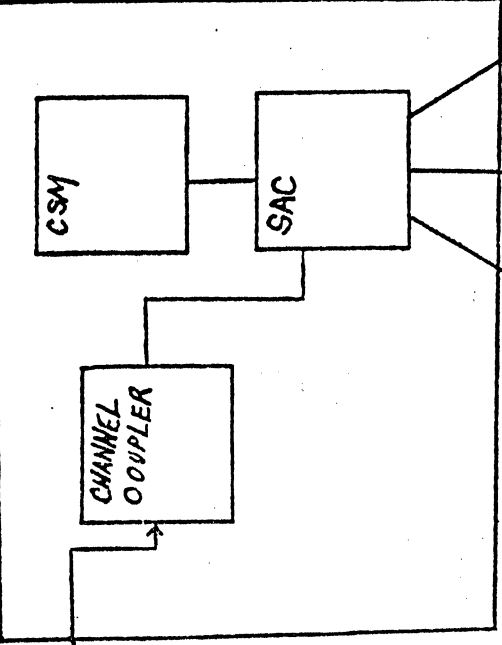
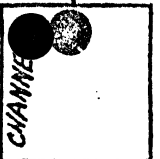
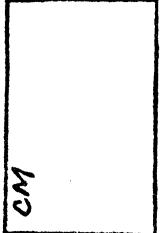
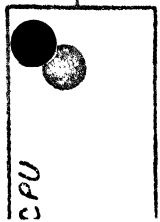
RESPONCES

- ACK
- REJ
- READ
- ERROR



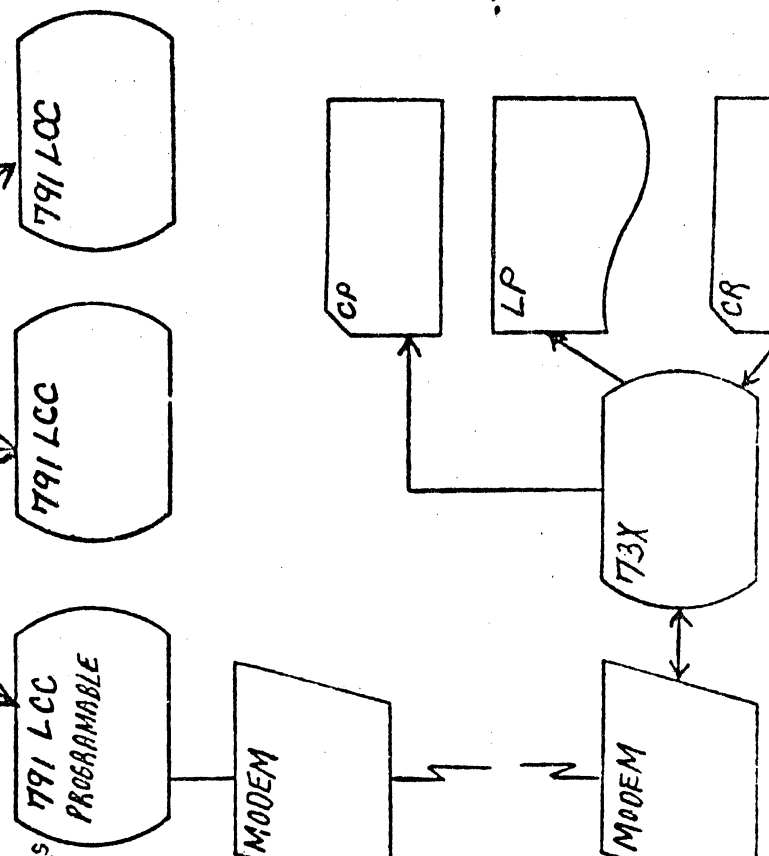
Must configure locally
 Assumed to be running when subsystem is brought up

Note: configuration must match CM Mux
 Labels



- 0ZA AUTOLOAD PROGRAM
- 0ZB AUTODUMP PROGRAM
- 0ZJ 8K MODE 2-3
- 0ZG 4K MODE 3
- 0ZF 8K MODE 3
- 0ZE 4K MODE 2
- 0ZD 8K MODE 2
- 0ZH 8K MODE 4
- 0ZL 8K MODE 2-4
- 0ZN 8K MODE 3-4

UPTO 48
TERMINALS
PER LCC



VARIABLE LENGTH MESSAGE FORMAT

All odd parity but DATA

OD CI DF ED CRC
 OPENING DELIMITER CONTROL INFORMATION DATA FRAMING ENDING DELIMITER CYCLIC REDUNDANCY CHECK

VARIABLE LENGTH MESSAGE TYPE

SYN (16)
SYN (16)
SYN (16)
SYN (16)
DLE DATA LINK ESCAPE (OPENING DELIMITER)
XSN TRANSMISSION NUMBER (0-1-P-2-4-5)
SID STREAM IDENTIFIER
DLE DATA LINK ESCAPE
STX START OF TEXT

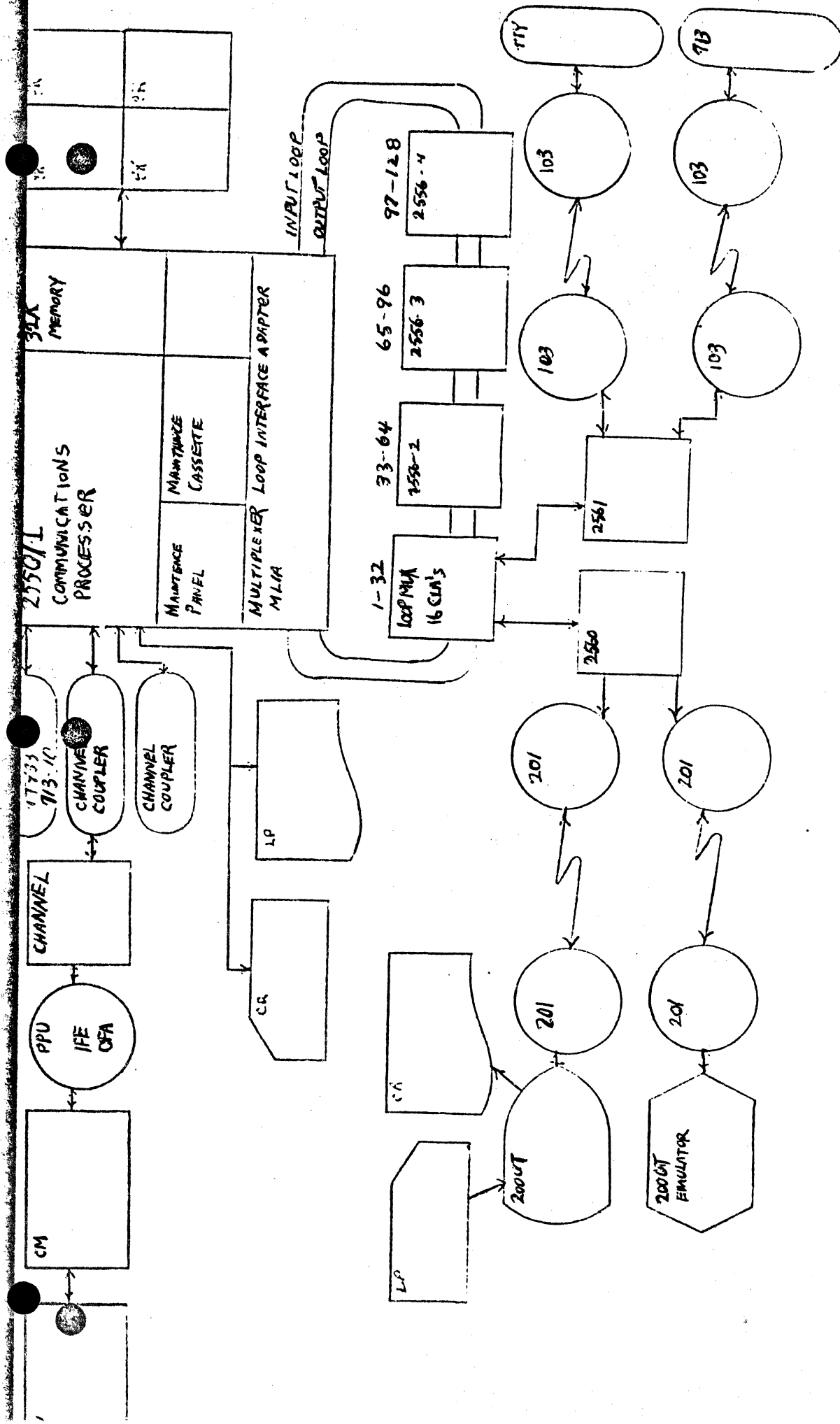
CONTROL INFORMATION

DATA (8 BIT)

3 POSSIBLE CLOSING DELIMITERS
2 8 BIT BYTES

DLE DATA LINK ESCAPE
ETB END OF BLOCK
ETX END OF TEXT
CRC CYCLIC REDUNDANCY CHECK
CRC CYCLIC REDUNDANCY CHECK

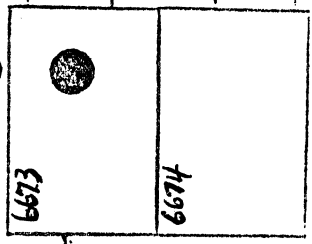
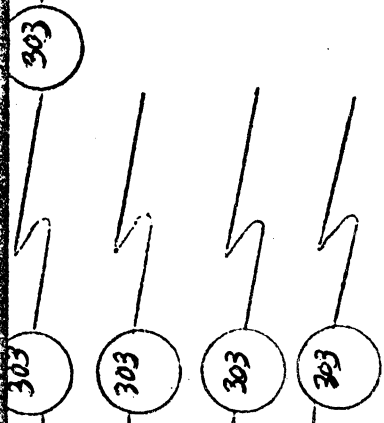
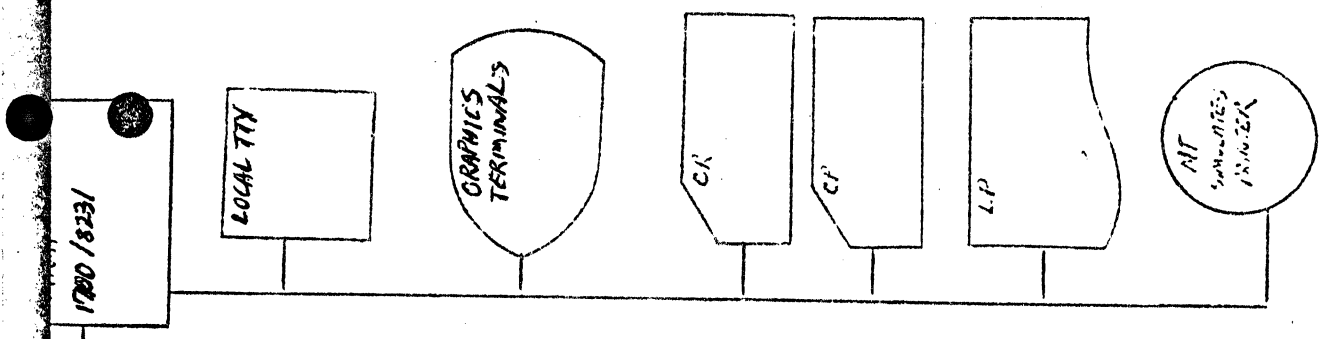
ENDING DELIMITERS



OF0 Auto load / Auto dump
 OF3 Mode 3
 OF4 Mode 4
 OF7 Mode 3-4

Upline CCP → INTERCOM
 Downline INTERCOM → CCP

7/7/21



SYNCHRONOUS
 2/4 PORTS
 WIDE BAND PROTOCOL / STREAM BASED
 40.8 K - 50KB
 NOT DOWN LINE LOADED / IMPORT ASSUMED
 TO BE RUNDING WHEN
 BRINGING UP SUBSYSTEM
 DIFFERENT IMPORT PRGS

INTERCOM, EE.

DSD (BXU)
DYNAMIC
SYSTEM
DISPLAY

1. SENSE SUBSYSTEM UP
2. CHECK EDITLIB IN PROGRESS
3. CALL 1I1

1I1
INTERCOM
INITIALIZER

1. READ EST LOOKING FOR ON DC, YC, SC, CS, FE ENTRIES
71, 16, 14, LCC, 2550
2. INITIALIZE POINTER AREA AS REQUIRED
3. READ/VALIDATE CORRESPONDING MUX SUBTABLES
4. CALL APPROPRIATE DRIVER OF INITIALIZER
5. CALL IBR, ICI, ILX, IXP, AS NECESSARY
6. STAY AROUND TO INSURE EVERYTHING CAME UP

IBR
BUFFER
MANAGER

- ASSIGN LIMBO BUFFERS
- MAINTAIN EMPTY CHAIN
- MAINTAIN INTERCOM FIELD LENGTH
- REMAIN IN PERIODIC RECALL

ICI
INTERCOM
EXECUTIVE

1. ASSIGN USER TABLES
2. PROCESS COMMAND REQUESTS
3. CONTROL EXECUTION
4. REMAIN IN PERIODIC RECALL

ILX
LOW SPEED
BATCH
PROCESSOR

1. ASSIGN AND PROCESS AUXILIARY UT (C.)
2. PROCESS BATCH COMMANDS (LOW SPEED)
3. SCAN FMT FOR OUTPUT
4. DATA CONVERSION/EXPANSION BANNING/JOB CARD PROCESSING/LACING
5. REMAIN IN PERIODIC RECALL

IXP
HIGH SPEED
BATCH
PROCESSOR

1. ASSIGN AND PROCESS AUXILIARY UT (IO)
2. PROCESS BATCH COMMANDS (HIGH SPEED)
3. SCAN FMT FOR OUTPUT
4. PROCESS INPUT, OUTPUT, GRAPHIC DATA STREAMS
5. BANNER PAGE/JOB CARD PROCESSING
6. REMAIN IN PERIODIC RCL

122
LOW SPEED DRIVER
VARIANT
INITIALIZATION
(CT71)

1. INITIALIZE MUX TABLES/HANDLER INSTRUCTIONS/LIMBO BUFFERS
2. RUN MUX TESTS/FRMTS
3. OVERLAY HIMSELF WITH MAIN DRIVER

LOW SPEED DRIVER
VARIANT
824

1. CHECK ALL TERMINALS IF POSSIBLE
2. TIMING CONSIDERATIONS
STATE ~~TABLES~~ REQUEST USER TABLE
3. REMAIN IN PPL UNTIL PRP REQUESTED

OZ2
LCC
INITIALIZER

1. SETUP THE HARDWARE
2. AUTOLOAD OZA/OZ* COMMAND LISTS
3. INITIALIZE REQUEST, RESPONSE, LINE, AND COMMAND LISTS
4. CALL 122 IF NOT ACTIVE

LCC DRIVER
122

1. INITIALIZATION 822
2. JUMP INTO MAIN LOOP
 - A. PROCESS LCC'S
 - B. EXECUTE RESPONSE ACTION
 - C. EXECUTE LINE STATE
 - D. EXECUTE STREAM STATE

OFA
2550 FRONT END
INITIALIZER

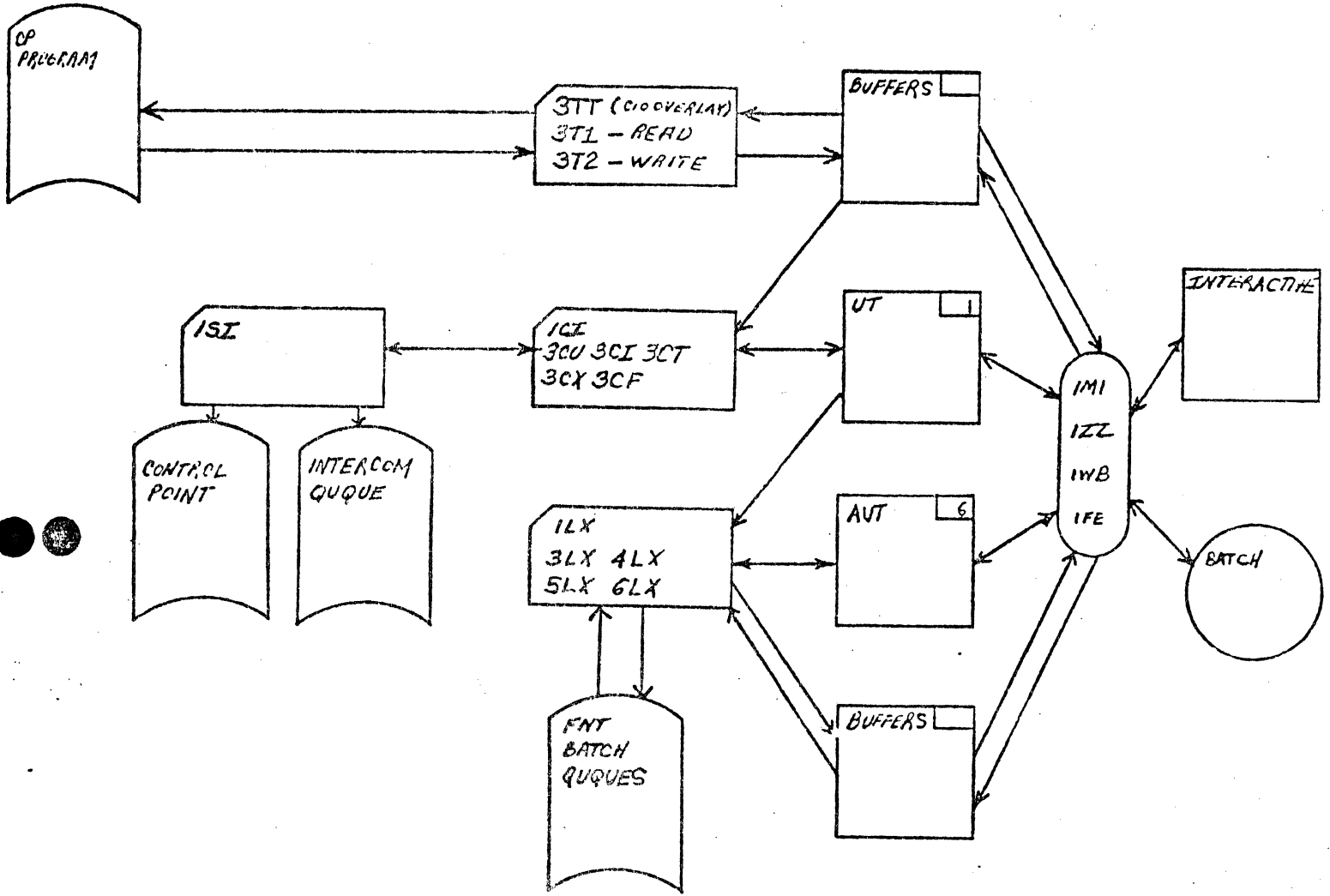
1. LOAD 8FE INTO INTERCOM POINTER AREA
2. CLEAR 2550 MEMORY
3. LOAD CONTROLWARE
4. CONFIGURE LINES
5. START UP 2550
6. CALL IFE IF NOT ACTIVE

2550 FRONT END
DRIVER
IFE

1. SET UP INTERNAL LOOPS (8FE)
2. JUMP INTO MAIN LOOP
 - A. EXECUTE BLOCK HANDLER
 - B. EXECUTE LINE STATE
 - C. EXECUTE STREAM STATE
 - D. CHECK DROP RESTART/RECALL
3. WILL GO INTO RECALL WHEN NO ACTIVITY (9FE)

IWB
WIDE BAND
DRIVER

1. CHECK FOR ACTIVE PARTS IF NOT GOING TO RCL
2. VT PROCESSING
3. COMMUNICATION CONTROL LOOP
4. GO INTO RCL WHEN ACTIVITY CEASES



OFF, EE.

1BR
BUFFER
MANAGER

SAVE PP resident
FOR 1Z*

Wait for others
to drop

RELEASE MEMORT
System
Post End Intercom
message

1CI
INTERCOM
EXECUTIVE

1 Autologout all
Terminals
2. Release ut chain
to 1BR

1LX
LOW SPEED BATCH
PROCESSOR

1. Rewind Files
2. clean up Batch
Operations
3. Release AUT'S

1XP
HIGH SPEED BATCH
PROCESSOR

1 Rewind Files
2 clean up Batch
operations
3. Release AUT'S

8Z
LOW SPEED DRIVER
VARIANT MAIN
DRIVER

1. Recognize Drop
Bits
2 overlay himself
with 1Z

1Z

1. Disconnect user tables
2. Release Limbo
Buffers
3. Run Diagnostics
4. Reload PP resident
5. Drop Driver

1Z
LCC DRIVER

1. Recognize Drop
Bits
2 overlay 9Z

9Z

1. Release Limbo
Buffers
2. Disconnect
user tables
3. output dayfile
msg
4 drop driver

1FE
2550 FRONTEND
DRIVER

1. Recognize Drop Bits
2. OVERLAY 9FE

9FE

1 Release Limbo Buffers
2. Disconnect user tables

1WB
WIDE BAND
DRIVER

1 Disconnect User Tables
2. Release Limbo Buffers

INTERCOM 4
CONTROL AND DATA FLOW

STEP 1 - DEADSTART

- P.INT
- EST ENTRIES
- MULTIPLEXER TABLES

STEP 2 - BRING UP INTERCOM

- OPERATOR VERIFIES THAT MUX IS ON
- TYPE

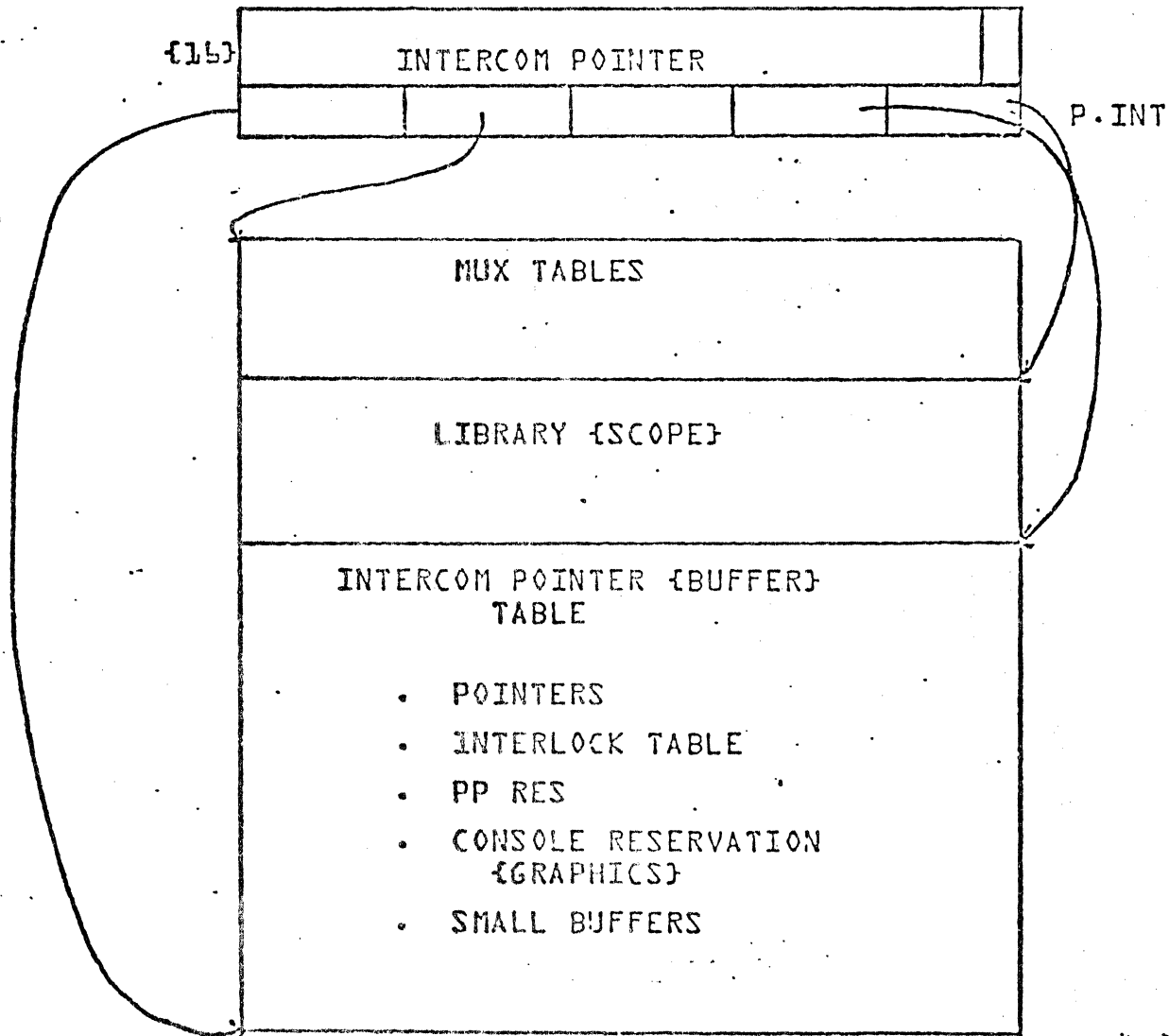
INTERCOM, CE.

- ILL IS CALLED BY DSD
 - VERIFIES CONFIGURATION
 - RESERVES SPACE FOR SMALL BUFFERS & SETS UP EMPTY CHAIN
 - LOADS REQUESTED DRIVERS
 - CALLS ICI, IBR
 - CALLS ILLX IF BATCH DETECTED

IF NO DRIVER CAME UP, ILL RELEASES
BUFFER SPACE - THEN "END INTERCOM 4.2"

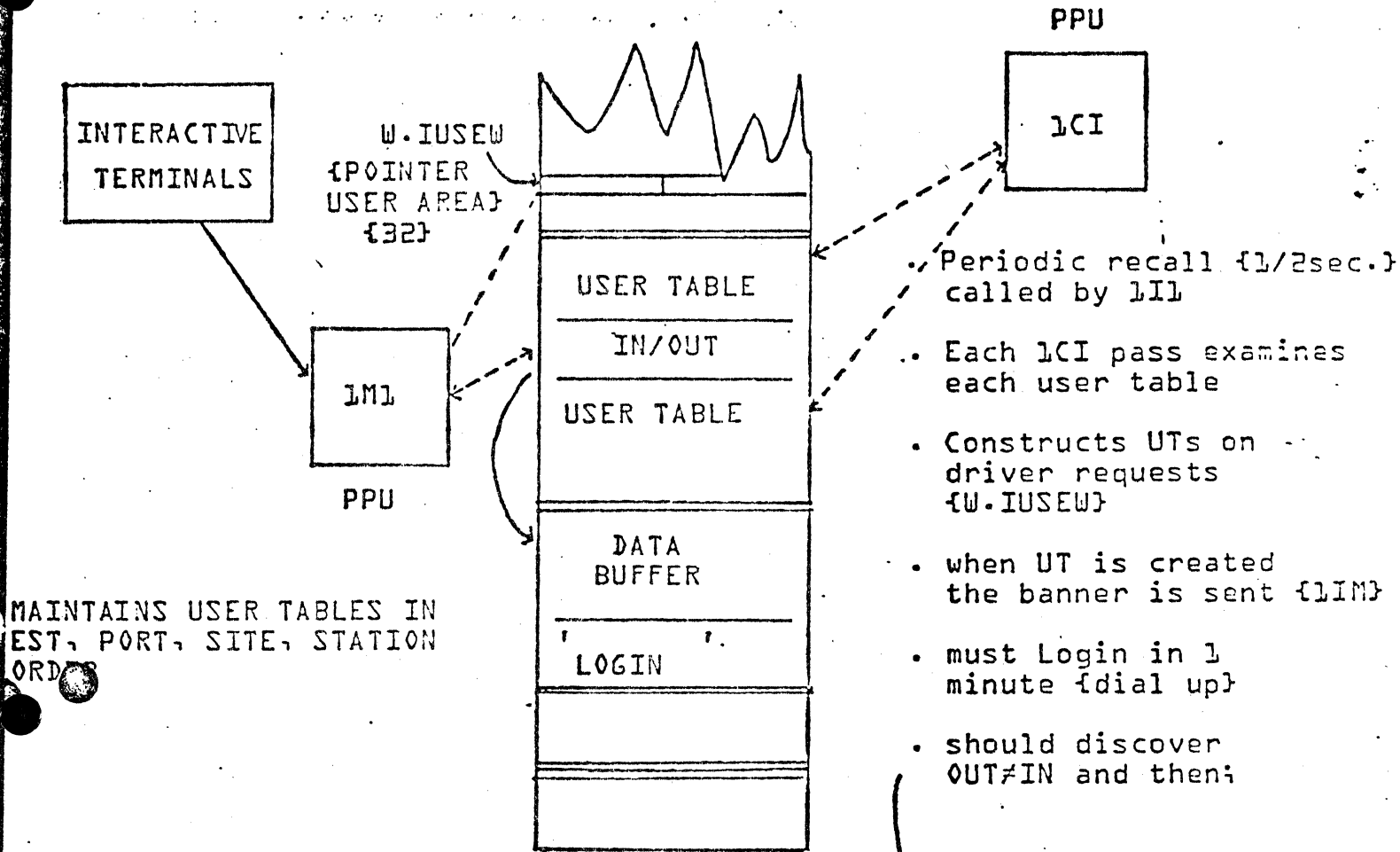
B11 INITIALIZES POINTERS AND BUFFER AREA

- Set up empty chain
- Set up pointers
 - P.INT
 - EST driver entries
 - Pointer Area
 - W.IEMBF {empty chain}
 - W.IIBR {address PPRES}
 - W.IGRES {console reservation}



CONTROL & DATA FLOW

STEP 3



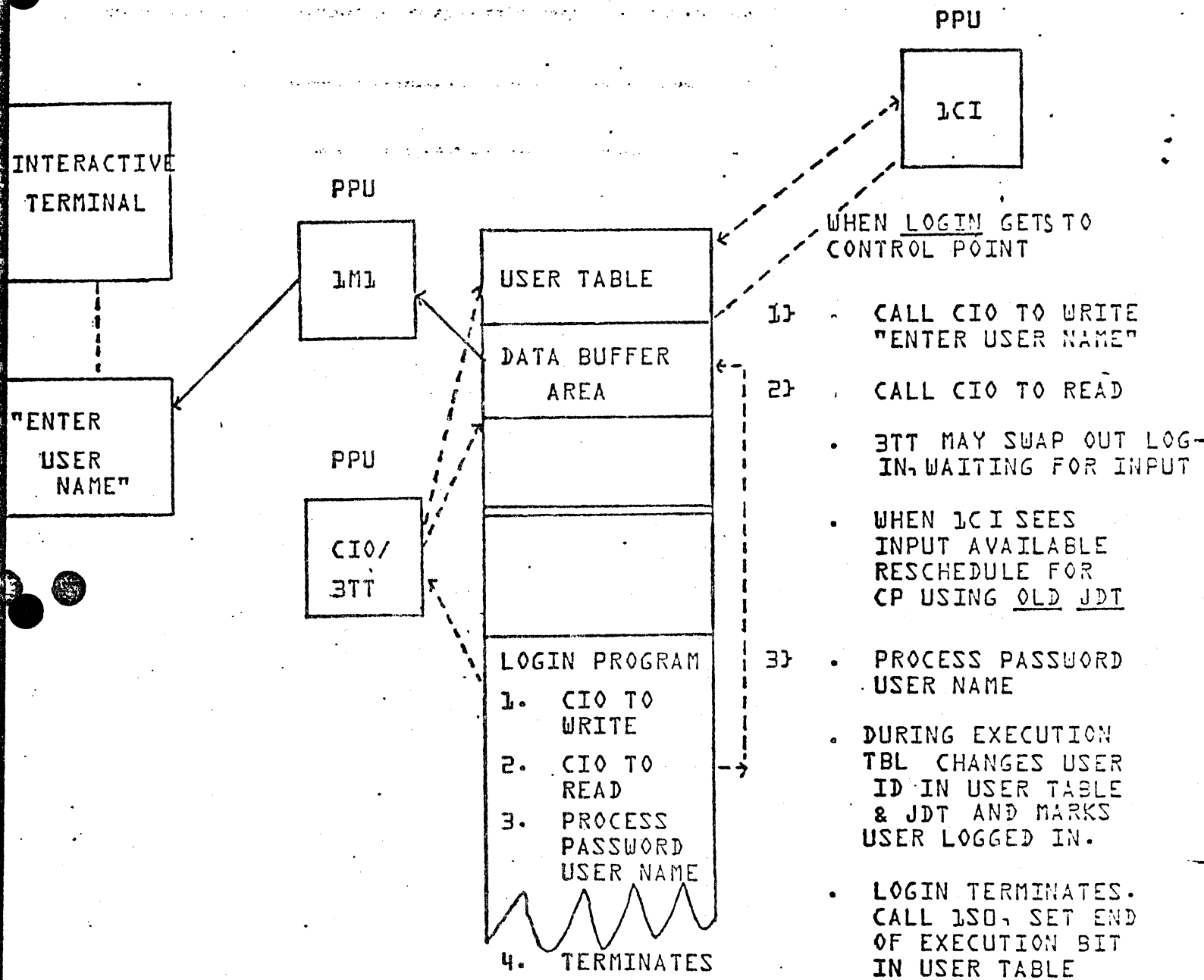
MAINTAINS USER TABLES IN
EST, PORT, SITE, STATION
ORDER

- Periodic recall {1/2sec.} called by LLI
- Each LCI pass examines each user table
- Constructs UTs on driver requests {W.IUSEW}
- when UT is created the banner is sent {LIM}
- must Login in 1 minute {dial up}
- should discover OUT≠IN and then;

- converts 1 line input from buffer to display code in LCI buffer.
- completes other UT processing before processing command.
- Format; send to SCOPE; after creating a temporary named JDT. {scheduler request} will bring LOGIN to control point.

CONTROL & DATA FLOW

STEP 4



NOW:

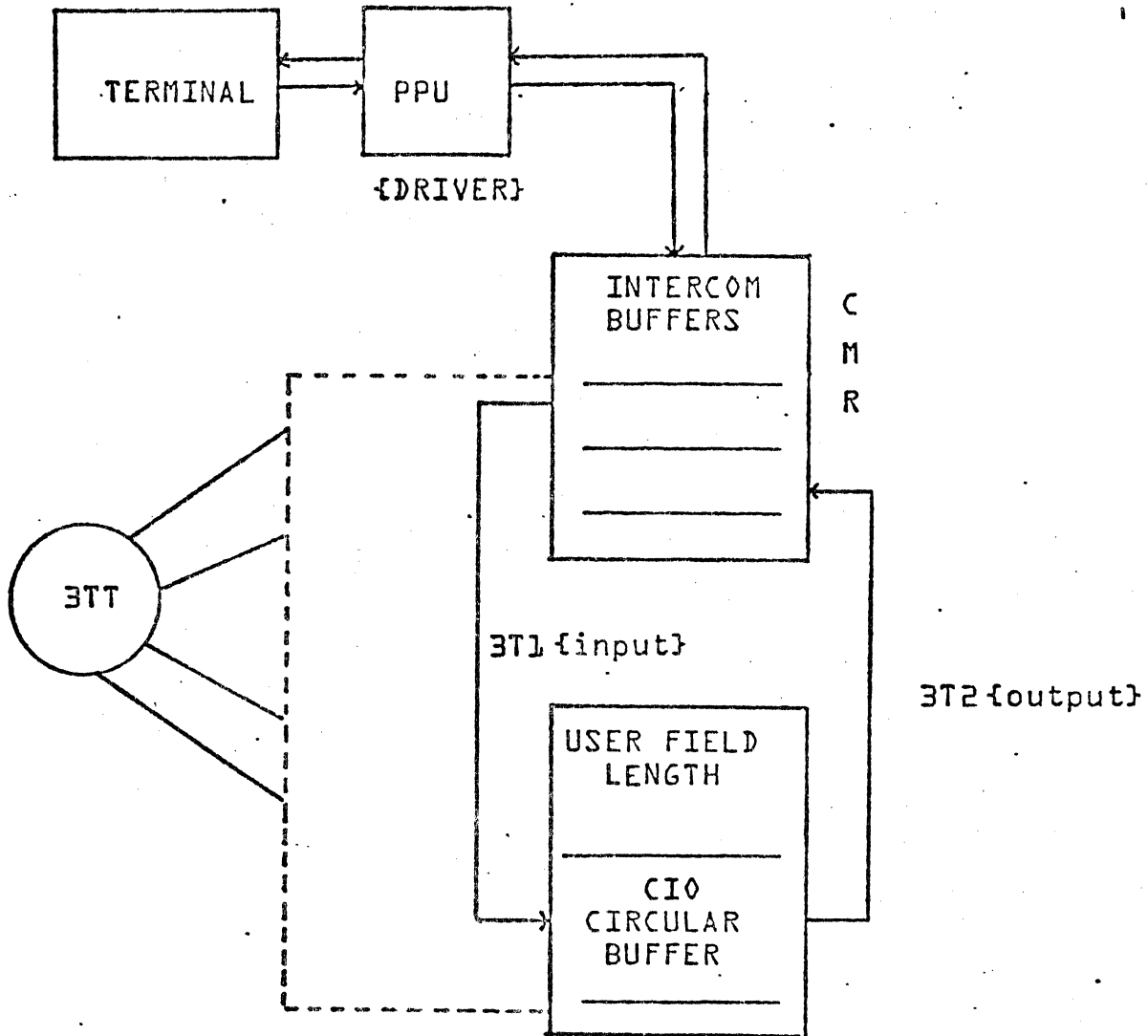
- USER HAS AN ID
- USER HAS A SWAP FILE
- ADDRESS OF SWAP FILE IN USER TABLE
- NO CURRENT JDT
- SINCE END OF EXECUTION BIT IS SET, ICI WILL ENTER COMMAND MODE.

INTERCOM 4

3TT

EVENT DRIVEN

- MEMORY TO MEMORY MOVE ROUTINE, AND OVERLAY OF CIO.
- DETERMINES WHEN A USER SHOULD BE SWAPPED OUT DUE TO I/O IMPASSE, AND DOES IT, USING SYSTEM MACROS



INTERCOM 4 FLOW RECAP

- I. 1L1 GETS THINGS MOVING AFTER CALL FROM DSD. SETS UP EMPTY CHAIN {CALLS 1CI, 1M1, 1BR}.
 - II. 1M1 {any active driver} EXECUTES DIAGNOSTICS, DETERMINES ACTIVITY. REQUESTS USER TABLES
 - III. 1CI CONSTRUCTS USER TABLES.
{WILL ESTABLISH 1/2 SECOND RECALL RATE AT CONTROL POINT ZERO.}
EACH PASS 1CI WILL {pass through each user table}
 - PROCESS COMMANDS
 - SEND SOME TO SCOPE
 - SWAP IN JOBS
 - CALL VARIOUS INTERCOM ROUTINES TO PPU TASKS.
 - SCHEDULE THE CP, AS REQUIRED.
- BATCH PROCESSING IF DETECTED WILL CAUSE 1LX TO BE CALLED TO CONTROL POINT D. THEN REMAINS ON PERIODIC RECALL DEPENDING ON ACTIVITY.
- NO ACTIVITY - 1 SEC
 - DEVICE ACTIVE - 1/2 SEC
 - DURING COPY - RESIDENT
- V. ALL INTERACTIVE I/O IS DONE BY CIO/3TT ↔ BUFFER ↔ DRIVER

Prior to going into the INTERCOM table structures, the following topics should be discussed:

1. Offered Line {2550/LCC}
2. Inoperative Condition
3. Disconnect
4. Auto Logout
5. User Abort
6. Login Timer
7. Pseudo EST
8. Terminal ID {TID}
9. User ID {UID}
10. Restart/Dynamic Dump

11. Limbo Buffers

12. Sequence Bit Processing {Mode 4}

13. Compression/Expansion

CENTRAL MEMORY RESIDENT

0		Pointers
100	T.CST	Channel Status Table
154		PP Status Words
200	T.CPA _n	Control Point Areas
	T.XPIDLA	System Exchange Packages
	T.PPC1	PP Communication Areas
	• T.EST	Equipment Status Table
	• T.FNT	File Name Table
		CIO-CPCIO Special FNTs
		Permanent File FNTs
	• T.ITABL	INTERCOM Table
	• T.DAT	Device Activity Table
	• T.RMSBUF	RMS Buffer
	• T.STG	Tape Staging Table
	T.APF	Attached Permanent File Table
	T.EXPIO	CYBER 176 Exchange Package and I/O Buffers
	T.CHT	Channel Table
	T.UQT	Unit Queue Table
†	T.RQS	Request Stack
	T.RST	Request Scheduling Table (RMS)
	T.RBR	Record Block Reservation Table (Headers)
	T.RBRBIT	RBR Bit Table
	T.DST	Device Status Table
	T.TRB	Trace Buffer
	T.SEQ	Sequencer Table
	T.INS	Installation Area
	T.MST	Mounted Set Table
	T.DDT	Dismounted Device Table
	T.VRNBUF	VSN Buffer
	T.TAPES	Tapes Table
	T.MAIL	Scheduler Mailbox Buffer
	T.IDT	Logical ID Table
	T.DFB	Dayfile Buffers
	T.PJT	Parameter Storage for Delayed PP Jobs
	T.SSCT	Subsystem Control Table
	T.SCHPT	(Optional) Scheduler Statistics
	T.SCHJCA	Scheduler Job Control Area
	T.SCHJDT	Scheduler Job Descriptor Table
	T.ELST	Error Logging Status Table
	T.BCFAP	CPMTR CEFAP Buffer

T.PPOVL	PP Resident Overlay Save Buffer
T.AREA	Area Table (ECS System)
T.ENTRY	Entry Table (ECS System)
T.DOT	Device Overflow Table
	CM Resident Programs (Disk System)
	Segmented System Areas (ECS System)
T.BRKPT	Breakpoint Table (ECS System)
T.EPAGE	Empty Page Stack
T.ECSPRM	ECS Parameters
T.LIB	Library Directory
	INTERCOM Pointer Area
	INTERCOM Small Buffers and User Tables

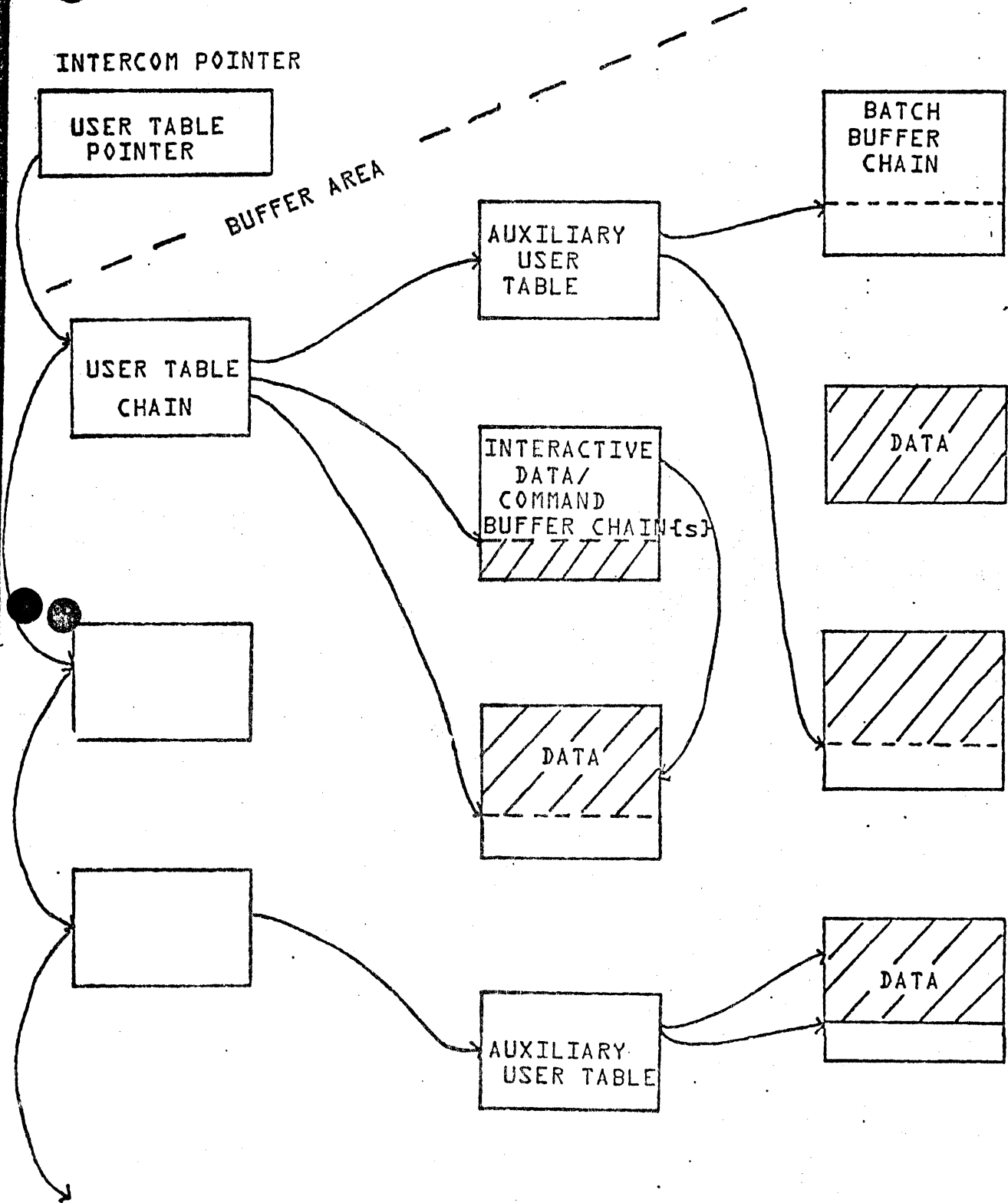
(Job control point user field length)	

T.RBT	RBT Chains

• Table Must Begin Before 10000B
 † Table Must Begin Before 20000B

INTERCOM 4.2

CENTRAL MEMORY BUFFERING SCHEME



TABLES AS THEY PERTAIN TO INDIVIDUAL USER

ST		UNIT	EQ	EQ TYPE	INDEX
MUX HEADER 2 WORDS					
MUX SUBTABLE HEADER (1-2 WORDS)					
:					
ST	KEY	1ST UT ADDRESS			TERMINAL TYPE

LINKING	AUT	TID		
FNTLP				
OUT	IN			
		OUT	OUT	
FNTCR				
IN	OUT			
		IN	IN	

NEXT	UT INCHAIN	UID		C. B. STAT	0			
	TID				1			
			MUX		2			
					3			
IN	OUT	IN	IN		4			
OUT	IN	OUT	OUT		5			
					6			
					7			
EST	PORT	SITE	STAT	C	AUT	POINTER	TERMINAL TYPE	10
DRIVER		WORDS						11
								12
								13
								↑
								↓
								17

INTERACTIVE IN

LINKING BUFFER	OWNING UT	3
5 CHARACTERS / CM WORD ASCII DATA		

0 if last	OWNING UT
-----------	-----------

INTERACTIVE SVT

LINKING BUFFER	OWNING UT	2
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0 if last	OWNING UT
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PRINTER

		2
--	--	---

--	--

CR

		3
--	--	---

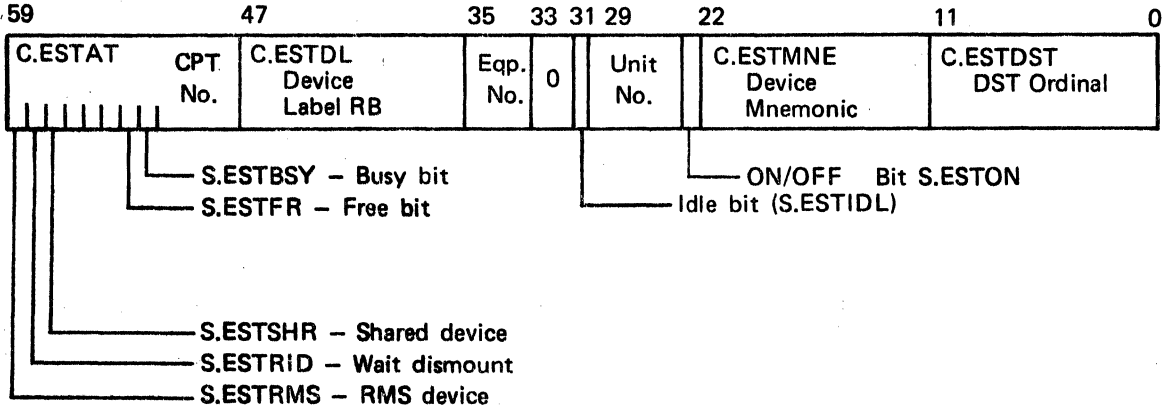
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CMR POINTER AREA

	59	47	35	29	23	11	0		
P.AAZ	Absolute address zero							0	
P.LIB	C.DIRFWA A	FWA of Library Directory		LWA+1 Library Directory		C.DSFLAG Deadstart Load Flag		1	
P.RBR P.RBT P.CMLWA	C.RBRAD	FWA of RBR Area		C.RBTEC RBT Ordinal of Empty Chain	Length/100B of RBT Area	C.CMLWA (LWA+1)/100B of CM		2	
P.NPP P.NCP P.DFB	FWA/10B of Dayfile Buffer	(Reserved)			C.NPP No. of PPs	C.NCP No. of CPs		3	
P.SEQ P.FNT P.HEC	C.FNT FWA of FNT	C.FNTLWA LWA+1 of FNT	C.SEQ T.SEQ/10B	C.SEQL LSEQ	C.HCC Hardware Error Count			4	
P.CST P.PCOM P.EST	C.EST FWA of EST	LWA+1 of EST	C.CST FWA of CST	C.CSTL LWA+1 of CST	C.PCOM Address of Comm Area PP1			5	
P.PFM1	(Reserved)	C.APFL No. of APF Entries	C.APF FWA of APF		C.PFMCH Interlock Byte			6	
P.MST P.DDT P.DSMO	C.DSMO sys. set def. PF set	C.NDDT N.FDDT N.VDDT	C.DDT T.DDT/10B	C.NMST LMST	C.MST T.MST/10B			7	
P.INS	(Reserved for Installations)							10	
P.EIRPR	C.LEPAGE L.ECSTK+1	C.ECSPRM T.ECSPRM		ICC Area Address				11	
P.ELBST	Maximum Length/ .1000B of ECS Library File	ECS Flow Table Address			ECS Page Stack Address			12	
P.RQS	C.DAT T.DAT	C.DATL L.DAT	C.RQSFS FWA/2 of Request Stack	No. of DST Entries		FWA/10B of DST		13	
P.TAPES	C.TAPES T.TAPES/10B	L.TAPES	Reserved					14	
P.STG P.URT	C.URT T.URT/10B	L.URT	Reserved					C.STG T.STG	15
P.INT	C.INT/C.IFL (LWA+1)/100B of INTERCOM	C.ITABL FWA of Multiplexer Table	C.IBUFF B	FWA of INTERCOM Pointer and Buffer Area			C.ILTABL Length of Multiplexer Table	16	
P.MFL							C.MFL max. job FL/100B	17	

EQUIPMENT STATUS TABLE

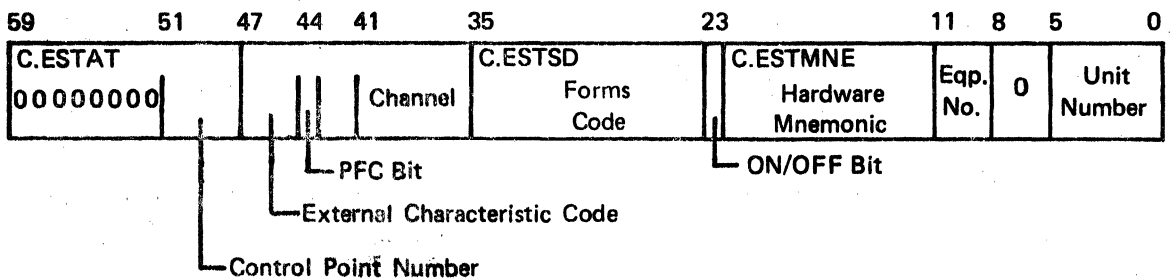
EST FOR RMS DEVICE



USE OF FREE, BUSY BITS

Free	Busy	
0	0	Unavailable device
1	0	Dismounted device
0	1	Mounted device
1	1	Device in process of being dismounted

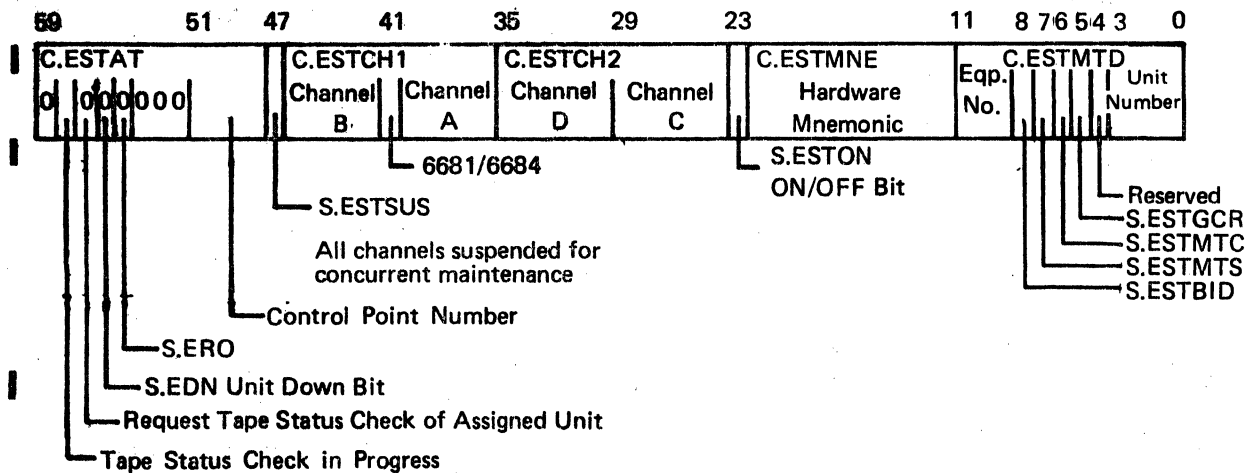
UNIT RECORD EQUIPMENT ENTRY



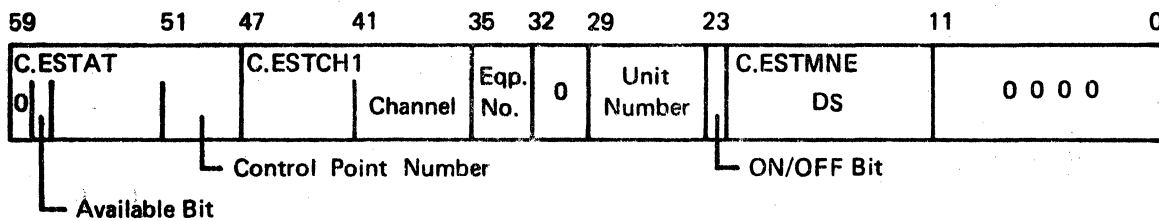
Controller Type:

010 = 66x MTS
 100 = 67x ATS
 110 = 66x Block ID MTS

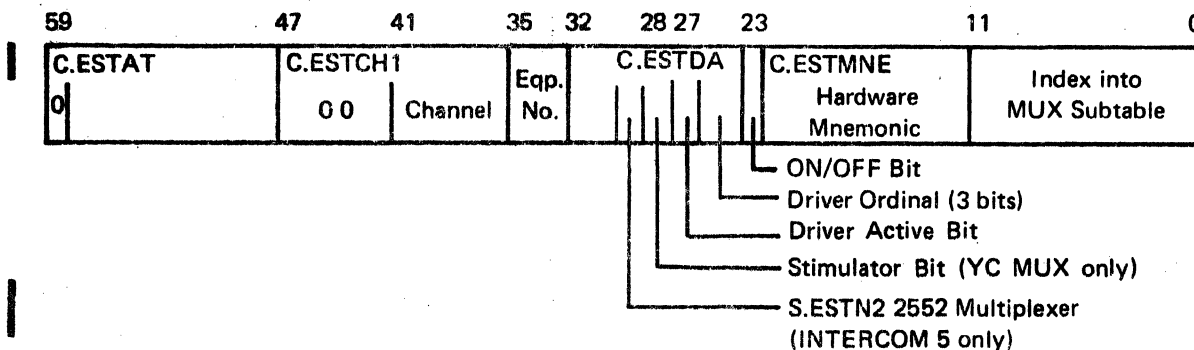
MAGNETIC TAPE ENTRY



6612 DISPLAY CONSOLE ENTRY



MULTIPLEXER ENTRY



INTERCOM MULTIPLEXER TABLE

	59	47	41	35	23	11	0
W.IUSID W.ICOM	C.ITUSID Last User ID Assigned	C.I1BR Drop Flags	C.IUPF Up Flags	C.INTDSD DSD Flags	C.I1LX 1LX Flags		0
W.IENDLS W.IDEBUG	C.I1SFL (LWA+1)/100B of Small Buffers	C.IFBUFR 0 0	FWA of Small Buffers			C.IDEBUG Driver Debug Flags	1
	Multiplexer Subtables (One Subtable per MUX)						2

NOTES: INTERCOM MULTIPLEXER TABLE

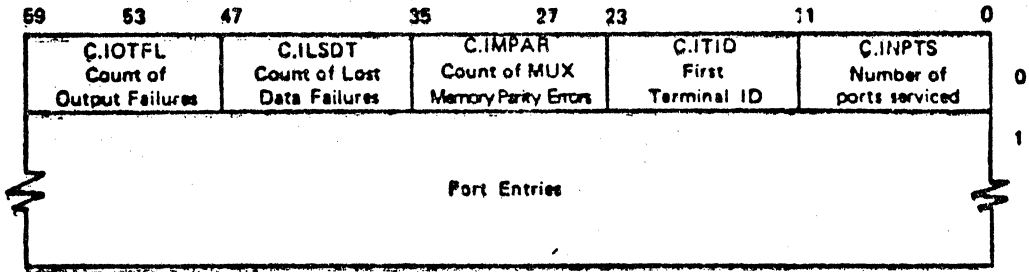
W.ICOM(0)	C.I1BR(1)	Multiplexer Table Header - Communications
Bit 0	S.IEDIT	EDITLIB active
1	S.I111	111 initialization active
2	S.I1BR	1BR drop flag
3	S.I1DI	Driver-initializer active

W.ICOM(0)	C.IUPF(2)	
Bit 5	S.I1CI	1CI up
6	S.I1DD	Driver up

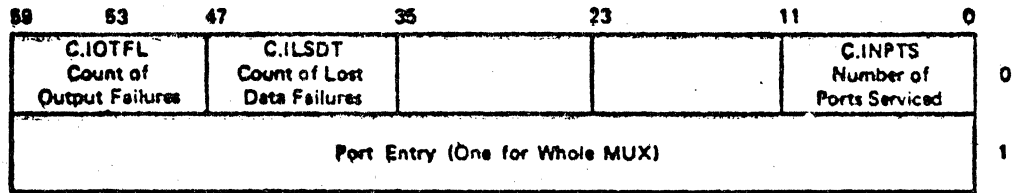
W.ICOM(0)	C.INTDSD(3)	
Bit 0	S.INIDRP	INTERCOM drop requested flag
1	S.INRST	Restart in progress
4	S.I1LKOUT	LOGIN locked out
5	S.I1CI	1CI drop requested
6	S.I1DD	Driver/1LX drop requested

W.ICOM(0)	C.I1LX(4)	Two bit count of active 1LXs for each driver
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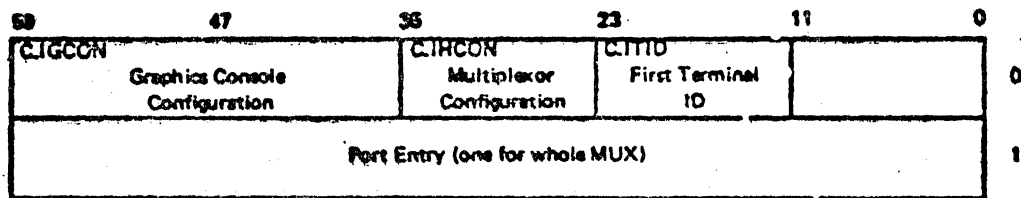
6671 MULTIPLEXER SUBTABLE



6676 MULTIPLEXER SUBTABLE

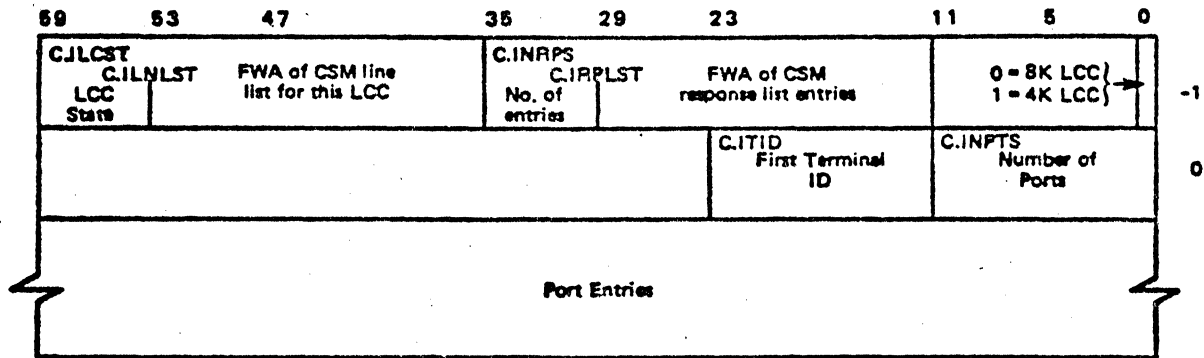


6673/6674 MULTIPLEXER SUBTABLE

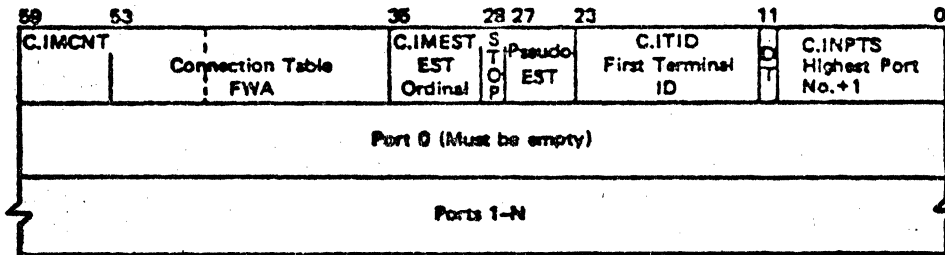


Byte C.IGCON 24 bits representing 24 possible consoles (00 to 3B) from left to right.

LCC MULTIPLEXER SUBTABLE

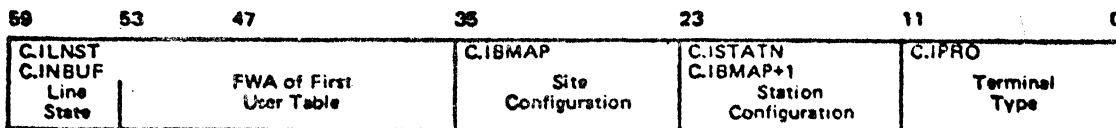


2550 NPU MULTIPLEXER SUBTABLE



- C.IJMCNT**
Bits 05-00 Upper 6 bits of Connection Table FWA
- C.IJMCNT+1**
Bits 11-00 Lower 12 bits of Connection Table FWA
- C.IJEST**
Bits 11-06 EST Ordinal
05 Reserved
04 Request-To-Stop-NPU-Service Bit
03-00 Pseudo EST
- C.ITID**
Bits 11-00 First terminal ID
- C.INPTS**
Bits 08-00 Highest port number + 1. The line entry for port 0 must be empty. A communication line must not be connected to port 0.
10-09 Reserved
- S.IJBDMP**
Bits 11 Dump type = 0 - Display Code dump
= 1 - Binary dump

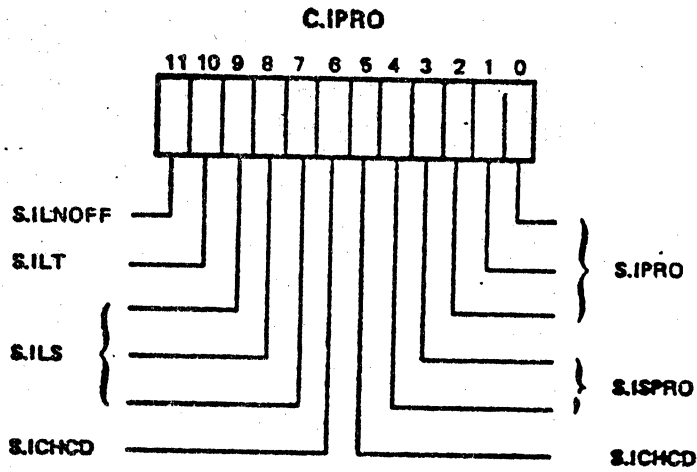
SUBTABLE PORT ENTRY



Bit map of streams configured by 73x-10. Replaces site and station address for these terminals.

C.IBMAP+1(3)

Bit	0	Unused		
	1	Stream	0	Configured (IDS output)
	2	Stream	2	Configured (CRT)
	3	Stream	8	Configured (CP1)
	4	Stream	12	Configured (LP4)
	5	Stream	10	Configured (LP3)
	6	Stream	6	Configured (LP2)
	7	Stream	4	Configured (LP1)
	8-15	Unused		
	16	Stream	1	Configured (IDS input)
	17	Stream	3	Configured (KBD)
	18	Stream	7	Configured (CR2)
	19	Stream	5	Configured (CR1)
	20-22	Unused		



SILNOFF

Bit 11 Line offed = 0 on
= 1 off

SILT

Bit 10 Line type = 0 Dial-up
= 1 Hard-wired

SILS

Baud rate indicated by the line speed field is protocol dependent.

Bits 09-07	Line speed = 0	Mode 2	Mode 3	Mode 4	Wide Band
	0	—	110	—	—
	1	—	134.5†	—	—
	2	—	150	—	—
	3	—	300	—	—
	4	2000/2400	600††	2000/2400	—
	5	4800	1200††	4800	—
	6	9600	—	9600	—
	7	19200+	†††	—	19200+

†134.5 BPS not supported.
††600 and 1200 BPS allowed for 255x front end only.
†††Indicates Auto Baud Recognition (allowed for 255x front end only).

S.ICHCD Character Conversion = 0 ASCII
 = 1 External BCD
 = 2 Display Code

S.ISPRO Subprotocol
 If mode 4 terminal = 1 Mode 4A
 = 2 Mode 4C
 If wideband terminal = 1 Batch only
 = 2 Interactive

S.IPRO Protocol field = 0 Empty
 = 1 Mode 3
 = 2 Mode 4
 = 3 Mode 2
 = 4 Wideband

DEVICE ACTIVITY TABLE ENTRY

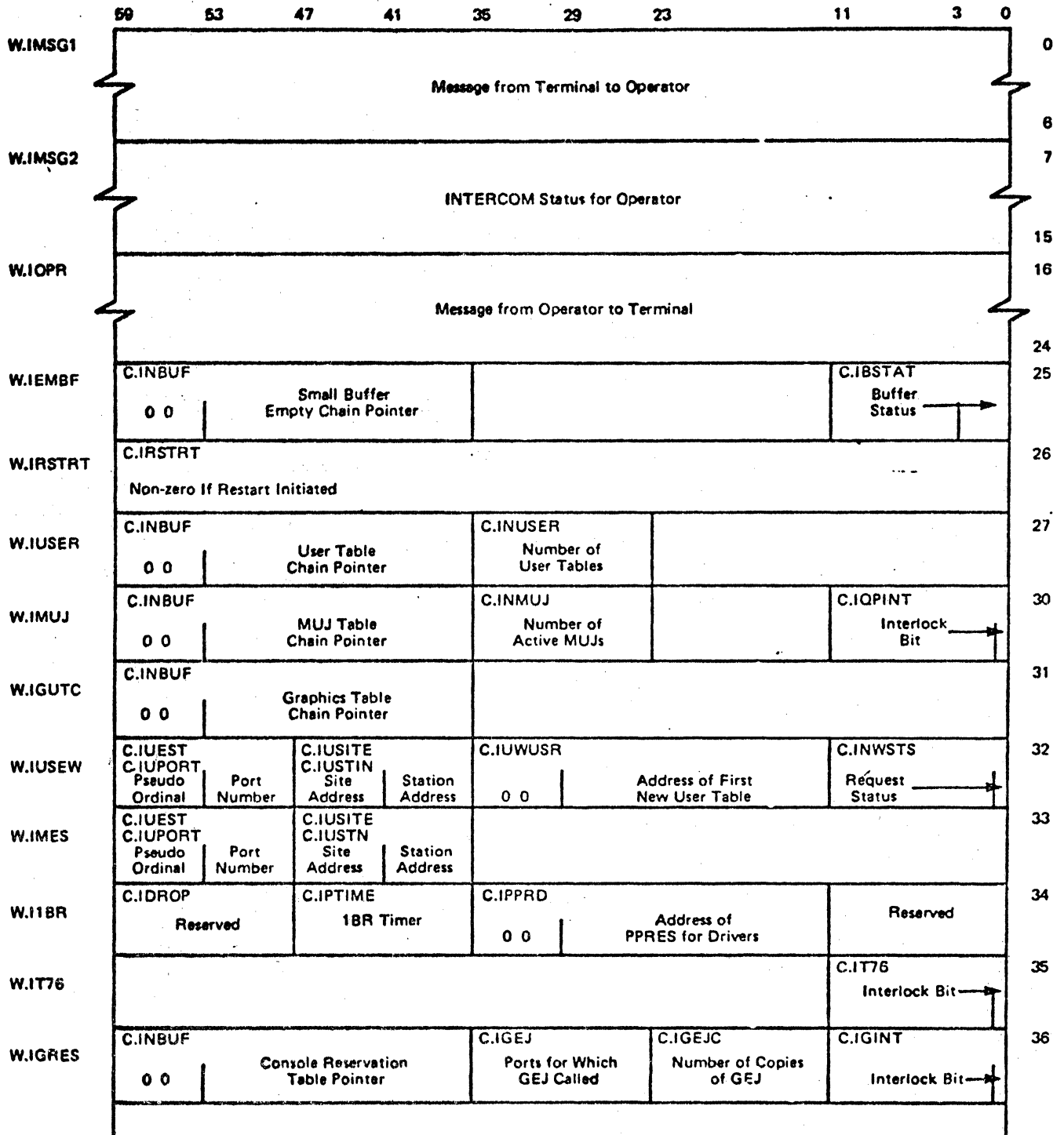
	59 57	47	41	35	23	11	0
	X Y	C.DATDST DST Ordinal	C.DATEQP Eqp. Type	C.DATACT Activity	C.DATREV FCO	Count Maintained By SPM	
W.DATSTA			C.DATNFC New File Count	C.DATPRU PRU Weight	C.DATWAT 1SP	C.DATSR Stack Req. Weight	
W.DATSUM		C.DATACT Controller Activity	C.DATNFC Pre. Newfile Count	C.DATPRU Previous PRU Count/10B	C.DATWAT Previous (Bypass Count)	C.DATSR Previous S.R. Count	
W.DATIL		Set By SPM			Set By 1SP		
		I/L Address	Member ID+1	DDT Ord	EST Ord	I/L Broken If ≠0 (EST)	

X = Controller on = 0, off = 1
 Y = Controller auto-loaded, yes = 0, no = 1
 FCO = Controlware revision level
 W.DATIL can be cleared only by 1SP

DUMMY ENTRY FOR DUAL ACCESS DEVICE

	59 57	47	35	23	11	0
X Y	0	(Reserved)	(Reserved)	(Reserved)	(Reserved)	(Reserved)
	(Reserved)					
	(Reserved)					
	(Reserved)					

INTERCOM POINTER AND BUFFER AREA



INTERCOM POINTER AND BUFFER AREA (CONTD)

	59	53	47	41	35	29	23	17	11	5	0		
W.ILCC	C.IS1ZZ 00	Pointer to FWA of 8ZZ Area				C.IS2ZZ 00	Pointer to FWA of LCC Overlay Area				Unused		37
W.ICTBL	C.IS1FE 00	Pointer to FWA of 8FE Area				C.ICNCT 00	Pointer to FWA of Connection Table				C.ICNUM Num. of NPUs		40
W.IPEST		Pseudo EST 1		Pseudo EST 2		Pseudo EST 3		Pseudo EST 4		Pseudo EST 5		41	
W.IPES2		Pseudo EST 6		Pseudo EST 7		Pseudo EST 8		Pseudo EST 9		Pseudo EST 10		42	
W.IPES3		Pseudo EST 11		Pseudo EST 12		Pseudo EST 13		Pseudo EST 14		Pseudo EST 15		43	
W.IDCA	C.IDCA	Pointer to DCA				C.ILEDCA Size of DCA		Unused				44	
W.I9ZD	C.I9Z9 00	FWA of 9ZD				C.IC59ZD 9ZD Checksum		C.IL9ZD Length of 9ZD				45	
W.IBBUF	C.IBBUF 00	FWA of First 1LX Buffer				C.IBBAV Buffer Available						46	
W.IINT	INTERCOM Interlock Table												
	Driver Communication Area (DCA)												
	LCC 8ZZ Area												
	LCC Overlay Area												
	NPU 8FE Area												
	NPU Connection Table												
	Console Reservation Table												
	PP Resident for Drivers												
	9ZD-Driver Dump Program												
	1LX CM Buffers												

Only Present
If LCC's in
the EST

Only Present
If 2550's in
the EST

Only Present
If Graphics
Defined

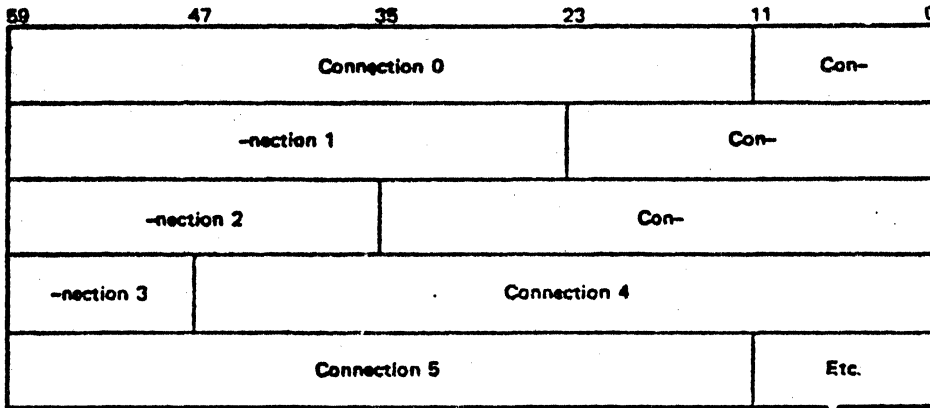
INTERCOM INTERLOCK TABLE

	59	53	35	29	11	0		
W.IINT (System Word)	C.IINTWD 0 0		Address of Word Interlocked		C.IINTPP 0 0		Name of PPU with Interlock	
(Driver Word 1)	C.IINTWD		C.IINTPP		C.IINTDP		Driver Flags	
(Driver Word n)	C.IINTWD		C.IINTPP		C.IINTDP			
(1 BR Word)	C.IINTWD		C.IINTPP					

CONSOLE RESERVATION TABLE

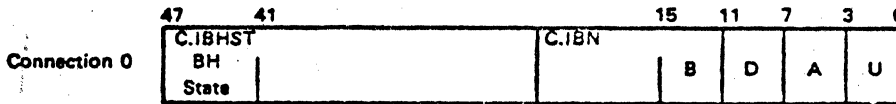
	59	53	35	23	11	0		
	C.IGAV C.IGWT1		C.IGWT2		C.IGUTA			
	Flags		Address of First Queued User Table		Address of Second Queued User Table		Address of Attached User Table	
	C.IGAV C.IGWT1		C.IGWT2		C.IGUTA		IP.IGCON-1	
	Filler to 208 Word Boundary							

INTERCOM CONNECTION TABLE



Each Connection Table entry contains 4 bytes (48 bits).
It is used by the Front End.

CONNECTION TABLE ENTRY FORMATS



C.IBHST

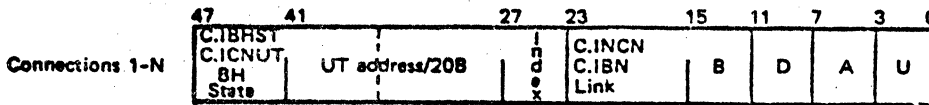
Bits 11-06 S.IBHST Block Handler state
 LIBHST Block Handler state length

C.IBN

Bits 03-00 S.ILBOBN Block Serial Number (BSN) of last BACK-ed
 downline Service Message (SM) block. (B)

C.IBN+1

Bits 11-08 S.ILSOBN BSN of last downline SM block sent. (D)
 07-04 S.ILBIBN BSN of last BACK-ed upline SM block. (A)
 03-00 S.ILRIBN BSN of last upline SM block received. (U)
 LIBN BSN field length



C.IBHST

Bits 11-06 S.IBHST Block Handler state
 LIBHST Block Handler state length

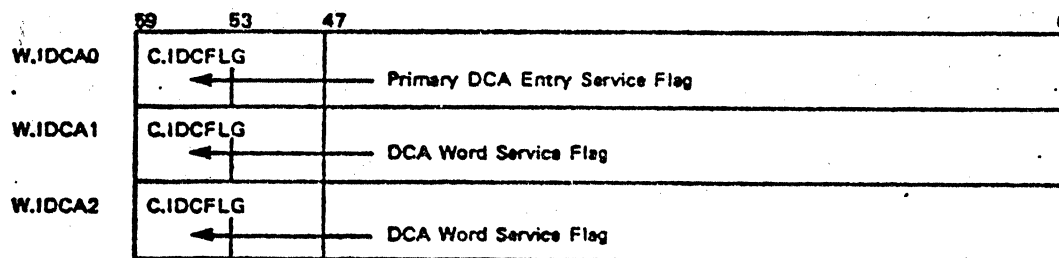
C.ICNUT

Bits 05-00 Upper 6 bits of User Table (UT) address/20B

C.ICNUT+1			
Bits	11-04 03-00		Lower 8 bits of UT address/20B Stream Index
C.INCN			
Bits	11-04	S.INCN	Ordinal of next linked Connection Table entry.
C.IBN			
Bits	03-00	S.ILBOBN	Block Serial Number (BSN) of last BACK-ed downline block. (B)
C.IBN+1			
Bits	11-08 07-04 03-00	S.ILSOBN S.ILBIBN S.ILRIBN LIBN	BSN of last downline block sent. (D) BSN of last BACK-ed upline block. (A) BSN of last upline block received. (U) BSN field length.

INTERCOM DRIVER COMMUNICATION AREA (DCA)

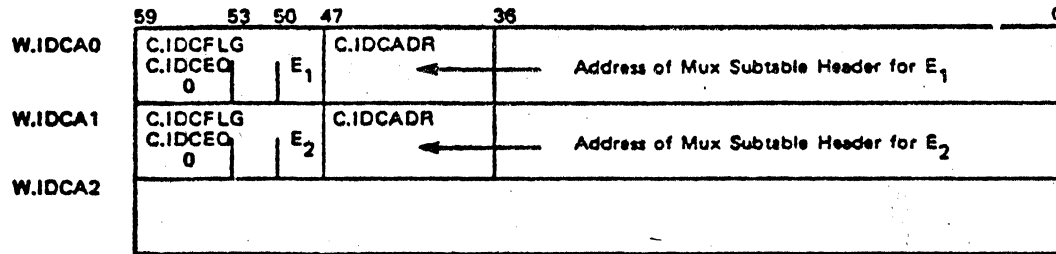
STANDARD DCA ENTRY



W.IDCA0
C.IDCFLG
 Bits 11-06 S.IDCFLG
 0=No service required from standard INTERCOM service routines for any word in this DCA entry.
 1-77B=Service required for entire DCA entry.

W.IDCA1 and W.IDCA2
C.IDCFLG
 Bits 11-06 S.IDCFLG
 0=No service required from standard INTERCOM service routines for this word.
 1-77B=Service required for this word.
 The primary DCA entry flag (in W.IDCA0) must be non-zero for service to occur.

2550 FRONT END NPU DRIVER DCA ENTRY



W.IDCA0

C.IDCFLG

Bits 11-06

S.IDCFLG

0=No service required from standard INTERCOM service routines.

L.IDCFLG

Service flag field length.
Reserved.

05-03

C.IDCEQ

Bits 02-00

S.IDCEQ

Equipment number of 1st NPU on channel (E₁).
Equipment number field length.

L.IDCEQ

C.IDCADR

Bits 11-00

Address of Mux subtable of 1st NPU on channel.

W.IDCA1

C.IDCFLG

Bits 11-06

S.IDCFLG

0=No service required from standard INTERCOM service routines.

05-03

Reserved.

C.IDCEQ

Bits 02-00

S.IDCEQ

Equipment number of 2nd NPU on channel (E₂).

C.IDCADR

Bits 11-00

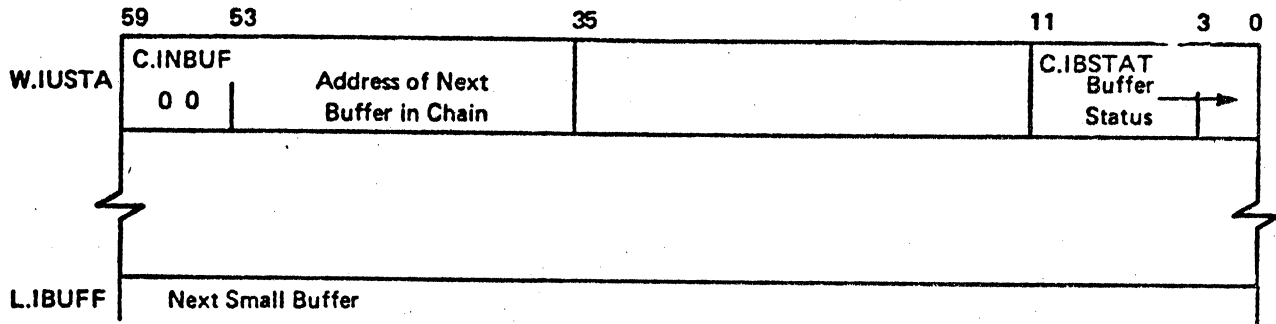
Address of Mux subtable of 2nd NPU on channel.

W.IDCA2

Reserved.

INTERCOM BUFFER AREA

SMALL BUFFERS (20B Word Boundary)



Byte C.IBSTAT
Bits 3-0

S.ITYPE

Buffer Status

- =0 Empty
- =1 User table
- =2 Data output/job card
- =3 Data input
- =4 Interactive control cards
- =5 Multi-user job table (MUJ)
- =6 Low speed auxiliary user table (AUT)
- =7 Graphics job
- =10B Wide band auxiliary user table (AUT)
- =12B Limbo buffer

USER TABLE

	59	53	47	41	35	29	23	11	5	0		
W.IUSTA	C.INBUF 0 0		Address of Next User Table			C.IUSID User ID		C.ITIME Timer		C.IBSTAT Buffer Status	0	
W.IUCMD W.IUIUP W.IUTID	C.IUCMD Command Ordinal		C.IUTID Terminal ID		C.IUIUP C.IUCCA Flags		Address of Control Statement		C.IUSTAT User Status		1	
W.IUMUJ	C.IUMORD MUJ Ordinal					C.IUMJP 0 0		Address of MUJ Table		C.IUMJS MUJ Status	2	
Swap In	C.IUJDA 0 0		Address of JDT							C.IUFILE		
W.IUFST	C.IUEQC Swap Equipment		C.IUFRB Swap First RBT		C.IUFL Swap Field Length/100B		C.IUPFL Positive Field Length/100B		Flags	File Count	3	
Swap Out	C.IDINOT C.IDPPTR A		Interactive Input OUT Pointer and Byte			C.IDININ C.IDDPTR B		Interactive Input IN Pointer and Byte		C.ISIZPG Page Size		4
W.IOTPUT	C.IDOTIN C.IDPPTR A C D		Interactive Output IN Pointer and Byte			C.IDOTOT C.IDDPTR B		Interactive Output OUT Pointer and Byte		C.ISIZLN C.IMXL E Line Length		5
W.IDSPUT W.ISDOT W.ISDIN W.IGFLGS	Special Directive									C.IGSON C.IGFLGS	6	
W.IUSTAT W.IJBCRD W.IFLGS	C.IDVTL Line Printer Divert ID		C.IDVTC Card Funch Divert ID		C.IJBCRD 0 0		Address of Job Statement Buffer		C.IXSTAT Export Status		7	
W.IUEQP	C.IUEST C.IUORT EST Ordinal Port Number		C.IUSITE C.IUSTN Site Address Station Address		C.IUAUT C		Address of Auxiliary User Table		C.IUPRO A Terminal Type		10	
W.IUDRV1	Driver Word 1 (Driver Dependent)										11	
W.IUDRV2	Driver Word 2 (Driver Dependent)										12	
W.IUAFT	C.ICUFL Current FL/100B		C.IMXFL Maximum FL/100B		C.ICUTL Current Time Limit		C.IMXTL Maximum Time Limit		C.IMXFI Maximum Number of Files		13	
W.IUAPP W.IUACP	C.IUACS C.IUACCS Access Level		C.IUFLGS User Flags		C.IUACP Accumulated CP Time						14	
W.IULCMD	Last Command for Operator										15	
W.IUATIM	0 0		Date of LOGIN (YYDDD)				Time of LOGIN (HHMM)				16	
W.IINS	Reserved for Installations										17	

44

USER TABLE DRIVER WORDS

6671/6676 DRIVER

	59	47	35	29	23	17	11	0			
W.IUDRV1	C.IUDRET Return Address In PPU		C.IUDCNT Number of Character Left on CRT		C.IDSTAT C.IUDRXT RXT Counter		Status	C.IUDECD C.IUDCCD Last Con- trol Code	Last E Code	C.IUDSTA Station Info/ Message Type	11
W.IUDRV2	Partially Transmitted Output Word										12
6671 6676	Current Input/Output Word										

6673/6674 DRIVER

	59	47	35	23	11	0					
W.IUDRV1	C.IHOPAS Pass Counter		Driver Temporary Storage								11
W.IUDRV2	C.ISYNC Number of Sync Errors		C.ICYCL Number of Cyclic Errors		C.IIO Number of I/O Errors		C.IDSEQ Number of Sequence Errors		C.ITOTRX Number of Retransmissions		12

LCC DRIVER

	59	53	47	41	35	29	23	17	11	5	0				
W.IUDRV1	C.ISTST Output State		Input State	C.IBCNT Input Byte Count		C.IBPOS C.IDININ Physical Line Input IN Pointer and Byte			C.IHCNT Number of Character on CRT			11			
W.IUDRV2	First AUT Stream State		Number	Second AUT Stream State		Number	Third AUT Stream State		Number	Fourth AUT Stream State		Number	Fifth AUT Stream State	Number	12

2550 DRIVER

	59	53	47	39	35	11	0	
W.IUDRV1	C.ISTST Stream State		C.ISTFL Connection Number		C.IDOTOT Temporary Pointer, Display Output		C.IHCNT Number of Characters on CRT	11
W.IUDRV2	C.IBSS1 Batch Stream States		C.IBSS2 C.ISTEX		C.IDININ C.IXOTOT Temporary Pointer		C.IHCNT Number of Characters on CRT, Last Write	12

NOTES: USER TABLE

W.IUSTA(0)		C.IBSTAT(4)	
Bit	4	S.IDISC	Terminal Disconnected
	5-6	S.ILOGO	00 = user logged out
			01 = user logged in
			10 = auto-logout requested
			11 = auto-logout in progress
	7-8	S.ISTATE	00 = transmission state
			01 = waiting input
			10 = waiting output
	9	S.IRDIS	11 = active or assigned to control point
	10	S.IUTAPE	Request disconnect
	11	S.IABRT	Request paper tape reading
			Abort request
W.IUIUP(1)		C.IUCCA(2)	
Bit	6	S.IUCCP	Control statements moved to control point area
	7-10	Unused	
	11	S.IUEDC	Buffer contains control statements sent from EDITOR
W.IUCMD(1)		C.IUSTAT(4)	
Bit	0-5		Used by IDS to determine type of H display wanted
	6	S.ICMES	MES Active
	7	S.ICACT	ICI Active
	8	S.IBCTHW	Allow commands before LOGIN
	9	S.IMPORT	IMPORT on at 200 UT
	10	S.INOCOM	Do not issue command
	11	S.ICTAPE	Paper tape on flag
W.IUMUJ(2)		C.IUMJS(4)	
Bit	0	S.IMNUS	New user
	1	S.IMRUN	RUN command in progress
	2	S.IMDIS	Reconnected after disconnect
	3-6		(Unused)
	7	S.IMBKS	Break sent
	8	S.IMLGS	Logout sent
	9	S.IMWO	Waiting for output to complete
	10	S.IMWI	Waiting for input
	11	S.IMUJ	Attached to MUJ
W.IUFST(3)		C.IUFILE(4)	
Bits	0-5		Count of FNT entries in swap file
	6	S.IUEOE	End of execution
	7	S.IUDMP	SAVEFL flag
	8	S.IUPS	Pause bit
	9	S.IUECS	Swap file on ECS
	10	S.IUFNT	FNT to be associated on next swap
	11	S.IURED	REDUCE flag

NOTES: USER TABLE (CONT'D)

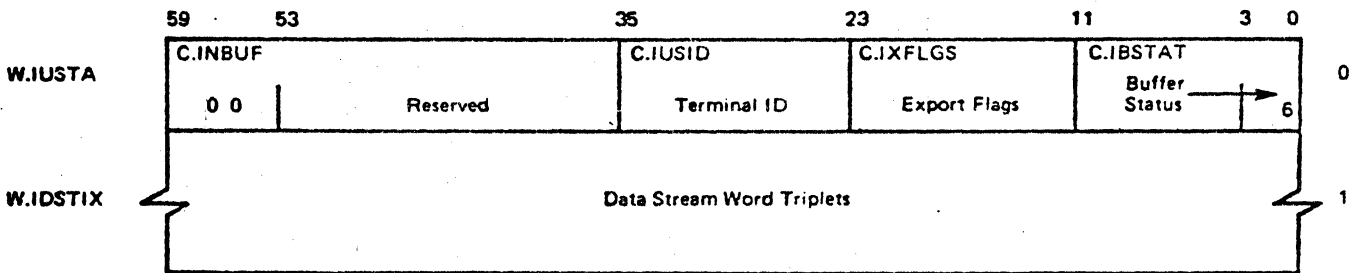
W.IINPUT(4)		C.IDPPTR(0)	
A	Bit 11	S.IINTLK	Interlock bit for 3TT and I/O macros
B		C.IDDPTR(2)	Driver not finished
W.IOTPUT(5)		C.IDPPTR(0)	
A	Bit 11	S.IINTLK	Interlock bit for 3TT and I/O macros
C	Bit 10	S.IPWOFF	Page-wait-off flag for processor
D	Bit 9	S.IIIML	IIM interlock
B		C.IDDPTR(2)	Driver not finished or previously inoperative
E		S.IPRNOP	
		C.ISIZLN(4)	
		S.ILNCHG	Line size change bit
W.IGFLGS(6)		C.IGFLGS(4)	(274 Graphics only)
	Bit 9-11	S.IGCON	Console for which job is queued
	4	S.IGSNIT	SIGNON initialization
	3	S.IGDRP	Job dropping
	2	S.IGSNON	SIGNON job
	1	S.IGQUE	Job queued for console
	0	S.IG3TT	3TT flag for interrupted output
W.IGFLGS(6)		C.IGSON(4)	(High speed INTERCOM terminal only)
	Bit 8	S.IXOFF	Terminal off line
	7	S.IGSON	274 Graphics streams defined
	6	S.IGRMUX	Graphics MUX
	0-5	S.IGDSON	Graphics data stream number
W.IUSTAT=W.IFLGS(7)		C.IXSTAT(4)	
	Bit 11	S.IXACK	Processor drop acknowledge (1XP)
	10	S.IXDRP	Drop requested (1XP)
	9	S.IXUTBY	User table release requested (1XP/1LX)
		S.ILUTBY	
	7	S.IOVFL	Message overflow (1XP)
	6	S.IMAX	Maximum message buffers assigned (1XP)
	5	S.IDVTLP	Divert print files
	3	S.IDVTCF	Divert punch files
W.IUEQP(10)		C.IUEST(0)	
	Bits 11-8		Pseudo EST ordinal
	7-0		Port number
C		C.IUAUT(2)	
	Bit 11	S.IUAUTR	AUT request bit
A		C.IUPRO(4)	
	Bit 11	S.IUNOP	Inoperative bit

NOTES: USER TABLE (CONT'D)

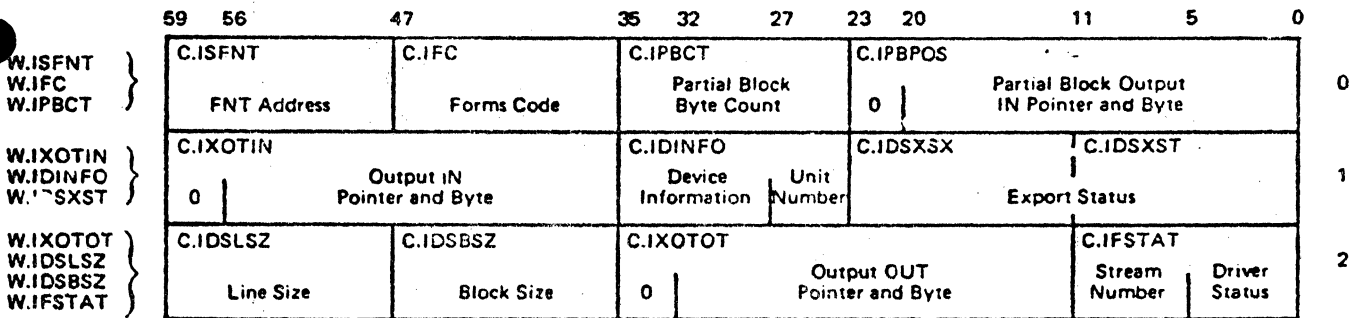
W.IUAPP(14)	C.IUFLGS	
Bits 11	S.IUVC	VC carriage control
10	S.ITLOK	Message lock bit
9	S.IRLOK	Request job to be locked out
8		Unused
7	S.INOLK	Job is locked out
6	S.IUREU	Reduce mode flag
5-0	S.IUSSW	Sense switch setting changes

AUXILIARY USER TABLE

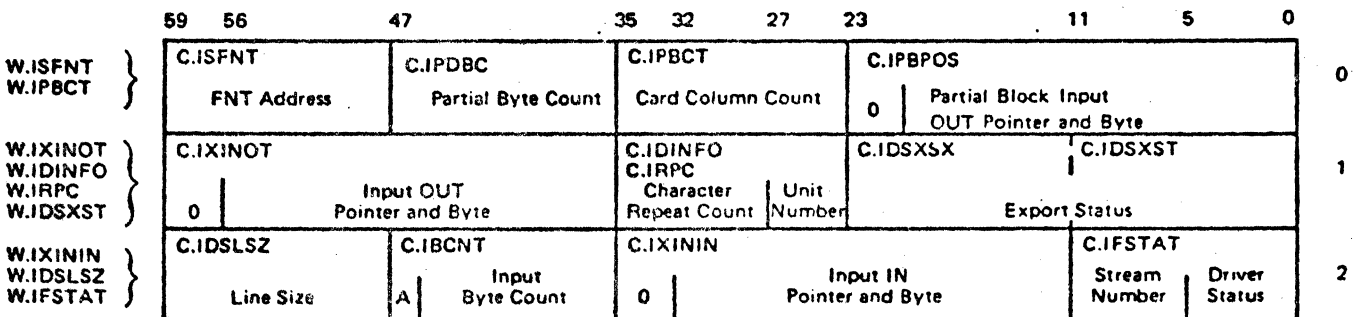
The auxiliary user table is for batch terminals on 7077/791 and 6671.



OUTPUT DATA STREAM WORD TRIPLET



INPUT DATA STREAM WORD TRIPLET



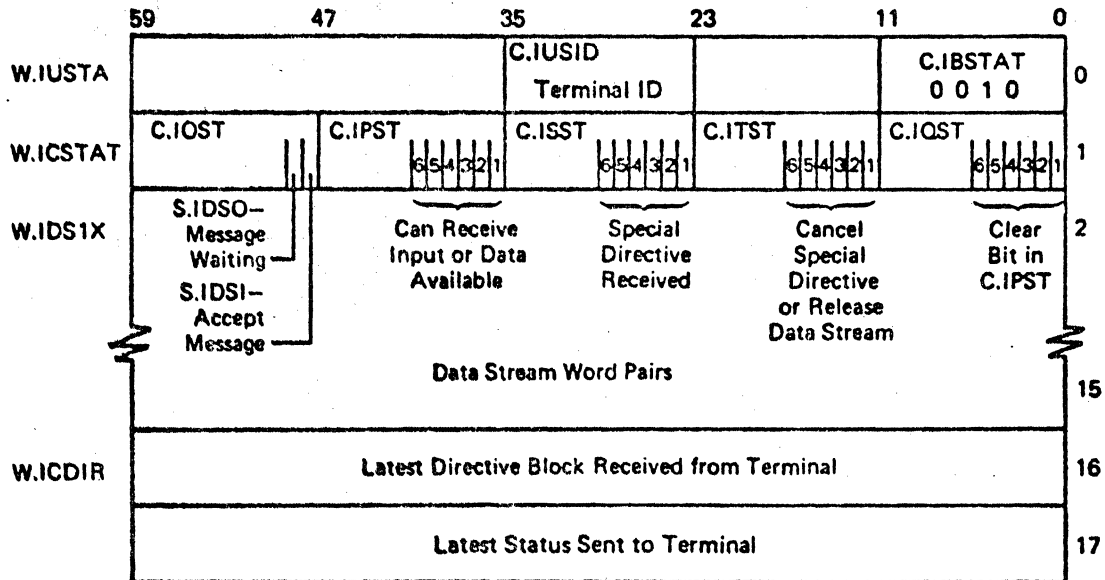
NOTES: AUXILIARY USER TABLE

W.IUSTA(0)		C.DXFLGS(3)	
		S.ITXOUT	ILX taking 200 UT out of transmission mode
W.IDINFO(1)		C.IDINFO	(for output streams)
Bits	7-11	S.IFCMO	FCM ordinal
	4-6	S.ITRAIN	Train type
			=3 B4
			=4 B6
			=5 A6
			=6 A9
	03	S.IDSLUN	Logical unit number
			=1.2 CR1 and 2
			=3 CP
			=4-7 LP1-4
W.IDSXST(1)		C.IDSXSX(3)	(for output stream)
Bit	8	S.ISNT	No banner/lace card
	6-7	S.IIC	Internal code
			=0 Display
			=1 ASCII
			=2 Binary
	9-11	S.IEC	External code
			=1 SB
			=2 80 column
			=3 B4
			=4 B6 or Q26
			=5 A6 or Q29
			=6 A9 or ASCII
	5	S.ILP	Print file (else punch)
	4	S.IPMSG	PM message waiting to be sent
	3	S.IPMSNT	PM message sent
	2	S.IZ66	66-bit end-of-line
	0-1	S.IVCC	V carriage control
			=00 No V detected
			=01 V detected; check for VC
			=10 V detected; no C
			=11 VC detected
Bit	1	C.IDSXSX(3)	(for input file)
	0	S.INEEDB	Start next PRU with a blank
		S.IREADF	READ,filename in progress
Bit	11	C.IDSXST(4)	(for output file)
	10	S.IWAITX	Wait-for-driver-stop
	9	S.IWEQJ	Wait-end-of-job
	8	S.IHDR	Send-header
	7	S.IBAN	No-banner
	6	S.ISUP	Suppress-carriage-control
	5	S.IXNDLP	First print end command flag
	4	S.IEOL	End-of-line
	3	S.IOFF	Request driver OFF/ON stream
	2	S.IETX	ETX sent

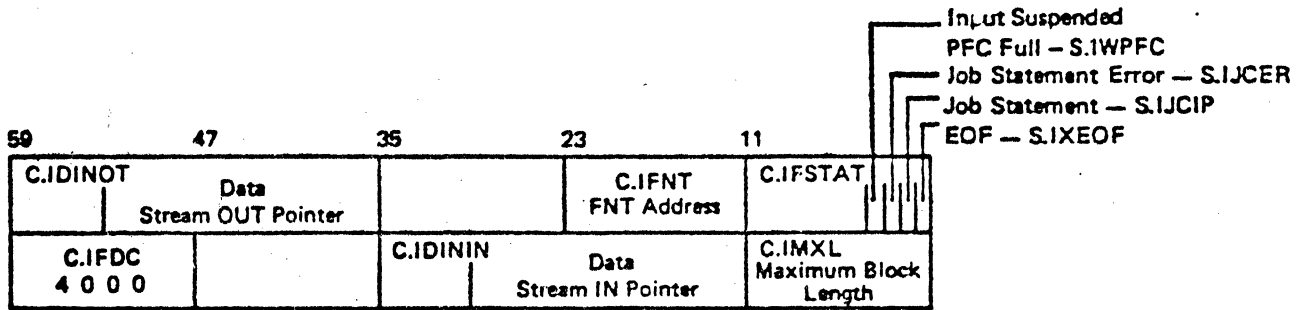
NOTES: AUXILIARY USER TABLE (CONT'D)

	1	S.ISTOP	Request driver stop stream
	0	S.IXABT	Request driver abort stream
		C.IDSXST(4)	(for input stream)
Bit	11	S.IWAITX	Wait-for-driver-stop
	10	S.IWEOJ	Wait-end-of-job
	9	S.IBIN	Binary mode
	8	S.IASC	ASCII mode
W.IDSXST(1)		C.IDSXST(4)	(for input stream)
Bit	7	S.IJ CER	Error
	5	S.IXEOF	End-of-file
	4	S.IOFF	Request driver off stream
	3	S.IWPFC	Wait PFC full
	1	S.ISTOP	Request driver stop stream
	0	S.IXABT	Request driver abort stream
W.JXININ(2)		C.IBCNT(1)	(for input stream only)
A Bit	11	(S.IETB)	=1 ETB, =0 ETX sent
W.IFSTAT(2)		C.IFSTAT(4)	(for both input and output)
Bit	6-9	S.IDSN	Data stream number/site address
	5	S.IXABTI	Abort issued
	4	S.IOFF	Stream off
	3	S.INREDY	Device not ready (mode 4)
	2	S.IETX	ETX block sent
	1	S.ISTOP	Stream stopped
	0	S.IXABT	Stream aborted

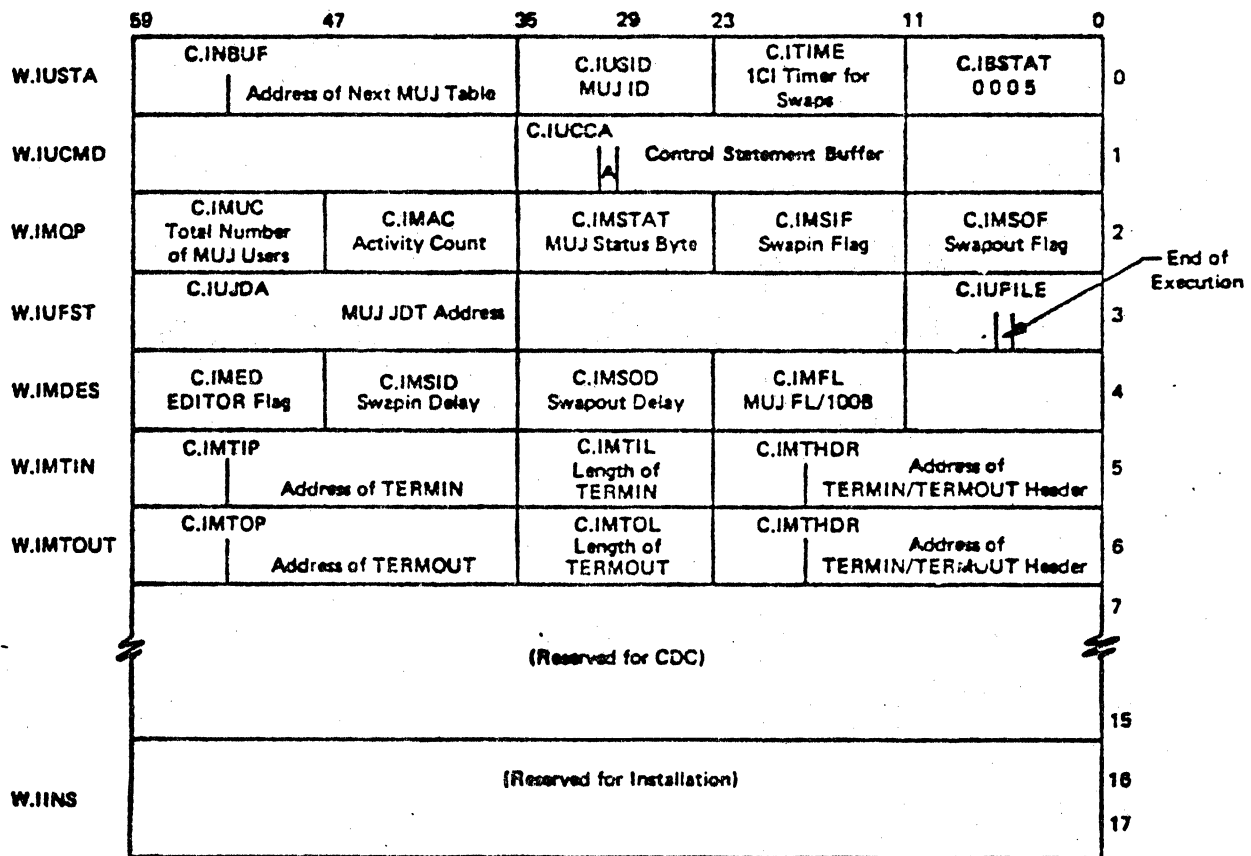
HIGH SPEED AUXILIARY USER TABLE



INPUT DATA STREAM WORD PAIR



MULTI-USER JOB TABLE



W.IMQP(2) C.IMSTAT
 0001 = Waiting for I/O
 0003 = MUJ Active

A S.IUCCP Control Statements moved to CPA Flag

274 INTERACTIVE GRAPHICS SYSTEM (IGS) USER TABLE

	59	53	47	35	29	23	11	0					
W.IUSTA	C.INBUF		Address Next User Table In Chain		C.IUSID		User ID		C.IBSTAT		7	0	
					C.IUCCA		Address of Control Statement Buffer				1	1	
											2	2	
W.IUFST	C.IUIDA		Job Descriptor Addr.		C.IUCLAS		Job Class Before Entering IGS Queue				3	3	
W.IINPUT	C.IDINOT		Graphics Input Data Out Pointer		C.IDININ		Graphics Input Data In Pointer				4	4	
W.IOTPUT	C.IDOTOT		Graphics Output Data Out Pointer		C.IDOTIN		Graphics Output Data In Pointer				5	5	
W.IGFLGS									C.IGFLGS		6	6	
									Graphics Flags		7	7	
W.IGHSU W.IUEQP	C.IUPORT		EST Ordinal		Port No.		C.IGHSU		Pointer to High Speed User Table		C.IUMSG		10
											0 0 1 0		11
											12	12	
											13	13	
W.IUGCAC W.IUGEFP					C.IUGCAC		Console Access		C.IUGEFP		Error Flag		14
											C.IUGEN		14
											Console No.		15
W.IUACP	C.IUACP		Control Statement Buffer Address								15	15	
											16	16	
											17	17	

NOTES: 274 IGS USER TABLE

W.IGFLGS(6)

Bit	5	S.IG3TT
	1	S.IGQUE
	2	S.IGSNON
	3	S.IGDRP
	9-11	S.IGCON

C.IGFLGS(4)

3TT Interlock flag
Job queued for first console flag
SIGNON user table flag
IGS job termination flag
Console No. for which job is queued

DUMP EXAMPLE

1. Word 16: 0714 6520 0006 4746 0023 {II-1-2}
 - A. MUX table FWA=6520, LWA=6520+23=6543. This is hardcoded at build time.
 - B. INTERCOM pointer/buffer area FWA=64746 {Editlib}, LWA=71400 {LIL/LBR}.
2. EST Entry: 4217: 0000 0006 0011 0403 0002 {II-1-36}
 - A. EST FWA=4210, LWA=4240, CM word 5 bytes 0 and 1.
 - B. Scan looking for DC/6671, YC/6676, SC/6673-74, CS/LCC, and FE/2550.
 - C. 4217: Channel 6, equipment 0, EST active, driver ordinal 1, DC/6671, MUX subtable=6520+2=6522.
 - D. Note: 64746+40=65006={0007} pseudo EST points to real EST.
3. PP communications area word 5 byte 4=4100 {II-1-2}
 - A. Note: DSD/PP1, 1SP/PP4, 1Z2/PP6, 1IR/PP8.
4. Peripheral Job Table {not in dump}
 - A. Could see 1LX/1CI/1BR in Recall.
 - B. Sometimes it is better to dump 20K to get this and JDT.
 - C. Normally when getting dump you may step system to insure getting 1LX/1BR/1CI.
5. MUX Table Header 6520:

0354	0000	0140	0000	0001	{II-1-54}
0714	0006	5460	0000	0000	

 - A. Last user assigned ID: C=
 - B. 1Z2 up, 1CI up, 1 COPY 1LX {DROP FLAGS/DSD FLAGS=0}
 - C. Small buffers go from 65460 to 71400 {control point 1 FL}
6. MUX Subtable Header 6522: 0000 0001 0000 0102 0 013 {II-1-55}
 - A. MUX error bytes: Concerned with frequency of change
 - B. First TID on this MUX=AB
 - C. 13 octal terminals

7. User Table Chain: Starts at 65460, ends at 66140, 23 entries {II-1-95, buffer area word 27: 64775}

	UT Address	Type	C.IBSTAT	AUT	UID	TID	EST	PORT	SITE	STN	C.ITIME
1	65460	0601	0241	None	0207	BG	07	00	00	00	zero
2	66300	0601	1201	None	0154	A=	07	03	00	00	zero
3	66220	3252	0201	4000	0153	AB	07	04	00	01	zero
4	65500	1052	0041	65540	0210	BH	07	05	00	01	zero
5	66360	7222	0201	4000	0245	AC	07	06	00	01	INOP
6	66440	3222	0241	4000	0203	AD	07	06	01	01	zero
7	66520	7222	0201	4000	0247	AE	07	06	02	01	INOP
10	66600	7222	0201	4000	0250	AF	07	06	03	01	INOP
11	66660	3222	0201	4000	0251	AG	07	06	04	01	zero
12	67240	7222	0201	4000	0346	AH	07	07	00	01	INOP
13	67300	7222	0201	4000	0347	AI	07	07	00	01	INOP
14	67020	3222	0201	4000	0253	AJ	07	10	02	01	zero
15	67100	3222	0201	4000	0254	AK	07	10	03	01	zero
16	65560	7052	0201	4000	0145	AL	07	11	00	01	INOP
17	65640	7052	0201	4000	0146	AM	07	11	01	01	INOP
20	65720	3052	0201	4000	0147	AN	07	11	02	01	zero
21	66000	7052	0201	4000	0150	AO	07	11	03	01	INOP
22	66060	7052	0201	4000	0151	AP	07	11	04	01	INOP
23	66140	1052	1201	4000	0152	A}	07	12	00	01	zero

54

8. Sample Terminal Types {C.IPR0} {II-1-57}

0601 - dial up, 300 baud, TTY
2601 - hardwired, 300 baud, TTY, {non-standard}
3252 - hardwired, 4800 baud, BCD, 4A, 4
1052 - dial up, 2400 baud, BCD, 4A, 4
3222 - hardwired, 4800 baud, ASKI, 4A, 4
3052 - hardwired, 2400 baud, BCD, 4A, 4

9. MUX Table Highlights {II-1-57}

A. Port 0 C.IPR0=2601. This is non-standard, entry was inserted via VFD statement. This may require a modification to LIL.

B. Note: Ports 1-2 have no UT assigned. This means no electrical connection {i.e., have not received input word on these ports with both modem ready and carrier on set. They remain in status PTDEAD}

C. Port 4 defines 1 UT
How many UT's on port b = 5, port 7 = 2. Note permutation of site and station address bits.

D. Would I expect to see port b, site 0, station 1 polling?
No: 1. LCI timer is decrementing
2. Inoperative bit is set

E. Note port b, TID = AC, AD, AE, AF, AG
What would happen if I changed definition from 0037 0002 to 0036 0002? TID = AC, AD, AE, AF

F. Why are ports 5 and 12 not assigned unique TID's? They are both dial up ports.

10. INTERCOM Pointer Area. {II-1-95/96}

A. W.IMSG2 64755: IN TE RC OM bb
64756: b0 7b

This is a good word/area to use for debugging.

B. W.IEMBUF 64773: 0007 0600 0006 5500 0000
Empty chain pointer points to zero type buffer at 70600

C. W.IRSTRT 64774: 0
If restart was in progress this would contain name of PP left justified of routine that initiated the restart.

D. W.IUSER 64775: 0006 5460 0023 0000 0000
First UT points to 65460, there are 23 octal user tables in the chain. Note end of UT chain is at 66140.

E. W.IMUJ 64776: 0
This word is used for the MUJ table pointers. Note there are no active MUJ's in the system.

F. W.IUSEW 65000: 0000 0000 0006 5460 0001
65460 is the last user table assigned by LCI. Note all drivers request new user tables thru this word.

- G. W.IMES 65001: 0
There are no outstanding message requests for terminals.
- H. W.I1BR 6500 2: 0000 0035 0006 5033 7141
65033 is the address of PP resident for the drivers.
- I. W.IPEST 65007: 0007 0000 0000 0000 0000
Note: EST 07 is the real EST for pseudo EST 1.
- J. W.I9ZD 65013: 0006 5167 1656 0044 0000
9ZDFWA = 65167, checksum = 1656, length - 44
- K. W.IBBUF 65014: 0006 5233 0000 0000
FWA = 65233, FIRST = 65241, LIMIT = 65441, LAST UT = 65500,
LAST AUT = 65540, BUFFER is currently available. Note:
currently being printed is ident list for PL12.

11. User Table Highlights

- A. Sample C.IBSTAT {II-1-104}
 - 0241 - wait input, logged in, UT
 - 0041 - transmission mode, logged in, UT
 - 0201 - wait input, not logged in, UT
 - 1201 - request disconnect, wait input, not logged in, UT
- B. Correlation of TID/UID/Temp ID C.IUSID/C.IUTID {II-1-102}
 - 1. TID=UID=BG/from passwd file: dial up, logged in {port 0}
 - 2. TID=UID=temp ID=A=/from next assigned ID: dial up, not logged in {port 3}
 - 3. TID=AB/via placement in MUX table, UID=A#/from next assigned ID: hardwired, not logged in {port 4}
 - 4. TID=XX/via placement in MUX table, UID=XX/from passwd file: hardwired, logged in {no example in this dump}
- C. W.IUEQP {II-1 102}
 - 1. C.IUEST/C.IUPORT/C.IUSITE/C.IUSTN: 0406 0001, pseudo EST 1, port 6, site 0, station 1
 - 2. C.IUAUT 0000 0000 TTY, 4000 0000 AUT request up/ waiting for batch command, 0006 5540 AUT assigned
 - 3. C.IUPRO 7222/7052 Note inoperative bit - corresponding timers are decrementing {C.ITIME}.
- D. C.ISIZPG/C.ISIZLN 2400 page size, 4120 line length mode 4.
Note these are inserted in skeleton user table based on terminal type. They can be changed via screen command.

12. User Table Highlights of Port 5: 65500 {II-1-102}

0006	6360	0210	0000	0041	0
0200	0210	0000	0000	1000	1
0000	0000	0000	0000	0000	2
1301	0105	0004	0000	4101	3
0206	6705	0206	6705	2400	4
0000	0000	0000	0000	4120	5
0000	0000	0000	0000	0000	6
0000	0000	0000	0000	0000	7
0405	0001	0006	5540	1052	10
0453	2400	0130	2341	6103	11
0006	5501	0000	0006	5500	12
0000	1400	0000	7777	0024	13
3777	0100	0000	0000	1760	14
2200	0000	0000	0000	0001	15
0042	4333	4333	3340	4042	16
0000	0000	0000	0000	0000	17

- A. C.INBUF pointer to next UT in chan: 66360
- B. C.IUSID: BH
- C. C.ITIME: 0000
- D. C.IBSTAT: 0041, transmission mode, logged in, UT
- E. C.IUTID: BH
- F. C.IUSTAT: 1000, batch commands allowed on this port
- G. W.IUMUJ: 0, no MUJ activity
- H. C.IUEQC: 1301 0105, 844, JDT=10105
- I. C.IUFL: 0004, swap FL = 400 octal
- J. C.IDINOT: 0206 6705, interactive IN/OUT pointer=byte 2, type 3 buffer 66700, pointer 66705
- K. C.IDININ: 0206 6705, interactive IN/IN pointer=byte 2, 66705. Note IN=OUT. Note: Last command typed was R (CR)
- L. C.ISIZPG: 2400 Page size
- M. C.IDOTIN/C.IDOTOT: 0 Interactive OUT/IN/OUT pointers
Note: No output currently active.
- N. C.ISIZLN: 4120 Line size 120/80, upper bit is set on mode 4 terminal.
- O. W.ISPIN: 0 No special directive pending for 1LX.
- P. C.IUEST/C.IUPORT/C.IUSITE/C.IUSTN: 0405 0001, pseudo EST
1 port site 0 station 1.

Q. C.IUAUT: 65540 Address of AUT.
 R. C.IUPRO: 1052 Operative/dial up/2400 baud/BCD/4A/4
 S. C.IUDRET: 0453 Return address in driver {II-1-103} W.IUDRUL
 T. C.IUDCNT: 2400 Number of char left on CRT
 U. C.IDSTAT: 0130 Some data used this pass, sequence bit in progress somewhere on this site, sequence bit in progress for this batch device. See LML IMS
 V. C.IUDCCD: 23 Last returned control code.
 W. C.IUDECD: 41 Last returned E code
 X. W.IUDRU2: 0006 5501 0000 0006 5500 points into UT
 Y. C.ICUFL: 0000 Current FL/100 Note: W.IUAFT/W.IUAPP is filled in from passwd file at login time.
 Z. C.IMXFL: 1400 Maximum FL/100
 AA. C.ICUTL: 0000 Current time limit
 AB. C.IMXTL: 7777 Maximum time limit
 AC. C.IMXFL: 0024 Maximum number of files
 AD. C.I ACS: 3777 Access level
 AE. C.IUFLGS: 0100 Reduce mode flag
 AF. W.IULCMD: R Last command for operator
 AG. W.IUATIM: 0042 4333 4433 3340 4042 Date of login 3/31/78
 Time of login 05:57
 AH. W.INS: D Reserved for login

13. AUT Highlights UT port 5 65540 {II-1-106}

0000	0000	0210	0000	0006	Header
4570	0675	0000	0007	1141	CR1
0107	0172	0001	0000	0000	1LX
0120	0000	0107	0172	0100	Driver
4607	0000	1563	0307	1102	LP1
0206	7713	0104	0040	0000	1LX
0210	2020	0107	0732	0100	Driver

A. C.IUSID: 0210/BG
 B. C.IBSTAT: 0006 AUT
 C. C.ISFNT {CR}: 4570, FNT address CR stream
 D. C.IPDBC: 0675 Partial byte count

- E. C.IPBCT: 0000 Card column count
- F. C.IPBPOS: 0007 1141 Partial block input out pointer and byte
- G. C.IXINOT: 0107 0172 Input out pointer and byte. Note: The last card read in and processed by 1LX is REWIND {RECO1, RECO2, RECO3, RECO4, RECO5, RECO6, RECO7} from PL12 installation deck.
- H. C.IDINFO: 0001, CR1 unit number
- I. C.IDSLSZ: 0120, line size 80 columns
- J. C.IXININ: 0107 0172, input in pointer and byte. Note IN=OUT.
- K. C.IFSTAT: 0100, DSN=1 Data Stream Number/Site Address
- L. Note: On Input 1LX is taking data out of the input buffers and writing to disk and updating OUT. Driver is putting data into the input buffers and updating IN. Partial output is where 1LX is internally taking data out of the buffer.
- M. C.ISFNT: 4607, address of FNT.LP stream. Note this FNT points to a supplement at 6504.
- N. C.IFC: 0000, forms code
- O. C.IPBCT: 1563, partial block byte count
- P. C.IPBPOS: 0307 1102, partial block input out pointer and byte
- Q. C.IXOTIN: 0206 7713, output IN pointer and byte. Note currently being printed is IDENT list for PL12.
- R. C.IDINFO: 0104, train type, LP1 unit number
- S. C.IDSXSX: 0040, end of line
- T. C.IDSLSZ: 0210, line size 136 columns
- U. C.IDSBSZ: 2020, block size
- V. C.IXOTOT: 0107 0732, output out pointer and byte
- W. C.IFSTAT: 0100, DSN=1, data stream number/site address
- X. Note: On output, 1LX updates IN when he is putting data in the buffer. Driver updates out while he is taking data out of the buffer. Partial output byte is where 1LX is internally filling the buffer.
- Y. Example from above:
- 1LX partial: 71102 byte 1 IN40802 Note that this points to the end of the batch buffer.

1LX IN: 67713 byte 2, IN40845A This is where 1LX last updated IN.

Driver OUT: 70732 byte 1, IN40747 This is where driver last updated OUT.

Z. Note that the data in the small data buffers is 8-bit ASCII and the data in the 200 word batch buffer is display code.

14. Example Data Buffer 70720

0007	0240	0006	5500	0002
0064	0260	0067	0062	0067
0443	0111	0316	0064	0260
0067	0062	0070	0443	0111
0316	0064	0260	0067	0263
0070	0443	0111	0316	0064
0260	0067	0064	0061	0443
0111	0316	0064	0260	0067
0064	0064	0443	0111	0316
0064	0260	0067	0064	0067
3400	3000	1402	0451	0111
0316	0064	0260	0067	0064
0260	0067	0265	0064	0443
0111	0316	0064	0260	0067
0266	0070	0443	0111	0316

A. Next output buffer in chain: 70240

B. Owning User Table: 65500

C. Output Buffer Type: 0002

D. Contents of Buffer: See 1LX.7073

40727b IN40728b IN40738b IN40741b
IN40744b IN40747 {E0B} {S0B} {Carriage Control} {b blanks}
IN40749b IN40754b IN40768b IN

000000	0000	0000	0000	0000	0000	0000	1712	0006	4746	0050	0000	7530	0100	0010	3000	1070	0000	0000	0012	0017
000004	4240	6507	1026	0020	0103	4210	4240	0100	0150	4100	0000	0226	0000	6600	0000	0101	0213	1032	0003	1030
000010	0000	0000	0000	0000	0000	0001	0001	4275	0000	0000	0000	0000	0000	0000	0000	6550	0010	3530	0002	1025
000014	1044	0050	0013	0040	0000	1051	0017	0000	0000	5570	0714	6520	0006	4746	0023	0000	0000	0000	0000	2000
000020	0000	0000	0042	4333	4433	0050	0002	4000	0000	0520	1161	3200	0000	0000	6141	0000	0000	0000	6560	1036
000024	0000	0000	0000	0000	3000	5523	3123	2405	1555	5555	3410	0000	0021	1325	1351	0000	0000	0000	0000	0000
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06

511

ECL

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72170	4212	0423	7100	4000	0405	0004	3206	0504	3006	5412	0004	3010	5412	0003	3004	5412	0005	0100	7073	4012	
72174	5012	0001	3205	0570	5012	0100	0000	5000	7527	1277	6472	1465	6012	3015	3406	3016	1003	5012	3403	1063	
72180	1071	1207	1704	0100	7367	1063	3417	0200	7503	0447	1400	3401	3417	0200	7503	0341	0100	0000	3002	1014	
72184	3402	3014	0410	1014	3401	7530	0505	3015	6300	7527	1277	0400	3001	3217	0757	0456	0353	0000	0001	0354	
72190	3103	3101	6012	3015	5320	1440	6001	3004	5400	3556	1402	3444	1456	0200	3454	0403	0100	4160	1405	6660	
72194	0045	6703	0001	0000	0000	0505	3035	2300	0322	0412	3660	3261	0565	1470	6010	3041	6210	0100	4160	1440	
72200	3080	3463	3063	6032	3032	3442	0523	3076	1070	3432	3035	2300	0322	0566	3045	1071	3440	5040	3601	0404	
72204	0200	0270	3060	6032	3072	1440	0200	0311	3042	0403	0100	6737	3040	1004	3443	1402	3452	1470	6010	6001	
72210	3740	0573	0355	3060	6232	3263	3431	1207	2100	3333	3411	3001	1270	1003	3511	2000	5555	3412	3413	3414	
72214	2000	0322	3410	3060	3442	1233	1610	6210	1601	6215	1605	6201	1601	6262	3033	1277	3433	0200	1666	0510	
72220	3425	3416	1400	3417	0200	0200	2226	0100	7141	0200	2226	3041	0200	5470	3435	2000	1132	3434	0200	1233	
72224	0200	2153	1241	1101	0405	0200	3454	0753	0200	1233	6370	5301	3042	5440	3601	1470	6010	0200	1233	1036	
72230	1607	6232	1420	3447	1427	0276	3042	6010	1400	3410	3042	6210	1440	0200	0311	1470	6010	3043	3401	3001	
72234	6210	0100	4160	1440	0200	0571	0100	6734	0045	6703	0045	6703	0001	0000	0000	2000	2000	0200	2253	2000	
72240	0200	4355	6210	3001	1217	6301	1000	2000	3526	3416	1412	1006	3417	2000	0773	0200	0344	1401	3460	2000	
72244	0747	3431	0200	4345	1640	5400	6761	1031	3401	4001	1277	1014	5101	0001	1071	5400	7046	3043	0200	4355	
72250	5430	3432	0200	1001	3032	0247	3401	0200	4345	1640	5101	1000	1400	3436	3076	1070	3535	3041	0400	6232	
72254	6370	0000	1701	5032	2000	2000	1005	3535	3041	1601	6201	3035	1377	3435	1407	3436	0200	1233	6232	3006	
72300	1601	6001	3005	1010	0704	2000	1000	3501	1470	6020	5025	3001	3426	2000	0000	2177	7455	0503	1440	3526	
72304	1310	3401	3060	1201	0404	2300	3544	0504	2000	0100	3526	0200	1233	1605	6220	1601	6225	1607	6001	1601	
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72314	6036	1605	6262	2000	5555	3406	1014	5430	7163	2277	0000	3135	1377	3407	1071	5400	7164	0200	1233	1610	
72320	5400	7162	2277	0000	3134	0200	0424	0100	4141	0000	0000	0000	0000	0000	5755	2205	0104	5700	0000	0017	
72324	6001	1601	6206	2042	7161	0200	0424	0100	4141	0000	2177	2272	0705	2000	5501	3416	0304	3017	1604	3416	
72330	0017	6071	0001	0000	0000	2200	0671	1400	4410	3010	2177	2216	0772	2000	5532	3410	0410	2177	1777	0705	
72334	4017	5417	0003	3717	2177	2177	2216	0564	0200	1233	1611	6010	3010	5400	5530	3011	5400	5531	0200	1233	
72340	1014	1377	1000	4410	3510	3426	5000	5532	0410	2000	1750	3531	1063	3530	1405	3462	0100	1173	0020	0536	
72344	1611	6372	5530	3026	1301																

72254	1455	3406	2000	5533	3402	4006	1071	3401	1002	2100	7204	3501	1605	3404	4001	1377	1074	4502	3602	4001
72260	1603	4502	3602	3501	3204	0563	3602	3605	1107	0414	5000	6563	2300	0206	5403	6563	1012	0702	5531	
72264	6162	1453	0200	4516	3052	1277	3401	5001	7571	5400	5530	3053	1071	3401	5001	7571	3403	5531		
72270	6261	0650	6671	0301	0050	6571	0001	0000	0600	1447	0200	3454	1400	3460	2000	5533	3461	3024	1207	
72274	1706	0507	3054	1707	0504	1404	0100	7113	1413	0200	7137	0200	1233	6170	5605	1403	5403	5611	1403	3401
72400	2361	3410	2000	5555	4410	3610	3001	2100	1072	5400	6773	1400	3403	3003	1021	3404	2240	0050	5104	0050
72404	6603	1277	0302	1071	3404	1750	0703	1400	3404	3094	1002	3504	1400	3405	5004	7204	1072	2200	6101	1001
72410	3406	2000	5555	3206	4410	3610	3604	3605	1705	0560	2000	5555	4410	3610	3603	1707	0403	0100	6744	2000
72414	5555	4410	5400	5604	1412	0200	7124	1412	0200	7124	3601	1706	0403	0100	6727	1405	0200	7137	2003	5555
72420	4461	1453	3401	2000	5353	5401	5530	3701	0572	1400	5400	5604	1405	3401	1411	0200	7124	3701	0573	3024
72424	1207	1706	0519	1470	6170	5533	2000	5555	5400	5530	1401	0200	7124	1402	0302	1404	3554	0200	4516	1460
72430	0200	3454	0100	1265	0100	7123	3402	0200	4346	3160	6302	5520	3002	3560	0365	0100	7135	3403	3402	1002
72434	3502	3401	2000	5555	5402	5527	3702	0572	1400	5401	5527	2000	4655	5401	5523	1505	3501	0566	2000	2155
72440	4461	2000	4655	5403	7166	3003	0200	7124	0100	7136	0012	6703	0001	0000	0000	2000	2000	3525	1407	3401
72444	0200	1263	6301	6716	0100	1317	6036	1271	0470	0000	0000	5555	5555	5555	5555	5555	5555	5555	5555	5555
72450	5555	5555	4747	4747	5506	1722	1501	2455	0317	1624	2217	1455	2325	2020	2205	2323	0504	5547	4747	4755
72454	5555	0641	6703	0001	0000	0041	6703	0001	0000	0000	3026	1014	1237	0407	2077	7677	3525	1071	1776	0503
72460	6100	6777	1676	1237	1710	0702	1501	1610	3401	0200	1233	1611	5010	3011	1377	5101	7071	3411	0200	1233
72464	1611	6210	1453	0200	3454	3044	0503	0100	1173	1470	6010	2000	2155	3410	0200	4346	6210	1401	3450	1460
72470	0200	3454	3026	1301	3426	3025	2277	7677	3425	0351	3044	0503	0100	5251	3023	1606	0513	1404	5500	7104
72474	3023	1007	0605	2000	7500	5400	7105	1400	3401	5001	0050	5401	7120	0405	1277	0507	2077	2277	2100	5555
72503	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000

9ZD RELOCATABLE VERSION OF DYNAMIC DUMP MACRO PPUDUMP USED BY
INTERCOM DRIVERS DURING RESTART

111 INITIALIZE/RECOVER INTERCOM

Called by operator command to initiate INTERCOM and during deadstart recovery if INTERCOM tables are to be recovered.

Checks:

If INTERCOM already up - if so, just call drivers
If recovery - recover what he can within INTERCOM tables
Restart/Drop/Recall
Editlib/111-1BR in progress/Clock entered
Will enter event stack as necessary

Issues Dayfile msgs:

Terminal Configuration Error
No equipment for Driver
End INTERCOM
Waiting for EDITLIB
Terminal ID too large
Enter Time to Start INTERCOM
INTERCOM MSG in B Display

Initialize Pointer Area:

Request storage
Initialize empty buffer chain - store pointer for 1BR
Write 8ZZ/8FE/9ZD/PPRES to pointer area
Initialize DCA/connection table/1LX pointers

Validate configuration {TIDS/Numonics}

Recovery:

Recover UT/AUT/Graphics chains - all other buffers are placed
in empty chain
Recover MUX subtable header
Reinitialize pointer area
Search FNT - input files evicted/output files rewound and unlocked

211 CALL DRIVER OVERLAY OR INITIALIZER

1Z*,1WB,0ZZ,DFA,1LX,1XP,1CI,1BR
Process MUX entries 6671/6676/6673/6674/LCC/2550
Count MUX channels/Insure drivers less than six
Convert real to pseudo EST entry
Validate port entry
Wait for initializer or driver initialization complete

EIL {Con't}

Issue Dayfile Messages:

PORTXX ESTXX bad MUX subtable entry
Duplicate equipment numbers
Too many equipments on channel
Too many MUX channels
Device is not a MUX

1BR - INTERCOM BUFFER MANAGER

CALLED BY L11 IF NECESSARY

FUNCTION:

1. Maintain INTERCOM FL and maintain empty buffer chain.

Determine threshold via INTCOM variables.

If buffers are required:

Core is acquired, divided into small buffers and linked to the empty chain.

If buffers exceed maximum:

Empty chain is sorted into two chains and if possible lower chain is returned to the system.

2. Checks restart in progress - calls LDD to dump CM on restart.
3. Stays around until everyone has dropped - releases core to system - posts end INTERCOM msg.
4. Limits maximum core utilized by INTERCOM to maxcore = 4000B

LCI INTERCOM EXECUTIVE

Called by LIL

Works on a multi pass basis {LCI cycle = 1/2 sec}
Reads entire user table chain each pass
Responsible for user table chain
Process user commands/Command cracking
Controls execution of commands
Checks Restart/Drop/RCL

ZCU USER TABLE CREATION OVERLAY

Assign new user table {skeleton format} uses default line/block size
Maintain UT chain
Will attempt to assign UT to lowest possible address {scan entire empty buffer chain}
On disconnect will transfer data in old UT to new UT
Call LIM to send banner on new UT creation

ZCS USER STATUS MANAGEMENT OVERLAY

Analyze the status of the current user table and decide what if any action should be taken for it.

Processes:

Timers/Disconnect/Inoperative/Autologout/Wait input/Wait output
/Active at a control point/End of execution/Pausing/Time limit
/File quota/User aborts
Contains command table and does command cracking

ZCC COMMAND PROCESSING OVERLAY

COMZCC - Processes command within himself {LOGIN/ETL}
MUX - Define MUJ, pass info on to LQP {EDITOR/HELLO?}
COMLX - Export processor command {CONTIN/DEFINE}
REMOTE - Queue files/executing job control {DROP/KILL/DIVERT/EVICT}
SCNEW= - Search nucleus/set up jobname {BABAIBA}/set up JDT/set scheduler request/drop job in queue

Note: Elimination of deny macro {IN41998}, access level checking is now done in LAJ.

3T1 READ/WRITE FOR INTERACTIVE I/O

Files with device type 61
FET code and status bit 22 96 char ASCII
23 8 bit ASCII
Responsibility for setting complete bit {FNT/FET}

Initialization
Validate request
Call 3T1/3T2

Note utilize small buffers not batch buffers

3T1 CIO READ REQUEST

LND updates in 3T1 updates out

PUTDC / PUT96A / PUT8Ba / INCCPRO / EORFCHK
Display 96 char 8 bit Process Check
code ASCII ASCII Control 0/0, EOR, EOF
Char

BOLCHK
Beginning
of input
line

3T2 CIO WRITE REQUEST

3T2 updates in LND updates out

DCAPRO / A96PRO / A8BPRO / AEOFPRO /
Display 96 char 8 bit End of
ASCII ASCII output line

ANP LINE / ACCPRO
New phy- Process
sical line carriage
control

172 INTERCOM Low Speed Driver [*DEFINE,CT?L]

Called by 171

Functions: Output to the MUX
Input from the MUX
Process input/generate output
Buffer management

Initialization: Set up channel instructions
Set up limbo buffers
Establish MUX tables {disconnect old user tables}
Run quick pass of RT5
Load main driver 822

Dropping: Release limbo buffers
Disconnect user tables
Run pass of RT5
Drop driver

922 BCD Conversion Tables

Same for all versions - resides in locations 100-321 in PPU.
All data internal to INTERCOM is ASKII - conversion is done on
input and output in the case of a BCD terminal.

822 Main Low Speed Driver

Table driven state/message tables
Timing considerations important - return to functioning routine
in driver - based on highest baud line {worst case}: 9600 baud/.8
millisec, 4800 baud/1.6 millisec, 2400 baud/3.3 millisec, 110 baud/
100 millisec.
Driver maintains snapshot between passes: Input word/output word/
timeout/format/mesag/state/CMBUFF/driver word 1/driver word 2

Peculiarities:

Hard coded jumps to *
170 may need pass instructions on old 6671's
Rubout table on output
Barrel limits
ASBUFR/next port processing
CMBUFF
Channel conditions may jump to restart/*

2020	0177	3432	0307	3410	1401	1001	3110	1007	P06	2030	3532	1077	2107	0777	1701	6201	0200	6244	PC6
2040	3011	0521	3044	3431	3032	1301	3432	1401	P06	2050	1013	3509	0200	6042	1701	6201	0200	6244	PC6
2060	0100	7404	5072	7150	1207	0454	0260	6042	P06	2070	0200	6376	0100	3205	5073	7310	1237	1000	PC6
2100	5173	7311	1021	0646	1001	1701	6030	3764	P06	2110	3034	2200	1000	0454	0100	0775	0711	1000	PC6
2120	0707	2000	7000	0100	3211	1056	0474	3661	P06	2130	1217	0531	1432	0200	5543	0525	2006	1000	PC6
2140	0030	3030	0516	1470	6030	3072	5267	7770	P06	2150	5167	7750	3430	2006	5000	6230	0200	6376	PC6
2160	0200	6126	0100	3205	2006	5000	6033	3037	P06	2170	1201	0470	1400	3433	2006	5000	6233	0200	PC6
2200	6244	1607	6030	3034	1707	1102	0504	3664	P06	2210	1400	0306	1501	5473	7312	2000	0135	2100	PC6
2220	0337	0100	1125	0200	5407	3016	2300	0203	P06	2230	0403	0100	4342	0100	3174	0200	5407	0200	PC6
2240	5512	6030	3033	1277	3433	3016	1013	0761	P06	2250	1015	3533	0336	0200	5407	0200	5621	2200	PC6
2260	0377	3316	0345	0200	5407	1401	3316	0472	P06	2270	1400	0100	4371	0200	5407	0200	5512	6030	PC6
2300	3034	2200	4077	3434	3016	1237	1006	3534	P06	2310	0100	6162	0200	5075	5672	7250	3410	4010	PC6
2320	1005	0703	0200	6376	5010	7776	0200	5030	P06	2330	0100	3211	2000	6000	0100	3172	0200	5512	PC6
2340	6030	1701	6010	3030	0403	1006	0636	3014	P06	2350	1006	0603	0100	4331	3030	0405	5472	7150	PC6
2360	0100	3434	3014	1072	1203	0403	2000	2000	P06	2370	3415	3014	1017	1203	1702	0503	1440	3515	PC6
2400	3015	2100	4000	0252	0130	3434	5057	7752	P06	2410	1601	3172	5267	7770	6035	0200	6244	2000	PC6
2420	0454	3455	1470	3447	0200	6204	0503	0100	P06	2430	3174	0100	3176	0200	5075	0200	5621	0100	PC6
2440	2172	0200	5075	0200	5517	6030	3034	1217	P06	2450	3401	5001	0326	5472	7250	0200	5635	0357	PC6
2460	0200	5075	5777	7110	0503	0200	6376	0100	P06	2470	1471	0200	6565	0503	0100	1215	2200	0177	PC6
2500	3417	0433	1712	0431	1703	0427	1706	0404	P06	2510	2177	7623	0422	5072	7250	2300	0522	0411	PC6
2520	3017	1723	0505	2100	0524	0100	1125	1501	P06	2530	2100	0513	0100	1724	0200	6410	0100	3176	PC6
2540	5673	7312	0373	5673	7212	0200	6430	0603	P06	2550	1503	0351	2000	4033	5472	7050	0100	3062	PC6
2560	3017	2700	0177	1712	0456	1703	0551	2000	P06	2570	2000	3417	0200	6060	0531	0100	6573	0200	PC6
2600	5512	1711	6001	3005	1010	0603	0100	0775	P06	2610	5072	7010	1010	0200	6565	0503	0100	3210	PC6
2620	0200	6060	0452	0100	2560	0100	3174	0200	P06	2630	5512	1400	3447	3455	2000	2000	0200	6204	PC6
2640	0464	0354	0200	6414	0200	5141	0713	1012	P06	2650	0704	1104	1011	0304	1066	2300	4401	0100	PC6
2660	2746	1207	0410	1703	0714	0415	1400	0333	P06	2670	0200	6376	5072	7150	1006	0643	0100	1471	PC6
2700	2000	5400	3430	5072	7150	2200	4000	0402	P06	2710	1576	2100	0477	0200	6257	5016	2765	3230	PC6
2720	0302	3030	5473	7312	0443	1016	3430	1061	P06	2730	1020	3431	1303	0465	5773	7312	5072	7150	PC6
2740	1004	0503	1403	3531	5031	2760	0100	3211	P06	2750	0200	6614	5073	7312	0347	0200	5075	0372	PC6
2760	4024	4033	4000	4212	4015	5445	5455	5521	P06	2770	5425	5405	5400	5672	7250	1400	0100	3052	PC6
3000	0200	6565	0425	0303	0200	6565	2000	4000	P06	3010	5473	7312	0200	5512	3014	1217	1103	0404	PC6
3020	1400	0200	5311	0100	1266	0100	3064	3661	P06	3030	2200	0377	0534	0303	0200	6376	1401	0200	PC6
3040	6441	0533	0200	6430	0624	2000	0516	0200	P06	3050	6257	1416	2100	4024	5472	7050	2000	4000	PC6
3060	5473	7312	2000	3100	5472	7210	0100	3176	P06	3070	1001	0674	0100	0775	2000	0500	0100	1125	PC6
3100	0200	6414	1400	5472	7050	0100	0771	2217	P06	3110	7400	2310	1400	0403	0100	4354	0100	3174	PC6
3120	0100	3307	7014	3261	0703	2176	7777	2100	P06	3130	2626	0646	5500	4355	7014	2100	2026	3451	PC6
3140	1400	3467	1701	0605	0200	5721	3667	0372	P06	3150	3467	1701	0703	0100	3214	5067	7754	0200	PC6
3160	5704	5072	7210	0413	3410	5072	7010	1010	P06	3170	0110	----	5472	7050	0200	6376	3672	1003	PC6
3200	3473	3271	0756	3667	0344	2000	4000	0302	P06	3210	1400	5472	7250	0362	0200	4735	3754	0510	PC6
3220	2000	----	1702	0610	5600	3256	1217	0530	P06	3230	5400	3256	0311	1440	5500	3256	1067	0407	PC6
3240	1410	3465	0307	3655	1714	0704	3765	1704	P06	3250	0772	1400	5400	3271	0100	3350	----	0306	PC6
3260	1701	0704	1400	0100	3341	2000	----	3467	P06	3270	2000	0010	0200	5704	3073	0335	5073	7311	PC6
3300	1217	0504	0200	4405	0317	0200	3171	5072	P06	3310	7210	0514	5072	7250	0411	3064	3265	0605	PC6
3320	3644	0200	6376	0200	3121	3472	5400	3271	P06	3330	1003	3473	3271	0747	3667	5400	3266	0100	PC6
3340	3260	3467	5400	3271	5400	3266	0200	4735	P06	3350	1437	6010	3014	1737	0473	2000	6520	6010	PC6
3360	3013	1013	0714	0200	4735	0100	3257	1402	P06	3370	0302	1412	3470	3074	1607	6264	3013	1020	PC6
3400	0417	1416	6010	3012	1014	3113	1545	6010	P06	3410	3010	1014	3111	6113	6420	0200	6421	2006	PC6
3420	5007	6010	2100	0164	3401	3012	1014	3113	P06	3430	6101	0100	0100	1002	3032	1306	3432	3035	PC6
3440	1014	3136	6003	1604	6041	5072	7150	1317	P06	3450	5472	7150	1014	0720	1001	0605	0100	3722	PC6
3460	0100	3640	3007	1070	1203	0506	3045	3431	P06	3470	3032	1301	3432	3032	1014	0703	1001	0756	PC6
3500	3034	1217	0434	0354	3032	1021	0747	1401	P06	3510	0200	6441	0543	0200	5141	3016	1702	0811	PC6
3520	3035	1014	3136	1604	6040	3031	3244	0756	P06	3530	3032	1014	0703	1440	3532	1401	3401	2000	PC6
3540	4600	0200	6142	0200	5430	1106	0414	3035	P06	3550	1014	3136	1604	6040	3032	1301	3432	3044	PC6
3560	3431	0330	2000	0602	3433	2000	4001	3534	P06	3570	2000	0350	5472	7250	0200	6136	3034	1277	PC6
3600	1702	0733	3035	1014	3136	6040	3044	1070	P06	3610	1203	0523	3455	1401	1007	3447	0200	6204	PC6
3620	0404	2000	0342	0346	5072	7150	3447	1307	P06	3630	5472	7150	3347	0503	0100	3722	0100	3504	PC6
3640	5072	7150	1714	0705	3007	1070	1203	0466	P06	3650	3032	1014	0763	2000	4000	5473	7312	1400	PC6
3660	0200	6270	0200	5430	0436	3033	1071	1123	P06	3670	0545	0200	6136	1460	3542	1035	1014	3135	PC6
3700	1405	6002	3006	2300	3777	3406	1400	3401	P06	3710	5073	7312	2177	4000	3206	0676	2300	0277	PC6
3720	0100	3541	5072	7150	1071	1207	5572	7150	P06	3730	1015	3503	0100	4150	2000	0342	5472	7250	PC6
3740	0200	6136	2000	0101	5572	7150	1207	1704	P06	3750	0630	1604	3447	0200	5115	0736	6003	1701	PC6
3760	6041	3007	0451	1020	0747	1002	3345	1015	P06	3770	0631	3007	1220	1074	1120	3307	3407	0336	PC6

STATE CODE

INITIALS

RETURN

STAT WA

4040	6203	0351	3045	1204	0566	0345	3032	1015	P06	4030	3407	3045	1205	1102	3507	3047	0200	5115	P06
4040	6203	0351	3045	1204	0566	0345	3032	1015	P06	4030	3407	3045	1205	1102	3507	3047	0200	5115	P06
4060	6201	3014	1070	1203	0560	3043	1217	1703	P06	4070	0707	1401	0200	6441	0445	1403	0302		P06
4100	7401	2000	0120	3932	1400	0200	6142	1420	P06	4110	5572	7150	3037	1014	3136	1612	6040	5073	P06
4120	7319	3440	5073	7311	3441	5073	7312	3442	P06	4130	3035	1014	3136	1612	6240	0200	5430	0703	P06
4140	0405	1106	0535	2000	4000	3534	0100	4331	P06	4150	1005	1207	0200	5115	1701	6040	2000	7310	P06
4160	3173	5400	4170	3035	1014	3136	1612	6170	P06	4170	7360	3042	1217	1703	0611	1400	0310	5072	P06
4200	7150	1320	5472	7150	0341	1410	0200	6270	P06	4210	3032	3402	0200	5430	0762	0466	3002	1013	P06
4220	0604	2000	4000	3534	3033	1071	1123	0554	P06	4230	5072	7150	1320	5472	7150	1210	3401	3033	P06
4240	1777	1702	0505	3001	0507	0100	3621	1736	P06	4250	0503	3001	0511	3001	0405	2000	0350	5472	P06
4260	7750	0200	6136	5072	7150	1207	3447	0200	P06	4270	5115	6010	3033	1277	1140	0503	1410	3514	P06
4300	3032	1204	0402	1404	3514	1214	0403	1402	P06	4310	3514	3047	0200	5115	6210	3033	1277	1102	P06
4320	0503	0100	3421	3032	1310	1110	3432	0100	P06	4330	3734	5072	7150	3430	0200	6042	2000	0337	P06
4340	0100	1125	0200	5512	5030	1402	3447	0200	P06	4350	6157	2000	0451	0364	2000	3202	1201	0416	P06
4360	5772	7110	0513	5072	7210	2300	1131	0402	P06	4370	1503	2100	0455	0200	6257	0305	2000	0762	P06
4400	5472	7210	0100	3176	0100	3304	0200	3121	P06	4410	3402	5073	7310	1014	3401	1307	5173	7311	P06
4420	1720	6030	3436	1063	3435	3034	1217	0400	P06	4430	1702	0462	0736	3030	3131	0524	3066	3363	P06
4440	0443	5063	7730	1014	5163	7710	6230	3431	P06	4450	1063	3430	3035	1014	3136	6230	3663	1217	P06
4460	3463	3001	1006	3530	0100	4713	0100	4404	P06	4470	5072	7210	2177	5703	0507	3002	2177	5543	P06
4500	0665	0100	4402	3002	2177	5651	0657	3066	P06	4510	3363	0454	5072	7150	1207	3447	0416	1400	P06
4520	0200	5543	0543	2047	0200	5115	6043	1701	P06	4530	6010	3403	1063	3402	5063	7730	3430	3445	P06
4540	3410	5063	7710	3431	1601	3446	3411	1400	P06	4550	3433	3434	1403	3437	3030	1014	3131	6233	P06
4560	3047	0510	0200	6311	0403	0100	4404	0100	P06	4570	4456	3002	1014	3103	6210	1601	6243	0200	P06
4600	6126	0345	3035	1014	3136	1610	6040	1601	P06	4610	6020	1601	6003	0305	3032	3430	3033	3431	P06
4620	3030	1014	3131	6032	3036	1220	0555	3030	P06	4630	1014	3131	0402	1750	1670	6010	3011	3341	P06
4640	1377	1006	3110	3240	0505	3030	3406	3031	P06	4650	3407	3006	1014	3107	1611	6001	3003	1320	P06
4660	3403	3022	1220	3503	3005	2200	3777	3405	P06	4670	3024	2200	4000	3505	3006	1014	3107	1611	P06
4700	6231	3010	3240	0410	3072	5257	7770	5157	P06	4710	7752	1601	6030	3631	5473	7311	3030	5473	P06
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5020	4773	6230	0200	6126	0100	4732	1014	0100	P06	5030	5257	1006	0773	1072	3430	5072	7150	1065	P06
5040	1201	2100	5046	3530	4030	0361	4301	4301	P06	5050	4301	4301	4040	4320	4040	4320	4260	4260	P06
5060	4026	4026	3000	3030	4242	4302	4040	4320	P06	5070	4233	4076	4100	4320	0100	2462	0704	1021	P06
5100	0606	1031	1001	0670	0100	3176	0100	4376	P06	5110	3035	1014	3136	1604	0100	3755	3456	0470	P06
5120	1001	3554	3035	1014	3136	1610	6040	3042	P06	5130	1006	0704	1006	3143	0502	1577	3156	0354	P06
5140	0100	1501	2000	7313	3173	5400	5173	3415	P06	5150	5073	7310	1071	3401	1105	0523	3401	5673	P06
5160	7311	1063	5173	7310	1237	5473	7310	1014	P06	5170	5173	7311	6170	7363	1217	0427	1702	0423	P06
5200	0624	5073	7310	1014	5173	7311	1720	6040	P06	5210	3040	5473	7310	1014	3141	0400	1601	5473	P06
5220	7311	0350	0100	5264	2000	0100	5573	7310	P06	5230	3001	3515	4015	3417	2200	0377	3416	3017	P06
5240	1067	0426	1101	0516	3016	2300	7400	4415	P06	5250	2077	7677	5573	7310	1411	0200	5030	0100	P06
5260	5140	1116	0412	1117	2140	---	0370	5072	P06	5270	7150	2200	2000	0505	2000	4000	3516	0357	P06
5300	3014	2200	0177	2416	5016	0140	3416	0347	P06	5310	0100	1250	0200	5115	6030	2000	7313	3173	P06
5320	5400	5334	3032	5473	7310	1237	1014	3133	P06	5330	0406	5473	7311	6170	7363	0352	3035	1014	P06
5340	3134	1420	3433	1065	0356	3016	2200	0177	P06	5350	3417	1740	0706	1071	0504	5017	0040	0326	P06
5360	1500	0325	1071	2200	0377	3416	1016	3316	P06	5370	3417	1020	3317	1203	0463	1703	0461	5072	P06
5400	7150	2200	2000	0541	3016	3417	0100	1737	P06	5410	0607	1021	0711	1021	0745	0100	4354	1021	P06
5420	0772	0100	4376	0100	4342	3033	1071	0100	P06	5430	3664	3033	1071	0473	0200	5635	3401	5072	P06
5440	7150	1240	0431	3034	1071	3301	1217	0556	P06	5450	5072	7150	1207	0404	3032	1013	0646	3032	P06
5460	2200	7617	3432	3034	1071	3301	1220	0465	P06	5470	1500	0100	5477	3034	1016	0649	3033	1071	P06
5500	1130	0441	3601	0371	3035	1014	3134	0400	P06	5510	1611	0100	2340	5073	7310	1237	---	5173	P06
5520	7311	1701	1317	6010	3436	1043	3435	3014	P06	5530	1217	1701	0451	3012	3435	1014	3113	3436	P06
5540	0344	1400	0100	4757	0410	3414	0715	1405	P06	5550	3415	2006	4746	0315	1401	3415	3047	0200	P06
5560	5115	1701	0307	1401	3415	3035	1014	3136	P06	5570	3114	3413	1063	3412	2006	5016	6212	3715	P06
5600	0740	1701	0474	2106	5016	6020	3013	3321	P06	5610	0566	3012	3320	0563	0200	6126	0100	5542	P06
5620	0100	0257	0200	5512	1701	6010	2011	1071	P06	5630	3410	5010	0300	0364	0100	5436	5072	7150	P06
5640	1014	0707	3034	1217	1110	0422	1401	0320	P06	5650	1006	1207	0510	3035	1014	3136	1610	6040	P06
5660	3041	0306	0200	5115	6040	3044	1071	1217	P06	5670	3410	3034	2200	4000	0403	2000	0220	5310	P06
5700	0300	0100	5634	0100	3161	3472	3472	1003	P06	5710	3473	5067	7770	5167	7754	1003	3471	0363	P06
5720	0100	3146	5506	5725	7545	5067	7766	7606	P06	5730	6406	3371	7406	7046	1261	3402	6506	3267	P06
5740	7546	5067	7772	7606	6406	3371	5067	7760	P06	5750	5400	5756	7406	5067	7754	7306	7050	6606	P06
5760	5757	6506	3367	7546	5067	7770	5467	7764	P06	5770	5067	7774	7606	6406	3371	5067	7762	5400	P06

RIVER
LINES

GET

WHEN
TAKEN
BLACK
TO BE

FJM

5640	5720	0100	6164	3035	1014	3134	1611	6230	P06	6050	0370	3017	4415	2000	0100	2575	1510	0100	P06	
6000	5777	5072	7150	1016	0772	5073	7310	1071	P06	6070	3401	3173	2100	7313	3415	1705	5400	6110	P06	
6100	7011	1105	0544	5073	7311	1217	0450	5073	P06	6110	7310	1237	1014	5173	7311	6370	7356	5000	P06	
6120	7311	1063	5473	7310	0342	0100	5024	1400	P06	6130	3412	3413	2006	5016	6212	0367	3742	5000	P06	
6140	6136	0316	3662	5473	7312	3034	1377	3101	P06	6150	3434	2000	0352	5472	7250	5000	6142	2177	P06	
6160	4343	3430	0200	6042	0100	3174	0100	1402	P06	6170	2100	1300	5400	6175	3032	1301	3147	3432	P06	
6200	0200	6042	0363	0100	3620	2300	7777	5400	P06	6210	6224	2040	----	0200	5543	0565	3035	1014	P06	
6220	3135	6010	3014	2200	7577	3147	3414	3055	P06	6230	0403	1001	3413	3035	1014	3136	6210	0200	P06	
6240	6126	1400	0340	0100	1631	3035	5473	7310	P06	6250	1014	3136	1601	5473	7311	0365	0100	1127	P06	
6260	3410	1601	5472	7250	4010	5472	7210	0366	P06	6270	3062	3402	5072	7150	1310	3102	5472	7150	P06	
6300	5000	6270	5400	6142	1410	3401	0100	6145	P06	6310	0100	1626	3447	5072	7150	1207	3455	0507	P06	
6320	2040	0004	3147	0200	5543	0567	3055	0200	P06	6330	5115	3147	6010	3045	1071	1105	0506	3646	P06	
6340	1063	3545	1737	3445	3012	2200	0737	3113	P06	6350	0505	3045	3410	3046	3411	3045	3412	3046	P06	
6360	3413	3055	0200	5115	3147	6210	3055	0503	P06	6370	0200	6126	1400	0100	6310	0100	1270	5672	P06	
6400	7250	1701	3400	4200	5472	7210	0366	0100	P06	6410	0773	5072	7250	3410	3710	4010	1777	0774	P06	
6420	1677	1006	0771	1014	5472	7210	0360	0100	P06	6430	3044	0200	5512	1711	6030	3034	1007	0367	P06	
6440	0100	3512	3401	0200	5512	1704	6040	3042	P06	6450	3412	2043	3413	5072	7150	1207	0406	0200	P06	
6460	5115	6010	1701	6040	3001	0507	5073	7311	P06	6470	3413	5073	7310	3412	3041	3313	0506	3040	P06	
6500	3312	2200	0737	0414	3013	1217	0512	3012	P06	6510	1237	1014	3113	1720	6012	3613	0355	0333	P06	
6520	3012	1071	1105	0506	3613	1063	3512	1237	P06	6530	0342	2000	7313	3173	5400	6551	3012	2200	P06	
6540	0737	5473	7310	1237	1014	3113	5473	7311	P06	6550	6170	7363	0100	6440	2207	7600	1104	1012	P06	
6560	0403	2309	0200	3417	0100	2615	0617	1020	P06	6570	0613	1001	0661	0200	5512	0200	6244	2000	P06	
6600	0534	0100	1125	1400	0356	2000	0770	0100	P06	6610	4400	1003	0723	0100	2644	0704	1021	0655	P06	
6620	1001	1020	0656	2009	0503	0200	6257	2000	P06	6630	3004	5472	7210	0100	3210	0100	3176	0100	P06	
6640	1716	5673	7310	3445	1237	1014	5173	7311	P06	6650	3446	1701	1317	6033	3402	1063	3401	2037	P06	
6660	1217	1101	0554	3046	1217	0100	0721	2000	P06	6670	0221	6506	6671	7106	0100	0100	3134	7770	P06	
6700	5722	5724	5727	5730	5732	5733	5736	5740	P06	6710	5743	5744	5752	5755	5757	5761	5763	5772	P06	
6720	5773	6001	6004	6006	6010	6671	6673	----	P06	6730	----	----	----	----	----	----	----	----	P06	
6740	----	----	----	----	----	----	----	----	P06	6750	----	----	----	----	----	----	----	----	----	P06

SUBROUTINE USER

	10	11	12							0	1	2	3	4	5	6	7				
7000	----	----	----	----	----	----	----	----	P06	7010	1000	----	----	1400	2400	5377	2000	2000	P06		
7020	2400	5400	1400	----	----	----	----	----	P06	7030	----	----	----	----	----	----	----	----	P06		
7040	----	----	----	----	----	----	----	----	P06	7050	----	7000	7000	----	4000	4043	4026	4000	P06		
7060	4000	4000	4000	----	----	----	----	----	P06	7070	----	----	----	----	----	----	----	----	P06		
7100	----	----	----	----	----	----	----	----	P06	7110	----	----	----	0016	----	0015	----	----	P06		
7120	0016	7175	0016	----	----	----	----	----	P06	7130	----	----	----	----	----	----	----	----	P06		
7140	----	----	----	----	----	----	----	----	P06	7150	----	----	----	----	6000	6202	4140	4343	P06		
7160	4000	6202	6000	----	----	----	----	----	P06	7170	----	----	----	2601	----	----	----	----	P06		
7200	0001	----	----	----	----	0601	----	----	P06	7210	2177	2116	2116	2642	2480	1475	2460	2336	P06		
7220	2460	2335	2460	0002	1652	----	----	0637	P06	7230	0602	3222	----	----	0602	0002	3222	----	P06		
7240	----	0014	0002	3222	----	----	0037	0002	P06	7250	0505	0325	0325	0201	0326	0413	0326	0343	P06		
7260	0326	0343	0326	----	----	----	----	----	P06	7270	----	----	----	----	----	----	----	----	P06		
7300	----	----	----	----	----	----	----	----	P06	7310	0306	6723	4021	0354	0351	0356	0364	0240	P06		
7320	1	0001	----	----	----	----	----	----	P06	7330	0001	----	----	----	----	----	----	----	P06		
7340	3	0005	6321	7776	1401	0314	0311	0120	0123	P06	7350	4	0006	6221	4000	----	----	----	P06		
7360	5	0407	0335	----	0315	0124	0302	0114	0644	P06	7370	6	0006	6661	4000	2107	0316	0304	0235	0040	P06
7400	7	0605	7301	----	----	----	----	----	----	P06	7410	10	0006	7101	6000	----	----	----	----	P06	
7420	11	0606	5721	6000	2103	1403	2120	0316	0040	P06	7430	12	0006	6141	4000	----	----	----	----	P06	
7440	----	----	----	----	----	----	----	----	P06	7450	----	----	----	----	----	----	----	----	----	P06	
7460	----	----	----	----	----	----	----	3010	P06	7470	5400	7524	3011	5400	7525	3012	5400	7525	P06		
7500	2000	7524	3410	0200	7537	3613	3075	1602	P06	7510	6213	3017	1066	0503	0100	0105	1477	3410	P06		
7520	3074	1401	6210	0309	0110	0007	0015	0011	P06	7530	----	----	4152	0100	1400	7777	0100	7505	P06		
7540	5010	0007	5400	7614	3075	5410	0006	0200	P06	7550	7613	3075	1602	6013	3013	1703	0432	0405	P06		
7560	1602	0767	0566	2000	7626	3406	4006	3407	P06	7570	4007	1277	5400	7603	3636	4006	0410	3407	P06		
7600	4007	1377	2100	0304	4407	0366	3613	0312	P06	7610	3017	6504	7611	7104	6730	3017	5500	7614	P06		
7620	3713	3075	1602	6213	0100	7611	0016	7611	P06	7630	7613	----	0100	7551	3015	5400	7651	3076	P06		
7640	1601	5410	0604	1402	3410	1470	6011	3075	P06	7650	6310	7524	6211	1403	3414	1406	0200	0225	P06		
7660	0351	6200	0311	1466	0346	1505	2323	0013	P06	7670	0001	0001	----	0720	6520	6636	4746	0023	P06		
7700	0007	----	0403	0002	3461	1014	1160	0404	P06	7710	6460	0160	0500	0360	0000	0000	0000	0000	P06		
7720	0000	7400	7400	7400	0000	0000	0000	0000	P06	7730	0006	0007	0007	0007	0007	0007	0007	0007	P06		
7740	0000	0000	0000	0000	0000	0000	0000	0000	P06	7750	0400	----	6522	----	0013	----	6501	----	P06		
7760	0000	0000	0000	0000	0000	0000	0000	0000	P06	7770	----	----	0001	----	0003	----	0006	----	P06		

INPUT
OUTPUT
TIMECO
FORMA
MESSA
STAT
CMBU
PCSTA
AP:OB
LIMCO
BUFFA
CHAIN

OUTPUT INPUT

59

1LX LOW SPEED/LCC/2550 BATCH PROCESSOR

Called by 1I1

Works in Recall Basis: 1 sec-no activity/1/2 sec-active I/O

Responsible for AUT's {buffer type 06}

Works with 3 word triplicates

Can define as many as 5 devices/terminal

Could execute any combination of overlays on any one cycle

Consists of:

Main loop/Config/Init/Command/Command themselves

On Input:

Verify job card

Copy batch input to disk from INTERCOM buffer

Place completed file into batch input queue

On Output:

Copy output from disk to INTERCOM buffers

At completion evince output file

All bannering/lacing/expansion/compression done here

3LX MODE 2 INPUT PROCESSOR

Verify job card {1TJ}

EOR/EOF

Compression on input

4LX MODE 2 OUTPUT PROCESSOR

Banner page

Laced card

Expansion on output

EOR/EOF

5LX MODE 4 INPUT PROCESSOR

Verify job card {1TJ}

EOR/EOF

Compression on output

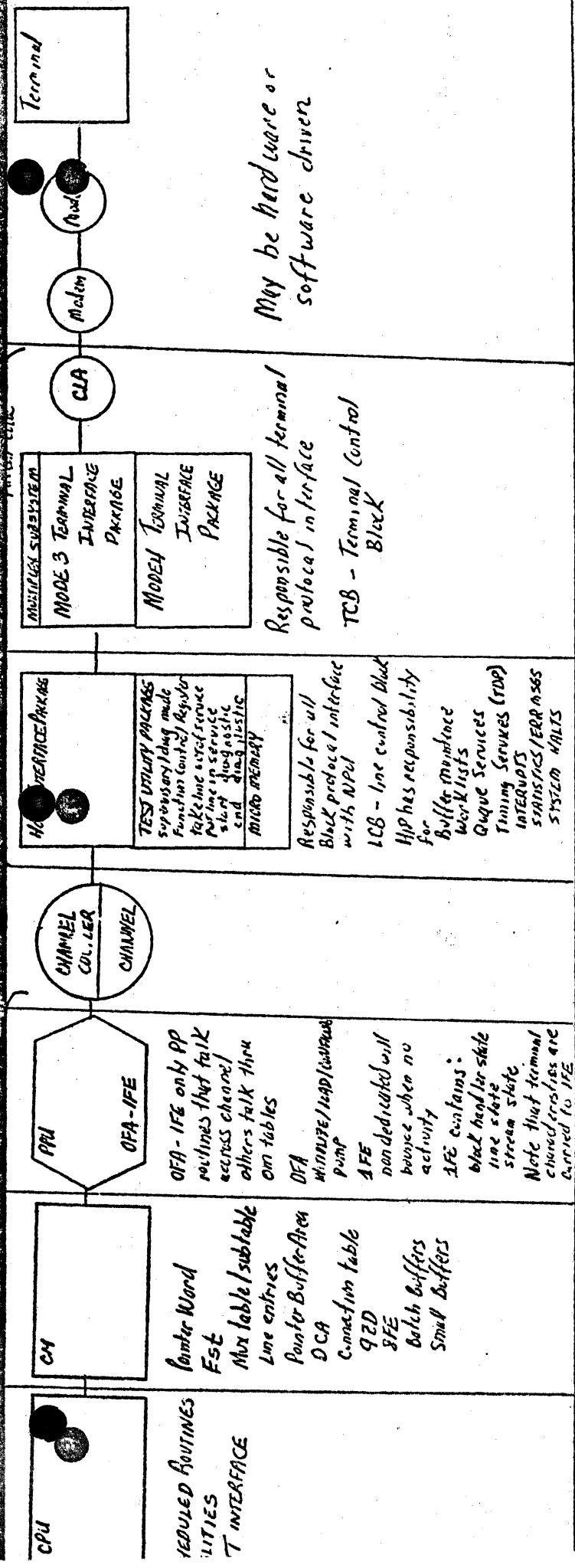
6LX MODE 4 OUTPUT PROCESSOR

Banner page

Forms control

EOR/EOF

Expansion on output



all actions are initiated from INTERCOM thereafter controlled by CCP
 Block as opposed to Character Multiplexing

Upline CCP → HOST
 Downline HOST → CCP

Estimated 10K Thruput

Request / Response Implementation (State driven)

INTERCOM

HIP

TIP

OFA CONFIGURE LINE

ONLY ONCE PER LINE PER LOAD
TELLS CHARACTERISTICS OF LINE

LINE CONFIGURED

OR ERROR

IF ERROR WHOLE LOAD IS ABORTED (INTERCOM/INSTALLATION SHOULD KNOW LINE CHAR)
HERE INITIAL TABLES/WORKLISTS ARE SET UP

IFE ENABLE LINE

LINE OPERATIONAL

OR
LINE INOPERATIVE

NOTE THIS CAN COME UP ANY TIME AFTER A LINE IS TERMED

OPERATIONAL

AT THIS TIME TCB IS DROPPED AND INTERCOM MUST REISSUE ENABLE LINE

IF INOPERATIVE TIP SPECIFIES SEVERITY CODE
0 DISCONNECT OF SWITCHED LINE
1 LESS SERIOUS TYPE ERRORS (INTERCOM WILL TIMEOUT AND BRING BACK UP)
2 SEVERE ERROR TYPE (INTERCOM WILL TURN OFF LINE AND IT IS UP TO THE OPERATOR TO BRING BACK UP)

CONFIGURE TERMINAL

SPECIFY CONNECTION NUMBER, SITE, STATION ADDRESS

TERMINAL CONFIGURED

LINE/TERMINAL IS NOW OPERATIONAL

TCB IS SET UP HERE
W/CHK IN 3 PARAMETERS ABOUT WHILE 2550 (SALTY THING IS W/CHK)

BANNER IS NOW SENT VIA NORMAL BLOCK PROCESSING

END OF DATA BLOCK

MSG

PARTIAL DATA BLOCK

BLK

BACK

BLOCK ACKNOWLEDGE

COMMAND

CMD

P.BREAK

INTERUPT DATA STREAM

P.RESET

RESET DATA STREAM

TERM

TERMINATE LOGICAL CONNECTION

DFA - 2550 Front End Initializer

Called by: LTL initialization/recovery, LFE autodump {reason code},
LCD {DUMPNPU,EE}. OFD/DFL {RECALL}

Function: AUTOLOAD CCP 1.0
255X line configuration
AUTODUMP CCP 1.0
Call driver {LFE}

LFE/DFA compete for the hardware channel, LFE must go into recall
for DFA to get in.

DFA will go into recall when: channel not available, FNT full, PFC
full

Communicates with LFE via DCA/MUX subtable header

Contains: ERRXXX codes {these must be cross referenced in DFA}

Resident: Main loop.Init/Common subroutines/Common dayfile msgs

Note: INTERCOM cannot differentiate between same variants of
different memory sizes.

DFA will try to execute overlays in order if possible.

DFL - Front End Load Routine

Called by: DFA/DFC/DFD/}FL

Load LFE into INTERCOM pointer area
Clear memory/load memory
Start 2550 execution/initiate driver if not already
active {DFX CCPXX CYXX PATXX RELXXX}.

DFC - Configure Lines Routine

Called by: DFL

Clear connection table
Configure lines Mode3CL/Mode4CL {contains table of
valid line types}
Tell driver of new 2550 to service via DCA

Note: Configuration port zero must be empty/used for service channel

Declare NPU dead {function 20} See PSR IN4B114/SIM S123.

DFD - Front End Dump Routine

Called by: DFA/DFD/OFL

Stop NPU
Write MUX subtable header and line entries to output file
Write macro memory/micro memory/registers to output file
Display error subcode in dump {see tag DISPCODE}
Release output file to output queue {via LQF call}
Inform operator NPU stopped:

Dayfile: EST XX NPUBAD
B Display: EST XX STOPPED {must be asked}

LFE - INTERCOM Front End Driver

Called by: DFA

Data driven - does not look for work to do - instead is
driven by NPU responses
Table driven - block handler state/line state/stream state
Main Loop:

Execute block handler
Execute line state
Execute stream state
Go onto next NPU
Check driver drop/restart/recall

PP resident is overwritten
Driver will go into RCL when no activity
Terminal characteristics are carried over into the driver
Driver may drop and request dump {see DISPCODE in DFA}
reason code
Driver controls all data interfaces

9FE - Recall/Drop Code

Release limbo buffers
General table cleanup dependent on function

8FE - Initialization/Table Code

Initialize limbo buffers
Set up driver loops: NPU/Line/UT
Jump into main loop

Load 9ZD on restart

State - Execute code which may or may not be successful in one pass
If successful, jump state
If not successful - leave state alone, go onto next line
{re-entrant code}

Response Table

Next State	Address of something to do
------------	----------------------------

Example: Line State Table LFE.3304

State.

State 0 Line disabled
State 1 Line enabled
State 2 Line operational
State 3 UT requested
State 4 UT assigned
State 5 Line not operational
State 6 Disable issued
State 7 Wait for terminates
State 8 Line not operational

LNSTTB All internal
LNSTTB Line operational
LNSTTB Line not operational
LNSTTB Line disabled

4 x 9 Matrix of each possible response and action for each state.

OZZ - INTERCOM LCC Initiator

Called by: IIL Initialization/Recovery
LZZ AUTODUMP
LCD N.DUMPLCC

Function: Load LCC controlware
Configure LCC/CSM tables
Dump LCC controlware

Autoload Logic:

Write load bootstrap to CSM at location zero
Build response table and write following autoload program
Follow with controlware from disk OZ*
Zero remaining CSM
Build line list/request list/command list/data buffers/
request list
Build line parameter records {LPR} analgous to 255X LCB
Startup LCC

Autodump Logic:

Load OZY and OZV

OZA - Autoload Bootstrap BUCAL

OZB - Autoload Bootstrap BUCAL

OZX - Autoload Overlay

Allows secondary autoload in place.

OZW - Read BZZ and ZZZ from Disk and Write to CM

Write driver overlays to INTERCOM pointer area.

OZY - Autodump Overlay

Stop LCC

Write MUX subtable header and line entries to output file
Write SAC status to output file
Write CSM/LCC dump to output file
Release output file to output queue {via LQF call}

OZV - Drop Overlay

Drop after error has been detected {via error ordinal for drop}
Responsible for entries into CE error file
Tell operator of bad CSM: CXX LCC BAD, CXX SAC BAD

1ZZ - INTERCOM LCC Driver

Called by: 0ZZ

When initialized each LCC is idling waiting for a channel flag so it can search the line list for a line to open and begin processing.

Data Driven - driven by LCC responses
Table Driven - line states/stream states

Main Loop:

Check to release limbo buffers
Process LCC's {go onto next LCC}
Read response list/execute response action
Check to get additional limbo buffers if required
Process lines/execute line state
Process streams/execute stream state
Recycle driver if no activity {9ZZ}

Note: Terminal characteristics are carried over to the driver.
Will support Mode 2/Mode 3/Mode 4 devices.

2ZZ - Open/Close Segments

Contains actual code - written to INTERCOM pointer area.

9ZZ - Recall/Drop Code

Release limbo buffers
General table clean-up dependent on function
Called to inform operator on hardware malfunction

8ZZ - Initialization/Table Code

Written to INTERCOM pointer area
Initialize limbo buffers/set up driver loops
Action/Response/Line state/Stream state tables.

The Request List for each line contains one entry for Intercom to LCC communications for the line itself, plus one entry for each data stream on that line.

Note: Even numbered streams pertain to output and odd numbered streams pertain to input.

FORMAT of
Request List

Stream	Line	S	
			Command Address

LINE LIST

LCC locations b and 7 contain the 32 bit CSM address of the Line List. LCC location F contains the number of lines for the LCC table set up.

The Line List is generated by Intercom and passed to the LCC at "AUToload" time. It contains one entry per line configured on the LCC + 1 additional entry. Each entry is 32 bits in length. If this address contains:

8000	XXXX	the line is opened and XXXX contains the address of the Request List
8000	0000	line is undefined to system
0000	XXXX	line is to be opened

Dayfile Analyzer

Although not overly practical in a production environment, the setting of byte 4 of word 1 of the mux table to a 4 prior to the bringing up the LCC subsystem will cause Intercom to put all responses and requests into the system dayfile in the following format:

```

XX YY ZZ
where
XX = response code1b
YY = line number1b
ZZ = stream number1b

```

The normal sequence of operations for a line when the LCC is first initialized is as follows:

F50112	HLP-LCC	Open Line
230100	LCC-HLP	Line Closed
490100	LCC-HLP	Channel Flag Cleared
500100	LCC-HLP	Line Connected

1WB INTERCOM WIDEBAND DRIVER

Called by L11 {Will bounce when no activity}

Functions:

Output to the MUX
Input from the MUX
Process input/generate output
Buffer/UT management

Resident Code:

Initialization
Check drop/Restart/Recall
UT processing {initialize/manage/disconnect}
AUT processing {type 10 buffer}
Buffer management {in/out pointers}
Communication control loop

2WB

Process batch type directives {jump table}
Print/punch output request
Graphics output
Card input
Card input with EOR
Card input with EOF

3WB

Interactive output requests
Interactive input requests
Abort processing {D/OA}

4WB

Move buffers

5WB

Builds header

6WB

Write error messages to system dayfile/CE error file

LXP INTERCOM HIGH SPEED EXPORT PROCESSOR

Called by LT1 {will bounce when no activity}

Works with data streams {2 word AUT entries} {UT type 10}

Functions:

Process input {CR}, output {LP/CP}, graphics data
Process batch commands
Send diagnostic {JANUS type} messages to terminal
FNT search/LQF processing/evict processing
Enter stack requests

Main Loop:

Process UT/AUT
Check drop/restart
Process special directives {batch commands}
Process output data streams
Process input data streams
Process graphics data streams
Check activity/recall

Note: LXP does not do expansion/compression on output/input.

2XP

Process special directives
Term/Repeat/Return/Init/Define/Release/Divert/Status/Abort/Prior/
Graphics Abort

3XP

Process output data stream print/punch

5XP

Output print banner page

6XP

Output punch laced card

4XP

Process input data stream
Check job card - Call LTJ
Job card error - discard input

1XG

Graphics I/O processing

INTERCOM PP UTILITIES

- 176 - INTERCOM interface to station control point.
- 1QP - INTERCOM executive for multi-user jobs. Performs the following functions:
 1. Service all requests from MUJS
 2. Inform MUJS of changes in status for attached users.
 3. Attach new users to existing MUJS.
 4. Initiate new MUJS.
 5. Detach Users from MUJS.
 6. Drop MUJS with no more users attached.
 7. Schedule MUJS {determine when needed and when to swap out}.
- 1TM - Sends messages to terminal. Called primarily by 1CI/1LX/1AJ message types including:
 1. UT Banner.
 2. Mode Errors/PP Call Error/Auto Recall Error.
 3. Communications Re-established.
 4. 1LX msgs Input Stopped by system/Job Card Error.
- IPP - Controls access to INTERCOM PASSWRD file.
- LCD - PP interface to DUMPNPU/DUMPLCC.
- 1M - 1QP helper.
- 1ID - Send dayfile messages to a terminal. It is called by 1S0 each time it swaps out an INTERCOM job with existing dayfile output.
- 1DS - H display generator, send H display to remote terminals.
- 1BL - Alters User tables. Transfers UT information into field length of user.
- FNT - Alters or obtains FNT entries.
- IUP - Initiate User Program. It is called by an INTERCOM MUJ to pass control cards to 1CI thru INTERCOM small buffers. It also processes EDITOR/RUN command.
- IAP - Initiate Another Program. Transfers control cards to a control point.
- MES - Handles communication between user and central site operator and messages between users.
- MUJ - Multi User Job initialization.
- MAC - MUJ Accounting/MUJ error processing.
- 1AD - Performs file processing for MUJ routines.

GBJ - Begin Graphics Mode.

GEJ - End Graphics Mode.

GES - Signon/Signoff processing.

IGS - Initialize Signon.

IGJ - Update graphics queue when IGS data streams defined.

2GJ - Send messages to graphics terminals.

IGR - Recover graphics queue.

INTERCOM V4 CP UTILITIES

LINSTAT Allow console operator to obtain the line status for any MUX. The operator also has the capability of turning ON any line that is currently OFF {LCC/2550}. Available in R4/L473.

DUMPLCC Allow console operator to obtain dumps of the LCC.

DUMPNPU Allow console operator to obtain dumps of the 2550.

Q Examine batch queues.

PASSWRD Create and/or modify PASSWRD files.

DISCARD Return a local file or purges a permanent file.

ERRORS Return FTN, COBOL, ALGOL, or COMPASS compiler output diagnostics.

TEACH Aid user in use of INTERCOM.

STORE Store a local file as a permanent file.

FETCH Attach a permanent file.

READ Read cards from UT to a local file.

LOGIN Enter a user into the system.

CONNECT Direct I/O from a file to a terminal.

SITUATE Obtain list of users and ID's.

DISCONT Discontinue association of a file with a terminal.

SCREEN Allow a user to modify his page size and line width.

BATCH Change disposition or name of a file.

PAGE Examine a file at a terminal.

SEND Send messages to other users.

LOGOUT Terminate users INTERCOM session.

FILES Lists files assigned to a user.

XEQ Load user files, user libraries, and system generated binary files, and allows subsequent submittal for execution or the construction of absolute overlays.

- ASSETS List current user access parameters.
- TESTLP Generates a file to be printed on a line printer.
- EDITOR A MULTI-USER, PROGRAM-TEXT EDITOR which can process many users simultaneously with one copy of the program.
- BRESEQ Resequence BASIC program line numbers so that file may be used by EDITOR.

INTERCOM FILES

{TWO PERMANENT FILES}

- INTERCOMPASSWORDS

Contains--

- .. passwords & parameters
- .. Created by PASSWRD {or modified}
- .. Referenced by LOGIN, SEND, SITUATE

- INTERCOMUNRESTRICTED

Contains--

- .. bit map of available user IDs {1st logical record}
- .. entry per logged in user {unrestricted} {2nd logical record}
- .. pre-allocated by PASSWRD & LOGIN in 1500 word blocks

INTERCOM USER IDENTIFICATION

- USER ID {Interactive}
 - created by PASSWRD program {restricted}
{combination of username+password
{unique}}
 - assigned by LOGIN {unrestricted}
password only required/each unique
username creates new ID

PERMANENT UNTIL PASSWORD FILE
IS CHANGED

- TERMINAL ID {Batch Terminal Identification}
 - Hardwired {identifies specific
terminal no LOGIN required}
 - Dial-up {Terminal ID=User ID}
LOGIN required

TOTAL OF 1296 user IDs are available.

INTERCOM PERMANENT FILE FORMATS

INTERCOMPASSWORDS

USERNAME: BLANK IF UNRESTRICTED USAGE				
PASSWORD				
ACCESS LEVEL	FIELD LENGTH	USER ID	TIME LIMIT	FILE LIMIT
RESERVED FOR INSTALLATION				
DEFINED ACCOUNTING DATA				

UP TO 1296 ENTRIES WRITTEN IN 1500 WORD BLOCK

INTERCOMUNRESTRICTED

1, 2, 3, 4, etc: BIT POSITIONS 35, 36

REC 1

A 36 x36 BIT MATRIX GIVING AVAILABILITY OF ALL ID's		.
		.
		.
		.
		.

UPTO
1296
ENTRIES

USERNAME	
PASSWORD	
ID	

WRITTEN IN
1296 WORD BLOCKS

SYNOPSIS
INPUT
SYSTEM

- 1 J=AAAA, P=AAAA, F=120000, T=7777, A=3777, N=76
- 2 J=BBBB, P=BBBB, F=120000, T=7777, A=3777, N=76
- 3 U=CCCC, P=CCCC, F=120000, T=7777, A=3777, N=76
- 4 U=DDDD, P=DDDD, F=120000, T=7777, A=3777, N=76
- 5 J=EEEE, P=EEEE, F=120000, T=7777, A=3777, N=76
- 6 U=FFFF, P=FFFF, F=120000, T=7777, A=3777, N=76
- 7 U=GGGG, P=GGGG, F=120000, T=7777, A=3777, N=76
- 8 U=HHHH, P=HHHH, F=120000, T=7777, A=3777, N=76
- 9 U=IIII, P=IIII, F=120000, T=7777, A=3777, N=76
- 0 U=JJJJ, P=JJJJ, F=120000, T=7777, A=3777, N=76
- 1 U=KKKK, P=KKKK, F=120000, T=7777, A=3777, N=76
- 2 U=LLLL, P=LLLL, F=120000, T=7777, A=3777, N=76
- 3 U=MMMM, P=MMMM, F=120000, T=7777, A=3777, N=76
- 4 U=NNNN, P=NNNN, F=120000, T=7777, A=3777, N=76
- 5 U=OOOO, P=OOOO, F=120000, T=7777, A=3777, N=76
- 6 U=PPPP, P=PPPP, F=120000, T=7777, A=3777, N=76
- 7 U=QQQQ, P=QQQQ, F=120000, T=7777, A=3777, N=76
- 8 U=RRRR, P=RRRR, F=120000, T=7777, A=3777, N=76
- 9 U=SSSS, P=SSSS, F=120000, T=7777, A=3777, N=76
- 0 U=TTTT, P=TTTT, F=120000, T=7777, A=3777, N=76
- 1 U=UUUU, P=UUUU, F=120000, T=7777, A=3777, N=76
- 2 U=VVVV, P=VVVV, F=120000, T=7777, A=3777, N=76
- 3 U=WWWW, P=WWWW, F=120000, T=7777, A=3777, N=76
- 4 U=XXXX, P=XXXX, F=120000, T=7777, A=3777, N=76
- 5 U=YYYY, P=YYYY, F=120000, T=7777, A=3777, N=76
- 6 U=7777, P=7777, F=120000, T=7777, A=3777, N=76
- 7 P=STEVF1, F=120000, T=7777, A=3777, N=76
- 8 P=STEVF2, F=120000, T=7777, A=3777, N=76
- 9 P=STEVF3, F=120000, T=7777, A=3777, N=76
- 0 P=STEVF4, F=120000, T=7777, A=3777, N=76
- 1 P=STEVF5, F=120000, T=7777, A=3777, N=76
- 2 P=STEVF6, F=120000, T=7777, A=3777, N=76
- 3 P=STEVF7, F=120000, T=7777, A=3777, N=76
- 4 P=STEVF8, F=120000, T=7777, A=3777, N=76
- 5 P=STEVF9, F=120000, T=7777, A=3777, N=76

Defines
Unrestricted
Password

- 6 U=AAA, P=AAA, F=120000, T=7777, N=76
- 7 U=BBB, P=BBB, F=120000, T=7777, N=76
- 8 U=CCC, P=CCC, F=120000, T=7777, N=76
- 9 U=DDD, P=DDD, F=120000, T=7777, N=76
- 0 U=EEE, P=EEE, F=120000, T=7777, N=76
- 1 U=FFF, P=FFF, F=120000, T=7777, N=76
- 2 U=GGG, P=GGG, F=120000, T=7777, N=76
- 3 U=HHH, P=HHH, F=120000, T=7777, N=76
- 4 U=III, P=III, F=120000, T=7777, N=76
- 5 U=JJJ, P=JJJ, F=120000, T=7777, N=76
- 6 U=KKK, P=KKK, F=120000, T=7777, N=76
- 7 U=LLL, P=LLL, F=120000, T=7777, N=76
- 8 U=MMM, P=MMM, F=120000, T=7777, N=76
- 9 U=NNN, P=NNN, F=120000, T=7777, N=76
- 0 U=OOO, P=OOO, F=120000, T=7777, N=76
- 1 U=PPP, P=PPP, F=120000, T=7777, N=76
- 2 U=QQQ, P=QQQ, F=120000, T=7777, N=76
- 3 U=RRR, P=RRR, F=120000, T=7777, N=76
- 4 U=SSS, P=SSS, F=120000, T=7777, N=76
- 5 U=TTT, P=TTT, F=120000, T=7777, N=76
- 6 U=UUU, P=UUU, F=120000, T=7777, N=76
- 7 U=VVV, P=VVV, F=120000, T=7777, N=76

AAAA	AAAA	AA	3777B	1200A	7777B	0076B
BBBB	BBBB	BB	3777B	1200A	7777B	0076B
CCCC	CCCC	CC	3777B	1200B	7777B	0076B
DDDD	DDDD	DD	3777B	1200B	7777B	0076B
EEEE	EEEE	EE	3777B	1200A	7777B	0076B
EEEE	EEEE	EE	3777B	1200A	7777B	0076B
GGGG	GGGG	GG	3777B	1200A	7777B	0076B
HHHH	HHHH	HH	3777B	1200B	7777B	0076B
IIII	IIII	II	3777B	1200A	7777B	0076B
JJJJ	JJJJ	JJ	3777B	1200A	7777B	0076B
KKKK	KKKK	KK	3777B	1200A	7777B	0076B
LLLL	LLLL	LL	3777B	1200B	7777B	0076B
MMMM	MMMM	MM	3777B	1200A	7777B	0076B
MMMM	MMMM	MM	3777B	1200B	7777B	0076B
NNNN	NNNN	NN	3777B	1200B	7777B	0076B
PPPP	PPPP	PP	3777B	1200A	7777B	0076B
PPPP	PPPP	PP	3777B	1200A	7777B	0076B
RRRR	RRRR	RR	3777B	1200A	7777B	0076B
RRRR	RRRR	RR	3777B	1200A	7777B	0076B
SSSS	SSSS	SS	3777B	1200A	7777B	0076B
TTTT	TTTT	TT	3777B	1200A	7777B	0076B
UUUU	UUUU	UU	3777B	1200A	7777B	0076B
VVVV	VVVV	VV	3777B	1200A	7777B	0076B
WWWW	WWWW	WW	3777B	1200A	7777B	0076B
XXXX	XXXX	XX	3777B	1200A	7777B	0076B
YYYY	YYYY	YY	3777B	1200B	7777B	0076B
ZZZZ	ZZZZ	ZZ	3777B	1200B	7777B	0076B

NOT WHEN
UNRESTRICTED USER
STEVE 1, STEVE 1
LOGS IN HE WILL BE
ASSIGNED A UID
WHICH WILL REMAIN
UNTIL FILE RECREATED

STEVE1	STEVE1		3777B	1200A	7777B	0076B
STEVE2	STEVE2		3777B	1200A	7777B	0076B
STEVE3	STEVE3		3777B	1200B	7777B	0076B
STEVE4	STEVE4		3777B	1200A	7777B	0076B
STEVE5	STEVE5		3777B	1200A	7777B	0076B
STEVE6	STEVE6		3777B	1200B	7777B	0076B
STEVE7	STEVE7		3777B	1200A	7777B	0076B
STEVE8	STEVE8		3777B	1200B	7777B	0076B
STEVE9	STEVE9		3777B	1200A	7777B	0076B
AAA	AAA	AA	0005A	1200A	7777B	0076B
BBB	BBB	BB	0005A	1200A	7777B	0076B
CCC	CCC	CC	0005A	1200B	7777B	0076B
DDD	DDD	DD	0005A	1200A	7777B	0076B
EEE	EEE	EE	0005A	1200A	7777B	0076B
FFF	FFF	FF	0005A	1200B	7777B	0076B
GGG	GGG	GG	0005A	1200B	7777B	0076B
HHH	HHH	HH	0005A	1200A	7777B	0076B
III	III	II	0005A	1200A	7777B	0076B
JJJ	JJJ	JJ	0005A	1200A	7777B	0076B
KKK	KKK	KK	0005A	1200B	7777B	0076B
LLL	LLL	LL	0005A	1200A	7777B	0076B
MMM	MMM	MM	0005A	1200A	7777B	0076B
NNN	NNN	NN	0005A	1200A	7777B	0076B
PPP	PPP	PP	0005A	1200A	7777B	0076B
QQQ	QQQ	QQ	0005A	1200A	7777B	0076B
RRR	RRR	RR	0005A	1200A	7777B	0076B
SSS	SSS	SS	0005A	1200B	7777B	0076B
TTT	TTT	TT	0005A	1200A	7777B	0076B
UUU	UUU	UU	0005A	1200A	7777B	0076B
VVV	VVV	VV	0005A	1200A	7777B	0076B
WWW	WWW	WW	0005A	1200A	7777B	0076B
XXX	XXX	XX	0005A	1200B	7777B	0076B

CC	CC	CS	03779	12000	77778	00768
DD	DD	CT	03779	12000	77778	00768
EE	EE	CU	03779	12000	77778	00768
FF	FF	CV	03779	12000	77778	00768
GG	GG	CW	03779	12000	77778	00768
HH	HH	CX	03779	12000	77778	00768
II	II	CY	03779	12000	77778	00768
JJ	JJ	CZ	03779	12000	77778	00768
KK	KK	CC	03779	12000	77778	00768
LL	LL	CI	03779	12000	77778	00768
MM	MM	CJ	03779	12000	77778	00768
NN	NN	CK	03779	12000	77778	00768
OO	OO	CL	03779	12000	77778	00768
PP	PP	CM	03779	12000	77778	00768
QQ	QQ	CN	03779	12000	77778	00768
RR	RR	CO	03779	12000	77778	00768
SS	SS	CP	03779	12000	77778	00768
TT	TT	CQ	03779	12000	77778	00768
UU	UU	CR	03779	12000	77778	00768
VV	VV	CS	03779	12000	77778	00768
WW	WW	CT	03779	12000	77778	00768
XX	XX	CU	03779	12000	77778	00768
YY	YY	CV	03779	12000	77778	00768
ZZ	ZZ	CW	03779	12000	77778	00768
A	A	DX	37779	12000	77778	00768
B	B	DY	37779	12000	77778	00768
C	C	DZ	37779	12000	77778	00768
D	D	EA	37779	12000	77778	00768
E	E	EB	37779	12000	77778	00768
F	F	EC	37779	12000	77778	00768
G	G	ED	37779	12000	77778	00768
H	H	EE	37779	12000	77778	00768
I	I	EF	37779	12000	77778	00768
J	J	EG	37779	12000	77778	00768
K	K	EH	37779	12000	77778	00768
L	L	EI	37779	12000	77778	00768
M	M	EJ	37779	12000	77778	00768
N	N	EK	37779	12000	77778	00768
O	O	EL	37779	12000	77778	00768
P	P	EM	37779	12000	77778	00768
Q	Q	EN	37779	12000	77778	00768
R	R	EO	37779	12000	77778	00768
S	S	EP	37779	12000	77778	00768
T	T	EQ	37779	12000	77778	00768
U	U	ER	37779	12000	77778	00768
V	V	ES	37779	12000	77778	00768
W	W	ET	37779	12000	77778	00768
X	X	EU	37779	12000	77778	00768
Y	Y	EV	37779	12000	77778	00768
Z	Z	EW	37779	12000	77778	00768

NUMBER OF AVAILABLE INDS IS 1156

ASSWORD FILES CREATED ON 03/28/78 AT 09.52.49.

INTERCOM PASSWORDS

PAGE OF A

PAGE 2

*23456789 *23456789 *23456789 *23456789

BEGIN READING LOGICAL RECORD NUMBER 1

USER NAME	PASSWORD	AC LEVEL	MAIL TIME	DED TIME	NOF	4:J RA	4:J RB	4:J RC	4:J RD	4:J RE	4:J RF	4:J RG	4:J RH	4:J RI	4:J RJ	4:J RK	4:J RL	4:J RM	4:J RN	4:J RO	4:J RP	4:J RQ	4:J RR	4:J RS	4:J RT	4:J RU	4:J RV	4:J RW	4:J RX	4:J RY	4:J RZ				
1	0101010000000000	3177120000000000	3777120000000000	0000000000000000	0000000000000000	AAAA	AAAA	4:J RA																											
5	0101010000000000	0222220000000000	0202020000000000	0303030000000000	0303030000000000	AAAA	AAAA	4:J RA																											
9	0101010000000000	0303030000000000	0303030000000000	0303030000000000	0303030000000000	AAAA	AAAA	4:J RA																											
13	3777120000000000	0303030000000000	0303030000000000	0303030000000000	0303030000000000	4:J RC																													
17	0404040000000000	3777120000000000	0303030000000000	0303030000000000	0303030000000000	AAAA	AAAA	4:J RA																											
21	0505050000000000	0505050000000000	3777120000000000	0606060000000000	0606060000000000	EEFE	EEFE	4:J RE																											
25	0606060000000000	0606060000000000	0606060000000000	0606060000000000	0606060000000000	EEFE	EEFE	4:J RE																											
29	0606060000000000	0606060000000000	0606060000000000	0606060000000000	0606060000000000	EEFE	EEFE	4:J RE																											
33	3777120000000000	0606060000000000	0606060000000000	0606060000000000	0606060000000000	4:J RG																													
37	1313130000000000	3777120000000000	0606060000000000	0606060000000000	0606060000000000	HHHH	HHHH	4:J RH																											
41	1111110000000000	1111110000000000	3777120000000000	1212120000000000	1212120000000000	IIII	IIII	4:J RI																											
45	0808080000000000	1212120000000000	1212120000000000	1212120000000000	1212120000000000	IIII	IIII	4:J RI																											
49	0808080000000000	1212120000000000	1212120000000000	1212120000000000	1212120000000000	IIII	IIII	4:J RI																											
53	3777120000000000	0909090000000000	0909090000000000	0909090000000000	0909090000000000	4:J RK																													
57	1414140000000000	3777120000000000	0909090000000000	0909090000000000	0909090000000000	LLLL	LLLL	4:J RL																											
61	1515150000000000	1515150000000000	3777120000000000	1616160000000000	1616160000000000	MMMH	MMMH	4:J RM																											
65	0909090000000000	1616160000000000	1616160000000000	1616160000000000	1616160000000000	MMMH	MMMH	4:J RM																											
69	0909090000000000	1616160000000000	1616160000000000	1616160000000000	1616160000000000	MMMH	MMMH	4:J RM																											
73	3777120000000000	0909090000000000	0909090000000000	0909090000000000	0909090000000000	4:J RO																													
77	2222220000000000	3777120000000000	0909090000000000	0909090000000000	0909090000000000	PPPP	PPPP	4:J RP																											
81	2121210000000000	2121210000000000	3777120000000000	2222220000000000	2222220000000000	QQQQ	QQQQ	4:J RQ																											
85	0909090000000000	2222220000000000	2222220000000000	2222220000000000	2222220000000000	RRRR	RRRR	4:J RR																											
89	0909090000000000	2222220000000000	2222220000000000	2222220000000000	2222220000000000	RRRR	RRRR	4:J RR																											
93	3777120000000000	0909090000000000	0909090000000000	0909090000000000	0909090000000000	4:J RS																													
97	2424240000000000	3777120000000000	0909090000000000	0909090000000000	0909090000000000	TTTT	TTTT	4:J RT																											
101	2525250000000000	2525250000000000	3777120000000000	2626260000000000	2626260000000000	UUUU	UUUU	4:J RU																											
105	0909090000000000	2626260000000000	2626260000000000	2626260000000000	2626260000000000	UUUU	UUUU	4:J RU																											
109	0909090000000000	2626260000000000	2626260000000000	2626260000000000	2626260000000000	UUUU	UUUU	4:J RU																											
113	3777120000000000	0909090000000000	0909090000000000	0909090000000000	0909090000000000	4:J RV																													
117	3333330000000000	3777120000000000	0909090000000000	0909090000000000	0909090000000000	XXXX	XXXX	4:J RX																											
121	3131310000000000	3131310000000000	3777120000000000	3232320000000000	3232320000000000	YYYY	YYYY	4:J RY																											
125	0909090000000000	3232320000000000	3232320000000000	3232320000000000	3232320000000000	ZZZZ	ZZZZ	4:J RZ																											
129	0909090000000000	3232320000000000	3232320000000000	3232320000000000	3232320000000000	ZZZZ	ZZZZ	4:J RZ																											
133	3777120000000000	0909090000000000	0909090000000000	0909090000000000	0909090000000000	4:J																													
137	2323230000000000	3777120000000000	0909090000000000	0909090000000000	0909090000000000	STEVE2	STEVE2	4:J																											
141	5555550000000000	2323230000000000	3777120000000000	5555550000000000	5555550000000000		STEVE3	4:J																											
145	0909090000000000	5555550000000000	5555550000000000	5555550000000000	5555550000000000		STEVE4	4:J																											
149	0909090000000000	5555550000000000	5555550000000000	5555550000000000	5555550000000000		STEVE4	4:J																											
153	3777120000000000	5555550000000000	5555550000000000	5555550000000000	5555550000000000	4:J																													
157	2323230000000000	3777120000000000	5555550000000000	5555550000000000	5555550000000000	STEVE6	STEVE6	4:J																											

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+23456789 +23456789 +23456789 +23456789

BEGIN READING LOGICAL RECORD NUMBER 1

1 00000017777777776 00000017777777776 00000017777777776 00000009777777776
5 000000000000000000 000000000000000000 000000000000000000 000000000000000000

A:~::~~ A:~::~~ A:~::~~ G:~::~~

>>>> 6 LINES DUPLICATE LAST ABOVE <<<<<

33 000000000000000000 000000000000000000 000000000000000000 000000000000000000

END OF LOGICAL RECORD, LEVEL 009

BEGIN READING LOGICAL RECORD NUMBER 2

1 000000000000000000 000000000000000000 000000000000000000 000000000000000000

>>>> 322 LINES DUPLICATE LAST ABOVE <<<<<

93 000000000000000000 000000000000000000 000000000000000000 000000000000000000

END OF LOGICAL RECORD, LEVEL 009

BEGIN READING LOGICAL RECORD NUMBER 3

END OF FILE (END OF RECORD, LEVEL 179)

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