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VSE/POWER

Program Product

Program Logic Manual Part 3

Program Number 5666-273

Feature Numbers 6016 6017

Version 2



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138

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This is a major revision of and obsoletes Lil2-5034-0. Changes or additions to the text and illustrations are indicated by a vertical line to the left of the change. This edition applies to Version 2, Release 1 of VSE/POWER, Program Number 5006-273, together with Version 2, Release 1 of VSE/POWER Shared Spooling feature, feature Numbers 6016 and 6017, and to all subsequent releases until otherwise indicated in new editions or Technical Newsletters. Changes are continually made to the information herein; before using this publication in connection with the operation of 18M systems, consult the latest IBm System/370 and 4300 Processors Bibliography, GC20-0001, for the editions that are applicable and current.

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PREFACE

This manual is the third of three volumes describing the internal logic of VSE/POWER. The three volumes are:-

- VSE/POWER Program Logic Manual Part 1, LY12-5027
- VSE/POWER Program Logic Manual Part 2, LY12-5028
- VSE/POWER Program Logic Manual Part 3, LY12-5034

This volume (Part 3) describes the method of operation of the optional Networking and Remote Job Entry functions.

To use this manual effectively, you should be familiar with the concepts and facilities of VSE/POWER described in the following IBM VSE/Advanced functions publications:

- VSE/Advanced functions System Generation, SC33-6096
- VSE/Advanced Functions System Management Guide, SC33-6094
- VSE/Advanced functions Operating Procedures, SC33-6097
- VSE/Advanced functions System Control Statements, SC33-6095

RJE, SNA users should also be familiar with ACF/VTAM concepts and facilities as described in:

- ACF/VTAM Concepts and Planning, GC38-0282
- ACF/VTAM Macro Language Reference, SC38-0261

Further VSE/POWER publications are:

- VSE/POWER installation and Operations Guide, SH12-5329
- VSE/POWER Remote Job Entry User's Guide, SH12-5328
- VSE/POWER Networking User's Guide, SC33-6140
- VSE/POWER dessages, SH12-5520
- VSE/POWER Reference Summary, SH12-5435
- VSE/POWER Shared Spooling User's Guide, SH12-5330

VSE/POWER PLM Part 3

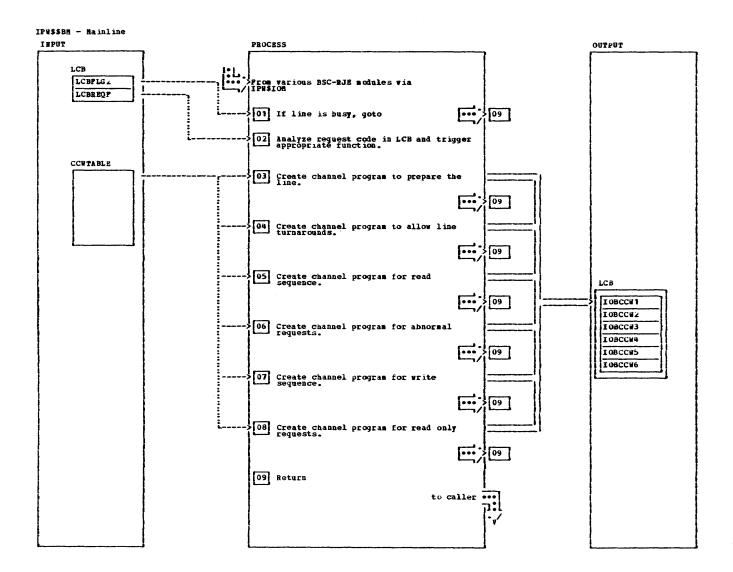
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1. METHOD OF OPERATION

Part 3 of the VSE/POWER program logic manual contains detailed descriptions of the VSE/POWER phases belonging to the networking and RJE functions. The phases are described using HIPO charts. HIPO stands for Hierarchy plus input-Process-Output which is a program documentation technique.

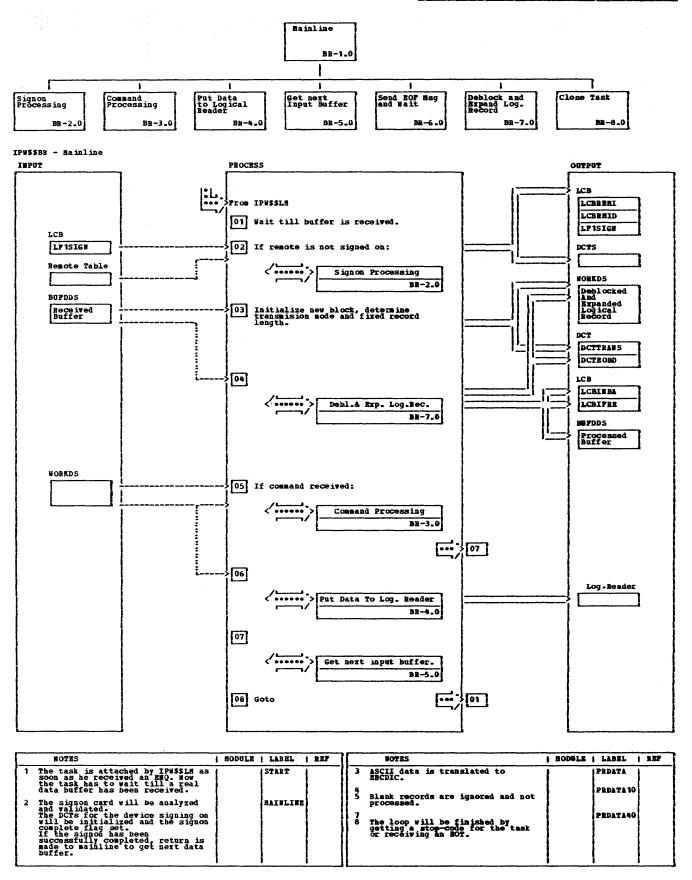
CHART BH: IPW\$\$BH - RJE, BSC MONITOR

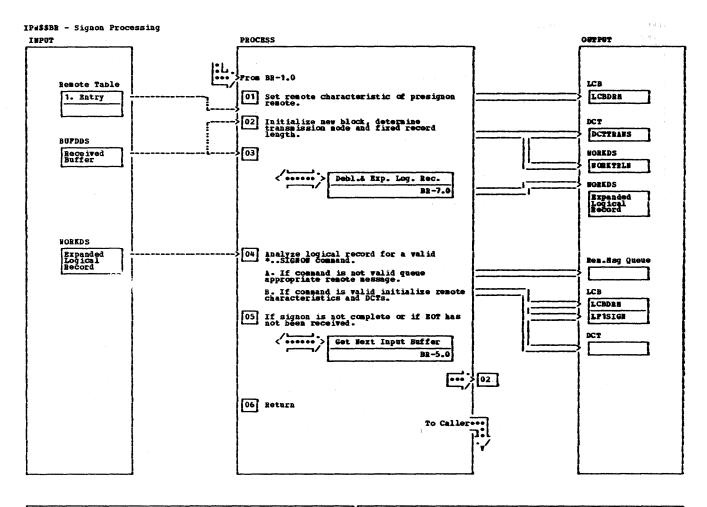


IPW\$\$BM - Mainline

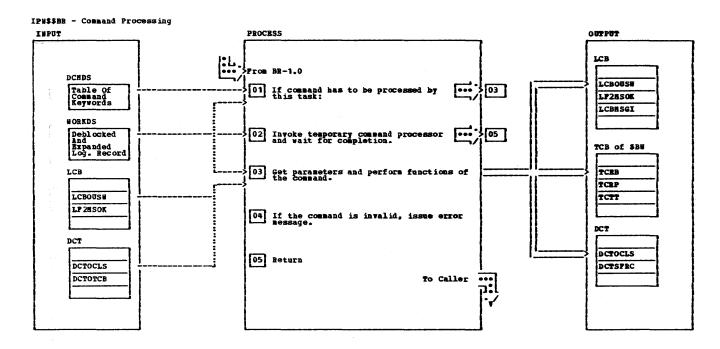
		HODULE	LABEL	REP		NOTES	HODULE	LARET	REP
1	Usually this module is called by IPWSLA, which is responsible for the line management, i.e. he has to care about the error recovery and to keep the line busy, i.e if nobody has to send or receive something tunning der artiter start east the first sant to send in the receive start as something to send, the appropriate module IPWSLBB or IPWSLBB calls this module to start his activity at once by		10800	SSAV		1 - Acknowledge last received text but don't allow read for a new text record (WACK response). In this case no free input buffer is awailable.	SVC0	I OWAKE TH	\$ bMG
	nonody has to send or receive something, dummy 1/0's are started. If a reader or writer task has something to send, the appropriate modula 10% 10% 10%					22 - Acknowledge positively (ACKO or ACK) and allow the terminal to transmit tert.	svco	I OAKORTN	
	overwriting the drawy 1/0 by his					23 - Interrupt terminal to transmit text (RVI) -	svco		
	own one. If the line is busy, i.e. an I/O has been already started and not				6	The following request codes handle abnormal conditions:			
2	immediately to the caller.		10820			30 - Retry the last executed channel program based on the previous request code.	svco	LCHREQ	
-	Otherwise the request code is analyzed by daynding it into main and subrequest. The main request resulting from the left halfbyte of the request					31 - Restart the last executed channel program with enable, prepare/ho op, and read response.	svco	LURSTRIN	
	the last telephote of the request code is used to address the related branch table the related branch tripht halfbyte) is used to address the function entry routine.					32 - Execute the disconnect sequence with DLE, BOT and disable.	svco	IODISHTN	
3	The following request codes create a channel program in the line	s v c0	IOPRERTA		İ	33 - Disable the line after a HALT I/O operation has been initiated.	SVCU		İ
	prepare sequence:	1			1	34 - Disable the dialed line by writing DLE-EOT.	SVCO	ł	1
	01 - Prepare a leased line to allow a terminal/CPU to send an ENQ character.				7	The following request codes handle the VSE/POWER write to terminal sequence:			
	02 - Prepare a switched line to allow a terminal/CPU to send an ENQ character.					40 - Write nontransparent text, ETB and read response.		1 OETBRTS	
4	The following request codes handle line turnarounds from read to write mode or vice versa.	SVC0	LOSNPRTN			41 - Write transparent text, ETb and read response.		10 of the Tr	
	10 - Allow a terminal to transmit.	}	1			42 - Write nontranparent text, ETX and read response.	1	IOZXRTN	
	11 - Institute write sequence for VSE/POWER.					43 - Write transparent text, ETN and read response.		1084RTB	
	12 - Write EOT to end transmission.			1		44 - Write temporary text delay and read response (no output buffer ready to sent).		IOSTDETE	\$ pAG
5	The following request codes handle read sequence in VSE/POWER:	_				45 - WACK received from terminal (no output can be sent) write ENQ		IOZWARIN	
	20 - Do not acknowledge last received text (MAKO) but try to get text again.	SVCO	IONAKRIN		8	and read response. The request code 60 (the read only request) is required to start a read operation when stopped by a write operation.	S¥C0	IOROWETN	

CHART BR: IPW\$\$BR - RJE, BSC READER

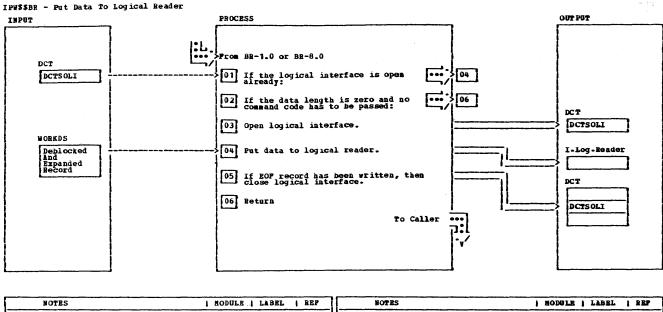




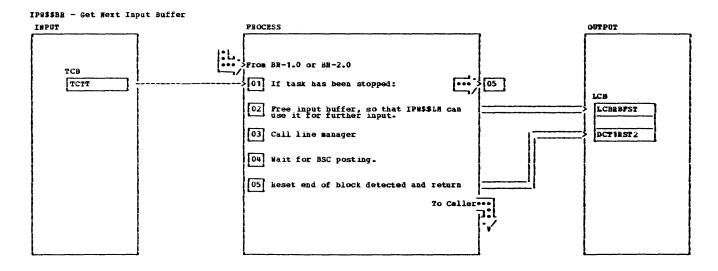
NOTES	HODULE 1	LABEL	REP	NOTES MODULE LABRE	REP
1 The features of the presignon remote are determined at VSE/POWER generation by PRHT macro definition. The presignon remote should have common characteristics to send error messages to an unknown remote before it is signed on.			\$RMS \$RSII	# The logical record is checked for: Keyword	SELW



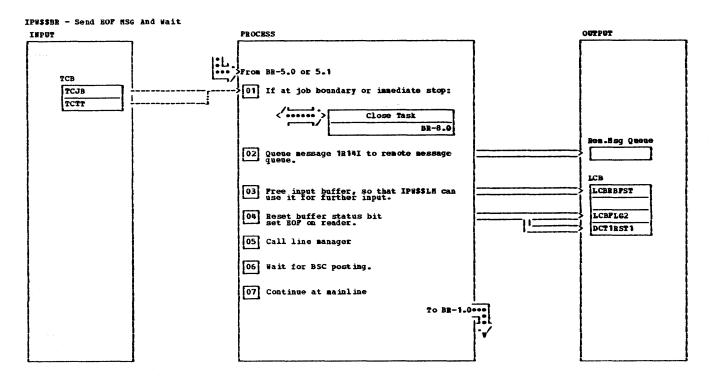
	NOTES	HODULE	LABEL	REP	HOTES HODELE LABEL	REF
7	Commands related to queue and data files are passed to the temporary command processor task.			1	3 The following functions are performed:	
2	The temporary command processor will handle the commands and may			SICP SWFC SRSR SRLR	1. *START task, classes The related DCT entry is scanned, the classes are stored in it and the output switch is set, assuming output is available.	
	queue related messages to the femote. The reader task waits for the completion of the command.				2. *STOP task The classes and the output switch are reset and the task will be stopped.	
					3. *SETUP task, no The number of pages to be set up and the setup code is stored into the TCS of the output task that is waiting for form change.	
					4. *GO task The form change indication of the output task that is waiting for form change, is reset.	
					5. *SIGNOW remote id Because the remote is already signed on, a duplicate signon is ignored and msg 1824 is issued.	
					6. *SIGNOFF Signoff processing will be indicated.	



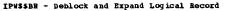
NOTES	MODULE LABEL	REP	HOTES	HODULE LABEL	REP
3 The logical interface is used by the logical reader routine as a second save area.		\$OLI	4 The deblocked and expanded logical record is put to the logical reader routine. 5 The record length of zero indicates the EOF condition.		SPLE SCLI

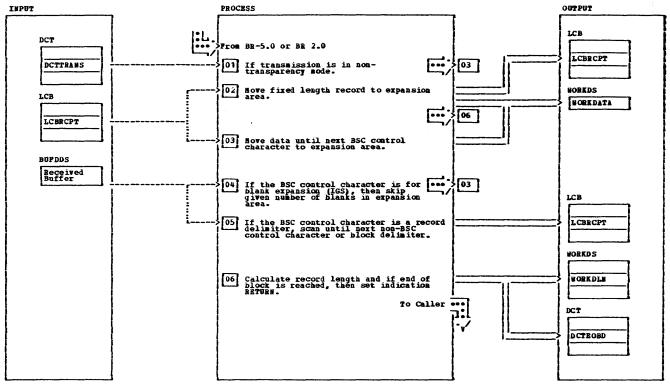


MOTES	MODULE LABEL	REP	NOTES	MODULE LABRI	REP
The IPW\$\$LM task has pre-initiated the next I/O-request with an TTD to keep the line busy, now the reader task has freed the input buffer, a read data can be issued immediately.	PREOB	SION	Wait till the next data buffer has been received, in which case this task is posted by the IPW\$\$LB task.		SWPB



NOTES	ı	MODULE	ī	LABEL	REF	7	EOTES	Γ	HODULE	LABEL	1	REP
2					\$GAB		3 The IPESLE task has pre-initiated the next I/O-request with an TTD to kep the lies may, now the reader task has freed the input buffer, a read data can be issued insediately.				\$	IOM





NOTES	HODULE LABEL	REP	#OTES	HODULE	LABEL	REP
1 Before processing of a new block starts, the first BSC control character is checked. If this is STM, then non-transparency mode is indicated. 2 The block data length is divided by the possible record length. If the remainder is zero, then the record length is determined.			3 The BSC control characters are divided in 3 classes: Record delimiter Block delimiter Blank expansion. 4 Same as 2. 5 Same as 2.		de serair de la completa del la completa del la completa del la completa de la completa de la completa del la completa de la completa del la completa del la completa del la completa del la completa della della completa della completa della completa della comple	

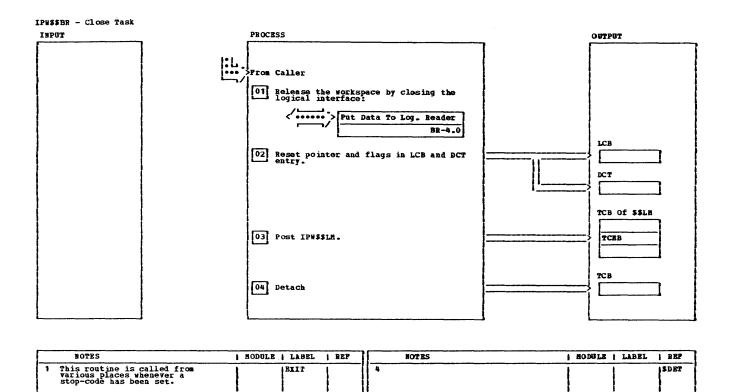
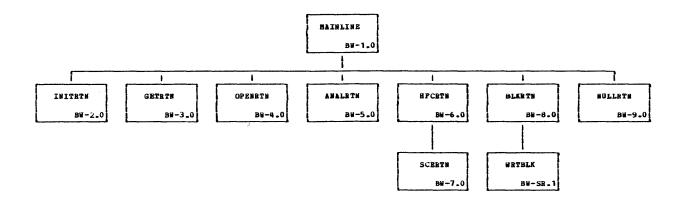
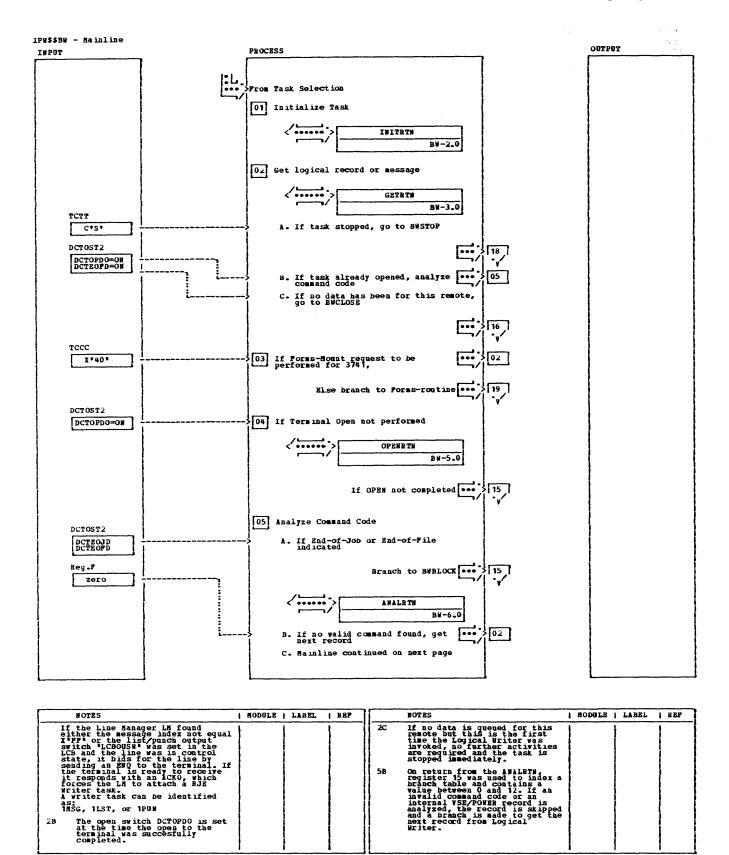
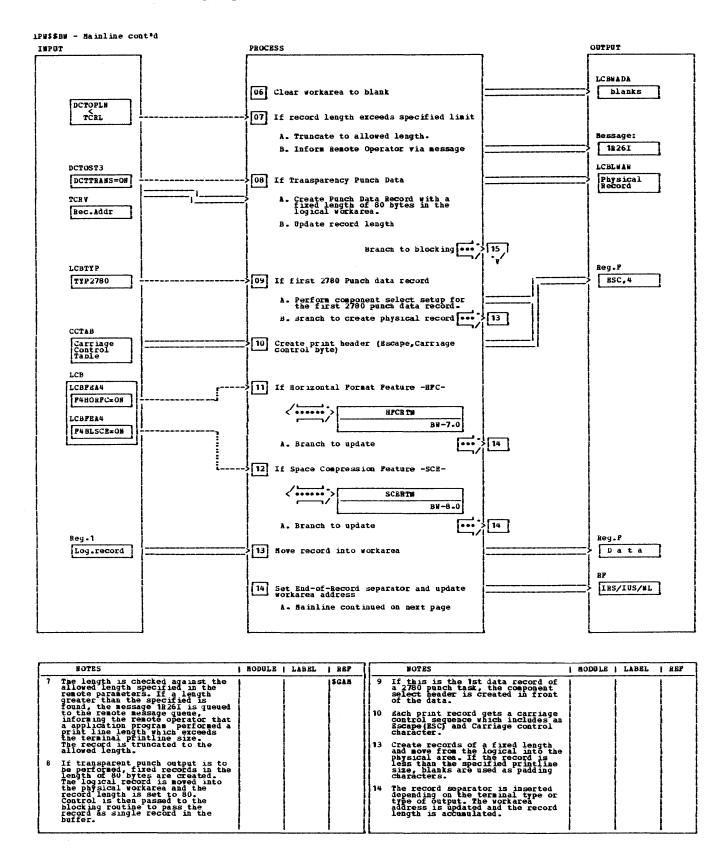
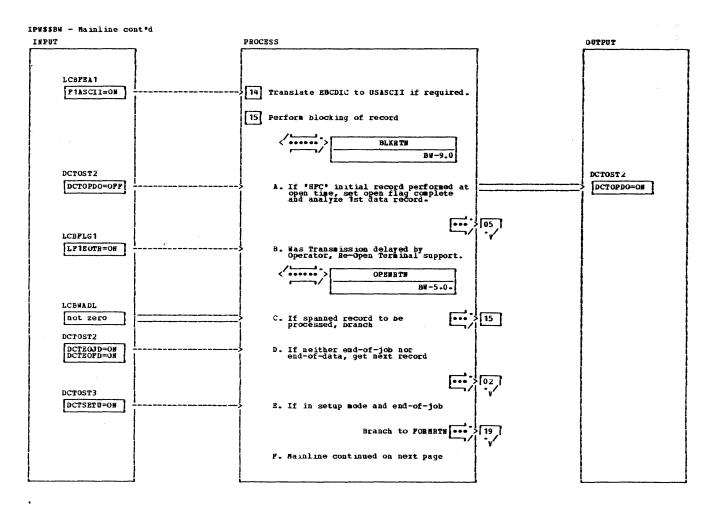


CHART BW: IPW\$\$BW - RJE,BSC WRITER

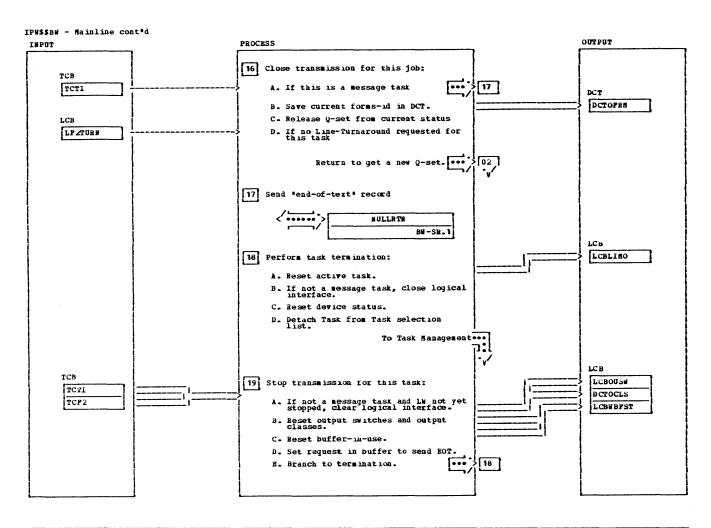




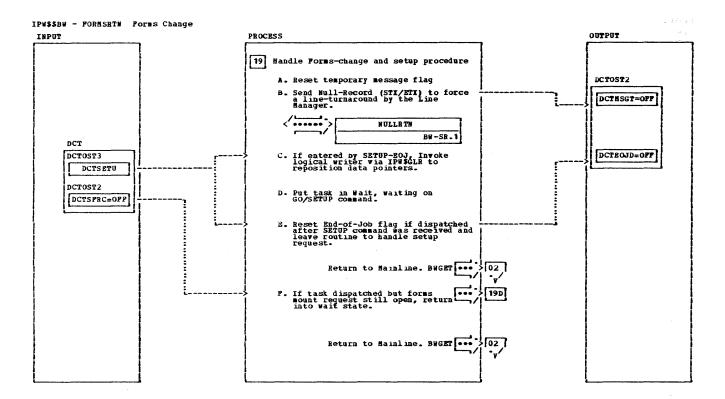




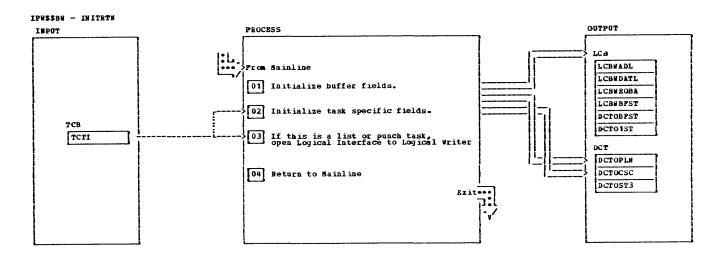
	NOTES	HODULE	LABEL	REP		NOTES	HODGLE	LABBL	RBP
14 15A	If working in USASCII mode the record just created is translated to that mode.		MPASCII		15C	If the last records did not fit into the buffer either parts of the record were soved into the buffer (spanned record) or if spanned is not allowed the record is still to be blocked. In the block of the buffer of the block of the buffer is passed to the perform the record.			
158	control to the ANALETN to perform the first data record. If the terminal operator delayed the output while sending input data, an EOT was sent to delay transmission. On receipt of an EOT the Line Manager leaves the writer task in domant state until input has been performed and transmit mode was initialized again. The line manager posts the writer task to contribue. It is now required to open the terminal support which implies								ير ، المُحَدِّدُ فِي مُنْ مُنْ اللَّهُ فِي أَمْ مُنْ مُنْ مُنْ مُنْ مُنْ مُنْ مُنْ مُ
يا	component selection and/or HFC Initial control to be done.		<u> </u>				<u> </u>		



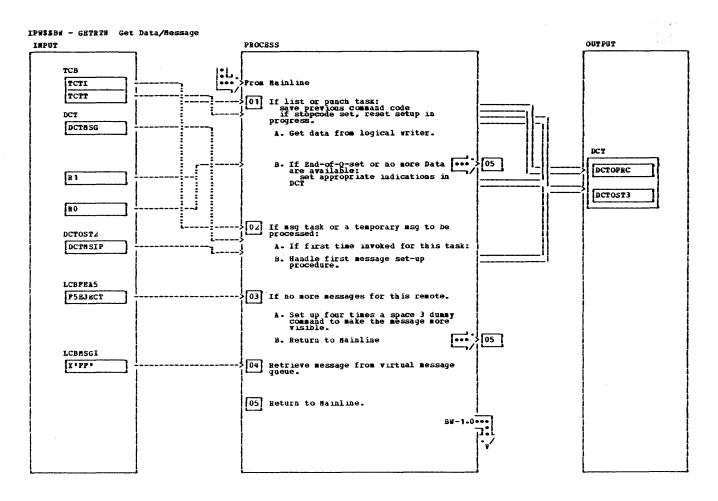
	NOTES	BODULE	LABEL	REP		NOTES	HODULE	LABEL	REP
16C	With a call of the logical writer after the BOP or BOJ Indication, the job is deleted from the queue set.			\$GLB	18B	The logical interface is closed which implies release of the linkage workspace. 1. The transmission status is			\$CLI
16D	If specified during generation, a line turnaround after each job is not requested. In this case, control is given back to the mainline to process the next job for this remote. Before the next job from the O-set is retrieved the last record is written by calling routine MULLETM. The line turnaround is ignored,					reset in the LCB to tell the line manager that the task is gone. 2.The device specific fields are reset. These are: DCTOCTB DCTOCST B DCTOCST 2 DCTOCST 2 DCTOCST 2 DCTOCST 3 DCTOCSC T DCTOCSC T DCTOCK C			
	the task is to be stopped the line is to be stopped or the output terminated due to length error.				18D	The task is now detached from the task list queue. Control is given to the nucleus and never returned.			\$DET
17	SIX-EIX indicates end of transaission. The request for an *EOT* to be sent brings the line in a turnaround state.		BWTERM		ti ti Ti	f this is not a message task the optical writer is invoked to tree are current 0-set. "LCBOUSW" is each to the device entry is reset.		BW STOP	SGLR



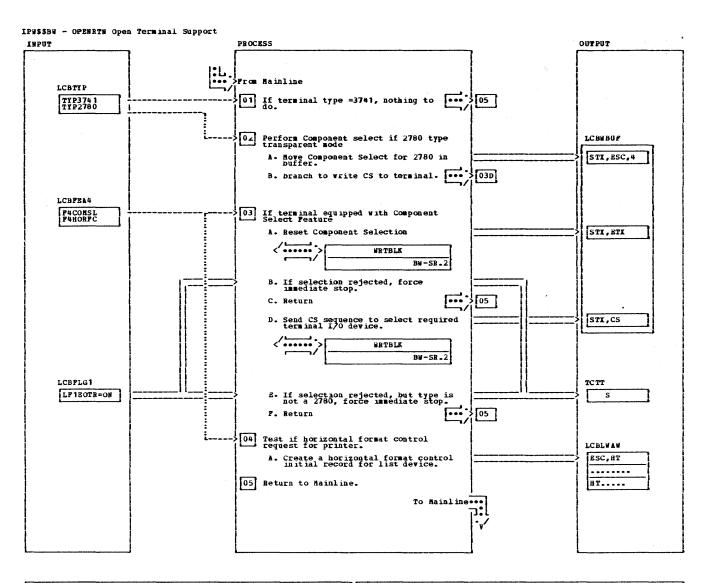
	NOTES	MODULE	LABEL	REF		NOTES	HODULE	LABEL	REP
19A 19B 19C	The temporary message flag is reset because of the start of a separate message task. It is now required to send a Wull record to allow the line manager to come into control state and to attach a separate message task to send the forms mount message to the terminal. If the routine is invoked by the setup process, the Logical Writer has indicated: end-of-data for the setup		NULLRIN	\$GLR	19D	The task is now put in WAIT-State, awaiting remote operator intervention to continue processing. The only valid commands are: GO and SETUP- After the task is being dispatched, a test is performed to guarantee valid command authorization, this implies that a SETUP/GO command was received by the Reader task and either the page setup procedure or normal data transmission			SUPO
	pages, it is now required to invoke the LW again to release the setup request.					or normal data transmission will be performed.			



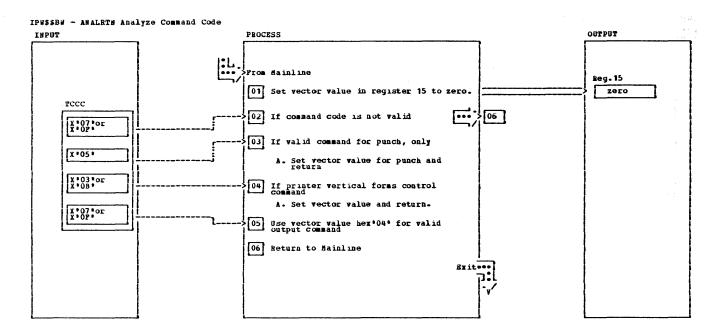
NOTES	MODULE LABEL	REP	NOT ES	HODULE	LABEL	REP
1 If this is a message task, the Device Entry for the message task is updated with information derived from the remote parameters. bCTOCSC = 11 component select character for messages. bCTOPIM = length of one printline. bCTOSCT = 4 if 12 line spaces requested after message.			3 The logical interface to the logical Writer is established with the IPUNOLI Macro and the workspace ownership is set to the Line Manager TCB.	1		\$ OLI
2 If this is a punch task, the device entry for the punch task is updated with information derived from the remote parameters. DCTOPIN = punch card length. If the remote feature is set for transparency, the Status byte DCTOST3 is flagged (DCTTRANS-OM) to indicate transparent mode for this punch task. If a punch task. If a punch task affected, DCTOPIN is task affected, DCTOPIN is task affected, DCTOPIN is the printlength specified in the remote parameter.						



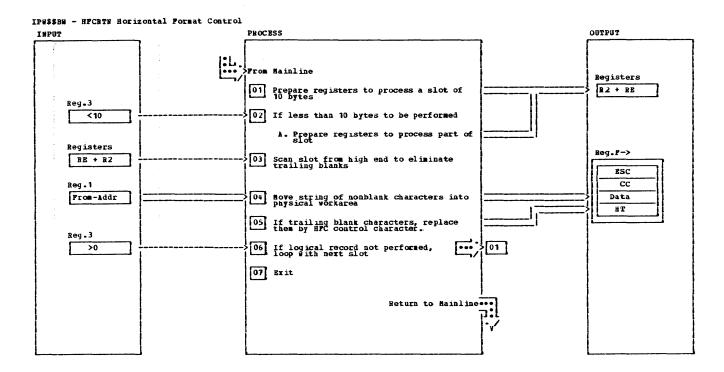
	NOTES	HODULE	LABEL	REP	NOTES MODULE LABEL M	K RP
11	If this is neither a message task nor a temporary message is to be processed, the logical vriter is lawoked to get a logical data to the logical temporary message is to be processed, the logical data to the logical data to the logical data to the logical data to the logical data described indicate exceptional conditions. Reg. 1 = zero (no logical data described lo			SGLB	2h If required an eject command is used to force a skip to channel 1 on the remote terminal printer instead of a space 3 command. 3 If no more messages are queued for this remote, the end-message procedure is executed. The procedure handles a 4 times space 3 command to be executed to make the message more visible for the remote user. 4 Get a message from virtual message queue. Heg.1 contains the address of the message and req.0 contains the length of the message.	RMS
2	If remote not yet signed on, the message is a kind of error message for a terminal whose device type is unknown. Unfortunately there does not exist one way for all different terminal types, to make the error msg visible (i.e. move it over the belt, so that after the error msg 5 blank lines are sent.					



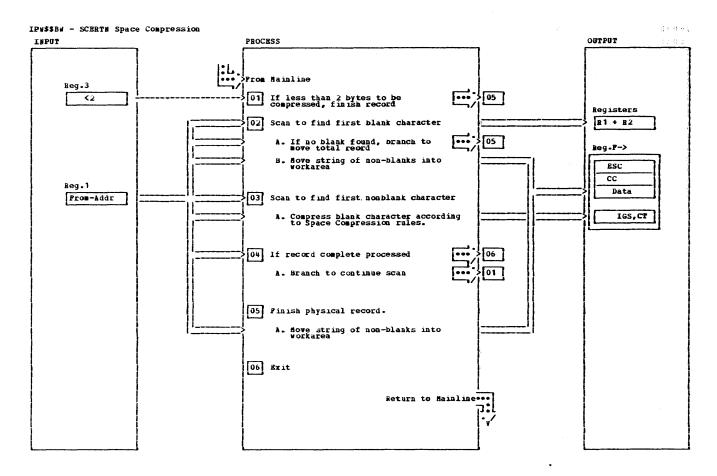
	NOTES	MODULE LABEL	REF		NOTES	HODULE	LABEL	REP
1	If the terminal is a 3741 type, neither component selection nor horizontal format control is supported. If the terminal type is a 2780 and	OPENRT	H	3E	The WRTBLK routine implies to wait on posting by the Line Manager. If the terminal is not ready to receive the CS sequence, it sends an "BOT" to reject		·	
	punch output in transparent mode is to be performed, it is required to write a CS sequence in non-transparent mode. This implies sending of STX_RSC, 4 to select the puncher on the 2780.				selection. The task is then forced to stop immediately. If the terminal is equipped with forizontal Format Control -HFC- and it was specified at generation time to use HFC for print-output,			
3	To make sure that the terminal will be reset before CS will take place it is required to write a null-Record (STY.ETY) first. This sequence is set in the buffer and control is passed to transfer the buffer to the line.				an initial HFC record is created in the logical workarea. The record is as follows: SSC HTHT Slots of 10 bytes are created along the printline, each slot starts with a "HT" control character.			
30	The terminals I/O device is now selected via the CS sequence. The sequence implies: STI,CS Note: CS is component select character as it is required for the terminal: DCI = CS output #1 DC2 = CS output #2 DC3 = CS output #3 This sequence is set in the buffer and control is passed to transfer the buffer to the line.				The record is available for blocking and control is passed to the Hainline.			



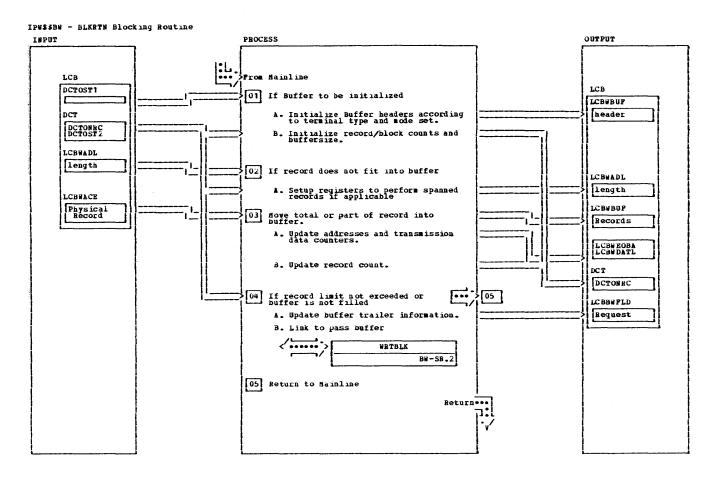
NOTES	MODULE L	BEL KEP	NOTES	1 HODGLE	LABEL H	rbp
This routine uses a vector value to perfrom the correct actions for the various command codes set in the fair TCC. Yector values are: 00 Invalid command code or internal command of write command of write command for print and punch 08 Carriage control command for print only 0c valid punch command The register 15 is reset to zero to assume an invalid command code 2 If bit 4.5,6,7 (x'07,17F7') or bit 5,6,7 (x'07,17F7') or the command is invalid and control is given back to the mainline with register 15 set to zero.			J If bit 5 and 7 (1*05,15P) the TCCC nn, a valid punch is found. The vector value to her "0C" and control is control is control is control to her "103,13P3) of TCCC on, a printer carriage control conhand is found. The vector value is set to her control is given back. J I bit 4 and 7 (1*09,19P3) bit 7 (1*01,11P1*) of the field is on, the command is for print and punch output.	command is set jiven or the le		



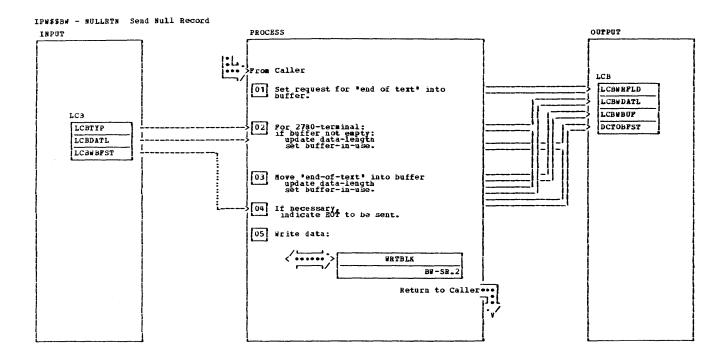
NOTES	MODULE LABEL	REF	NOTES	HODULE	LABEL	REP
The purpose of HPC is to eliminate trailing blanks of each 10 byte slot and replace them by a "HT" control character. If no trailink blanks in a slot, no HT will be set. The record length is checked for a value greather than 10 bytes. If less or equal than 10, the end addresses are updated to perform the only or last slot.			3 The slot is now scanned to eliminate trailing blanks. The scan stops if a nonblank character found. 4 The non-blank string is now moved into the physical workarea. If trailing blanks where found, the HPC control character "HT" will follow the nonblank string. 6 If this was not the last slot, processing continues by stepping back to perform the next slot.			



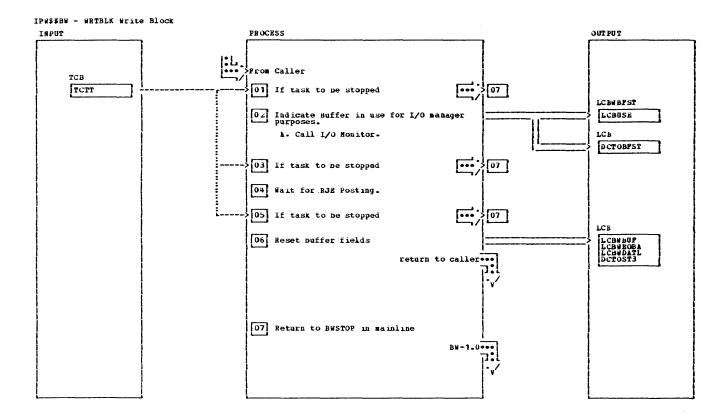
NOTES	MODULE LABEL	REP	NOTES	WODULE	LABEL	BEP
The purpose of Space Compression is to eliminate multiple blanks and replace them by an IGS control sequence. Multiple blanks will be compressed as follows: IGS.CT where CT is count of blanks. If the record length is less than 3 bytes, compression will not be done and the short record is moved into the workarea. The ThT instruction and table is used to find the first blank character of the record. Note: The ThT stops if either a blank is found or the length count is performed. If a blank is found, register 1 contains the address of the blank character.			2B The non-blank string is now moved into the physical workarea. 3 The TRT instruction and table is used to find the first non-blank character. 3A The multiple blanks are now eliminated by insert of the SCE control sequence. An IGS is inserted in the workarea and the count-byte followed the IGS is used to count the eliminated blanks. 5A Each record is followed by a record separator, which depends on the type supported. Either a "NL" (new line) or "IUS" (unit separator) is stored to complete the record for blocking.			



	NOTES	HODULE	LABEL	REP	NOTES	MODULE	- 1	LABEL	1	rep
1	The buffer has to be initialized, whenever the buffer has been written or the very first time. This includes a setup of the header bytes. DLR.STX if transparent mode STX if non-transparent mode				3 Anyway, the record or part of the record are moved into the buffer The buffer address, Record address and the transmission count are updated. If multiple records per block are to be processed, the record counter is decremented.	. 1				
2	The allowed records within the buffer are set in the DCT and the Terminal Buffersize is loaded. The recordsize is compared against the free space in the buffer. If the record does not fit into the buffer, spanned record processing takes place if the terminal is not a 2780 type, which do not support spanned records.				4 If either the record limit excee or the free space of the buffer empty, the buffer is ready to send. The buffer request field i updated to tell the I/O manager the type of mode, including setu of the trailer bytes. DLE_ETB if transparent mode ETB if non-transparent mode	is				



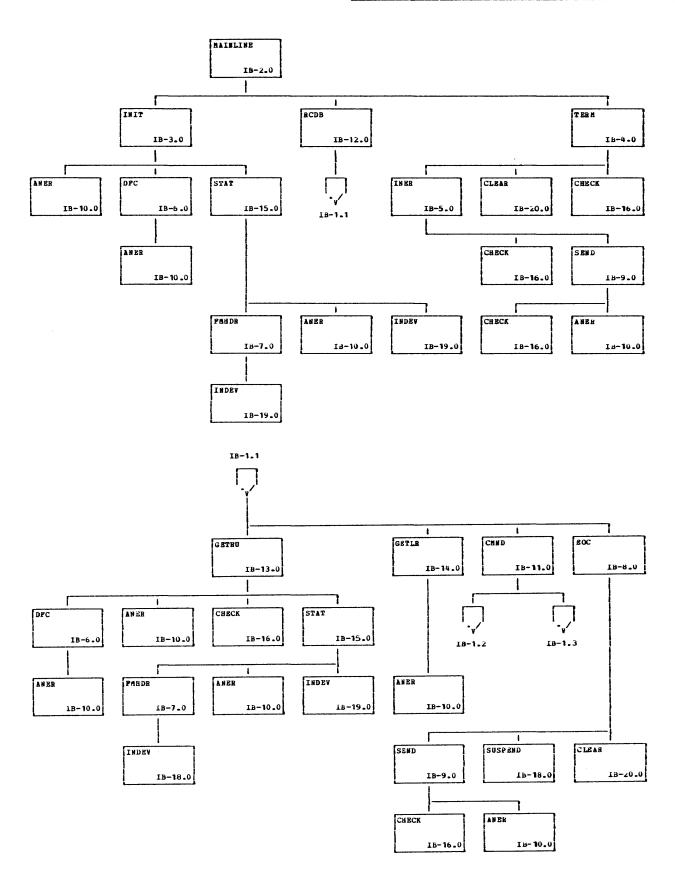
NOTES	MODULE LABEL E	NOTES	MODULE LABEL REP
1 If transparent mode, it is required to send: DLE-STX and DLE-ETX if non-transparent: STX and ETX		3 If transparent mode, it is required to send: DLE-STX and DLE-BTX if non-transparent: STX and BTX	

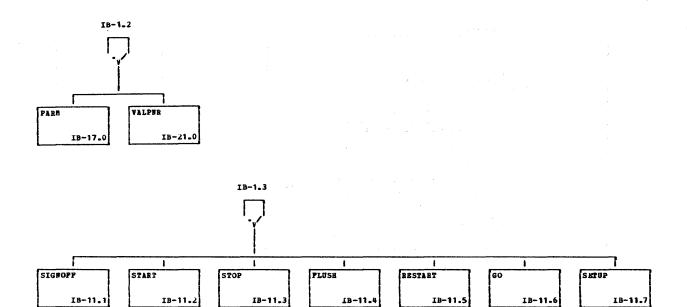


NOTES	HODULE LA	BEL REP	HOTES	HODULE	LABEL	REP
2 If the output buffer is ready to be sent the bufer status is set to *IN USE* before the I/O Homitor is called.		\$108	A wait for RJE Posting from line manager is made. 6 After being dispatched, the free space pointer as well as the transmission counter are reset to zero.			SWFB

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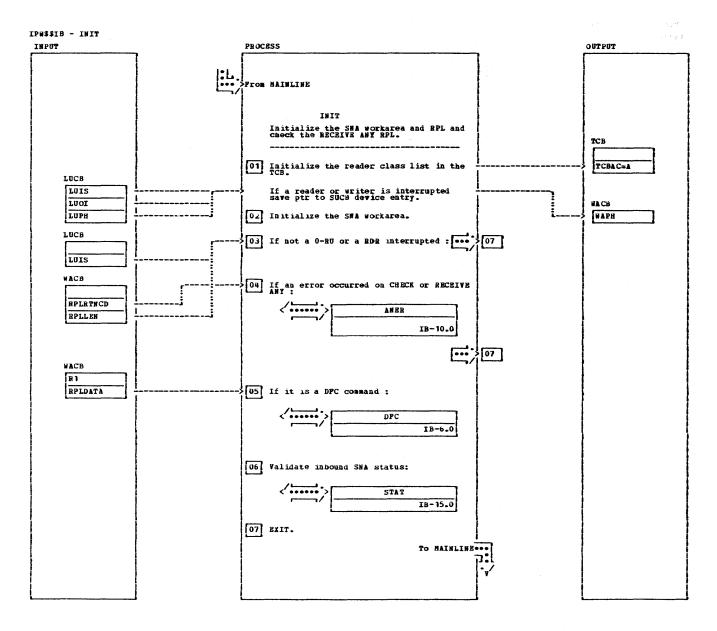
CHART 18: 1PW\$\$IB - RJE, SNA INBOUND PROCESSOR



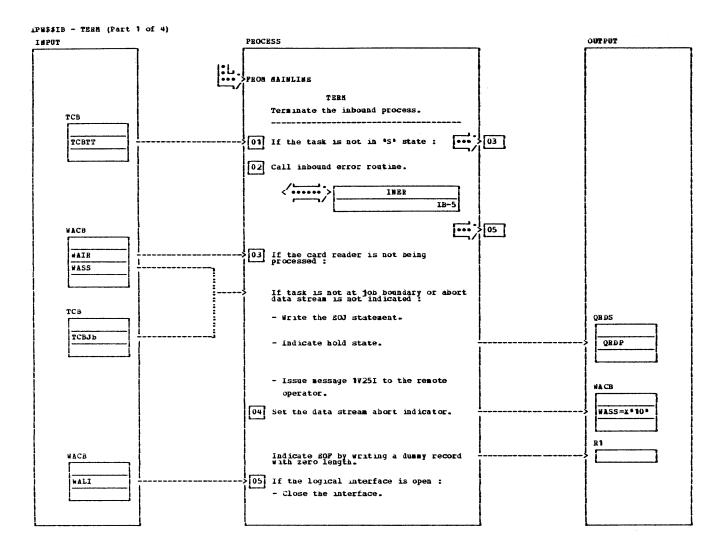


INPUT	_	PROCESS	OUTPUT
	<u>:::</u> ;	Attached by IPW\$\$S#	
		HAINLINE Include the main processing routines and subroutines to perform the inbound process.	
		[01] [INIT Initialize the inbound process. IB-3]	
		[02] ECDB Call the receive/deblock routine. IB-12	
		[03] TERM Terminate the inbound process. IB-4	
		To VSE/POWER task selection	

NOTES	ı	MODULE	ı	LABEL	Ī	REP	7	NOTES	1	MODULE	1	Label	rep
3 Recive request units (RUS), deblock them to logical records and pass them to the logical reader (IPWS\$LR) or to the command handler (CSWD routine).											-		



NOTES	MODULE	LABEL	REP		NOTES	HODDLE	LABEL	REF
3 Any data associated with RECEIVE ANY must be taken out of VTAM with RECEIVE SPECIFIC. Null RD'S were not kept, they must be analyzed immediately. RECEIVE ANY was not issued, when IB interrupted IB reade (LUIS=ON).				6	Data flow control command handler. It must be a Bull BU. Validate and maintain bracket data stream and chain states.			

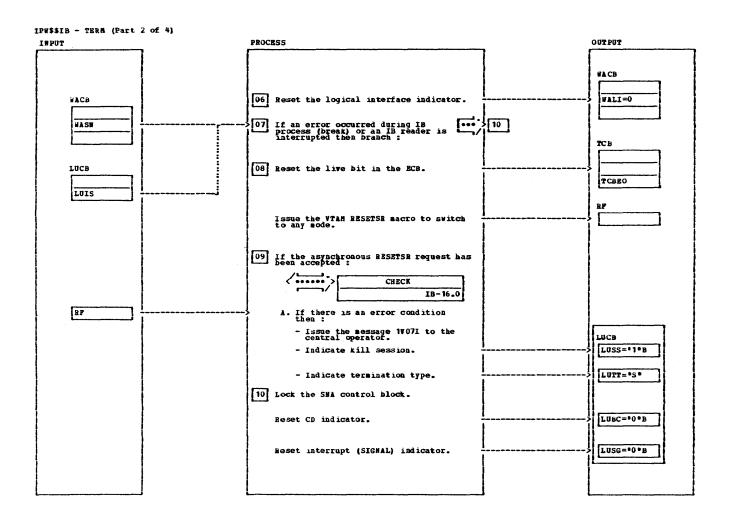


NOTES	MODULE LABEL	REP	NOTES	MODULE LABEL	REP
3 1V251 EOJ ADDED FOR jobname jobnr		SPLR SRMS	4 5		\$PLR \$CLI

| MODULE | LABEL

REP

SESE



HOTES

10

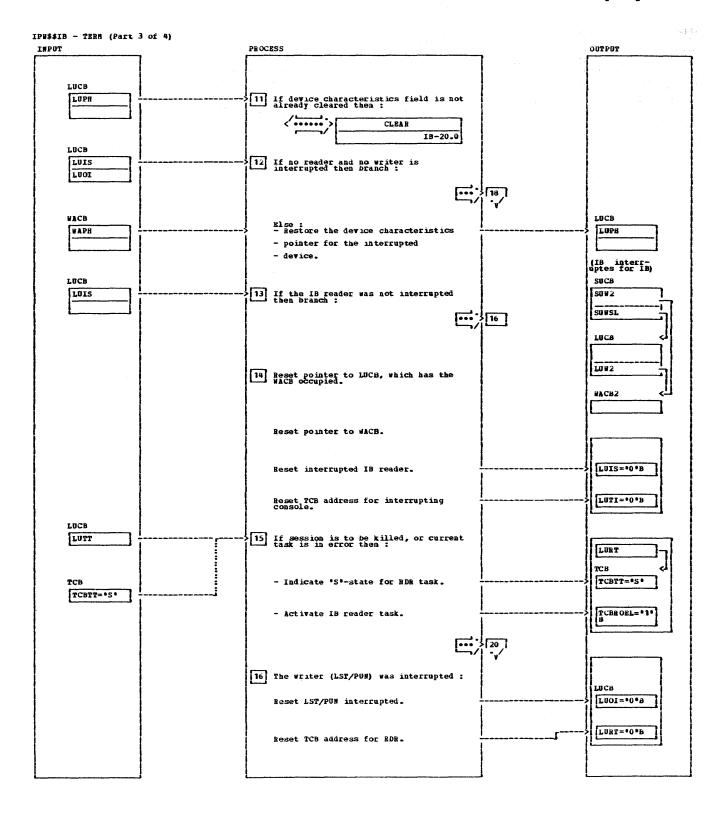
SUTO

| MODULE | LABEL | REP

NOTES

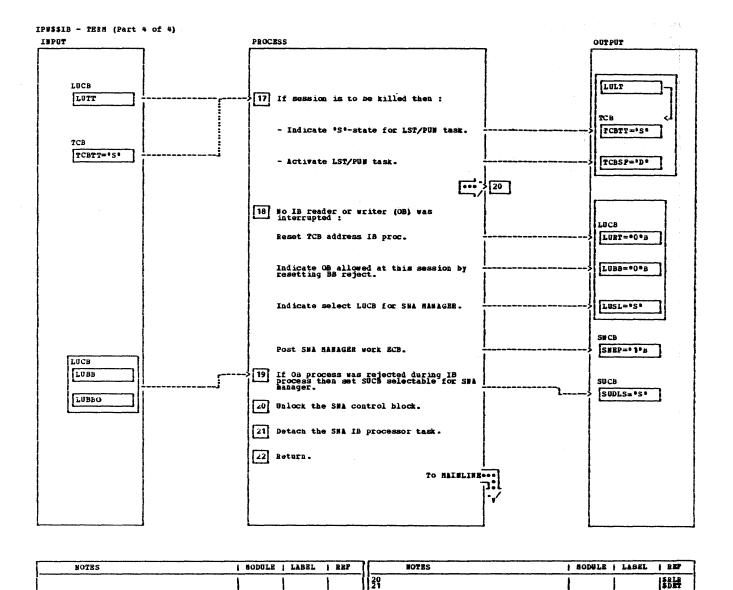
19071 ERROR ON request RTMCD, PDB2 | RESETSR = xx, xx SENS2 = xxx ON luname

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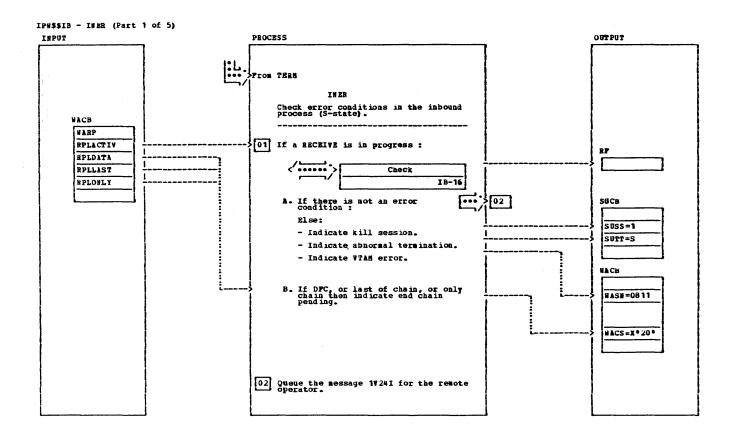
IPW\$\$IB - TERM (Part 3 of 4)

NOTES	MODULE LABEL	REP	NOTES	HODULE	LABEL	REP
11 If the device characteristics field is already cleared (normally it will be done when data stream is set in between data stream state - EOC subroutine), the pointer to it (LUPH) must be zero. When an error occured or the processor was set externally into STOP immediate state, this field is not cleared yet. 13 To free the WACB, which got the console task via the SNM manager, the following ptrs must be cleared: A. SUWSL -Pointer to LUCB which was second LUCB be LUWS - Interrupting IB workspace address obtained from SUCB			15 If an error occurs on the interrupt level, all processor will be stopped, but hot session. The end bracket sent by the OB-processor. 16 Normal IB processor termin occurs. Only the SNA mana (IPN\$\$SN) must be activate perform a scan through all according to a SUCB. He had look for further work.	essors the fill be fation for fat LUCBS		



NOTES

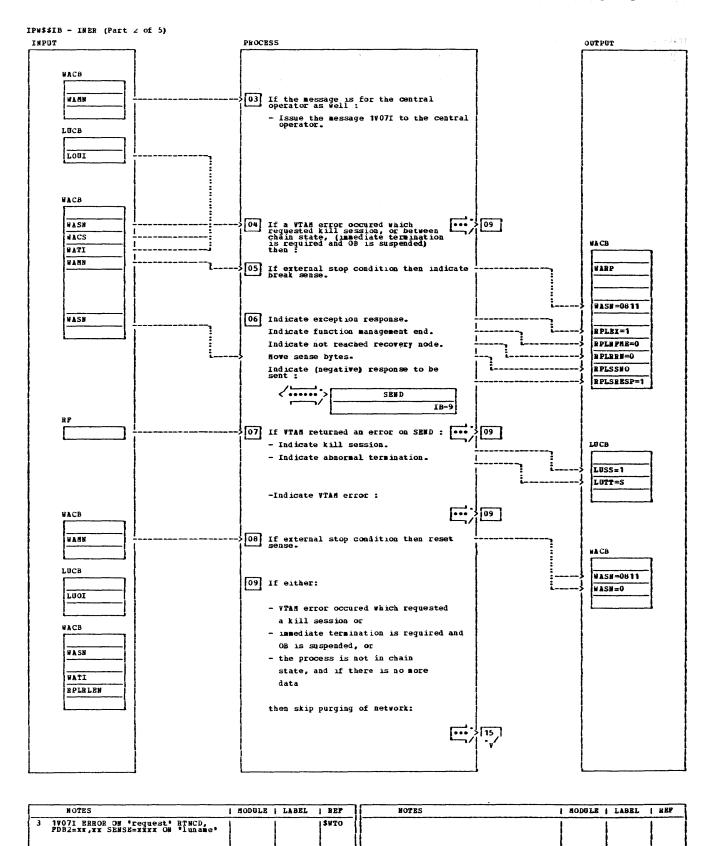
2 1V24I ttt TERMINATED REASON = XXXX



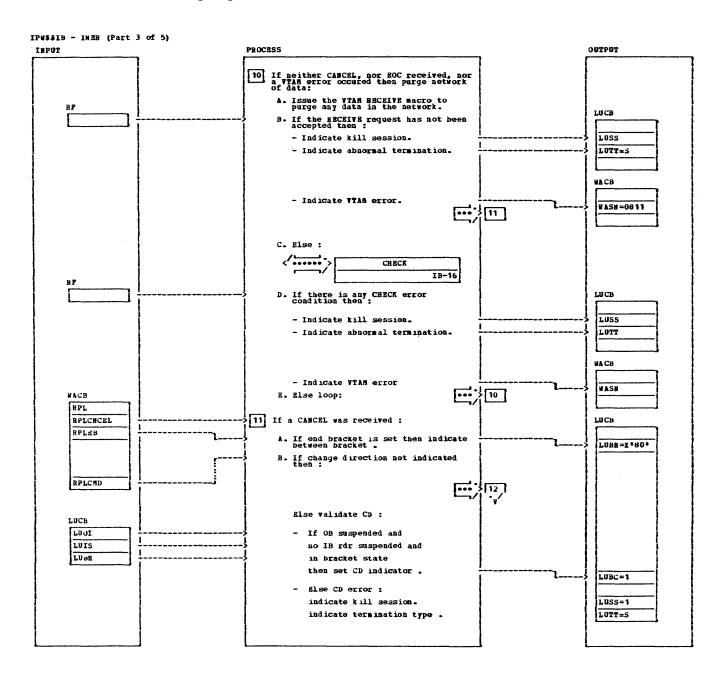
| MODULE | LABEL | REP

SRMS

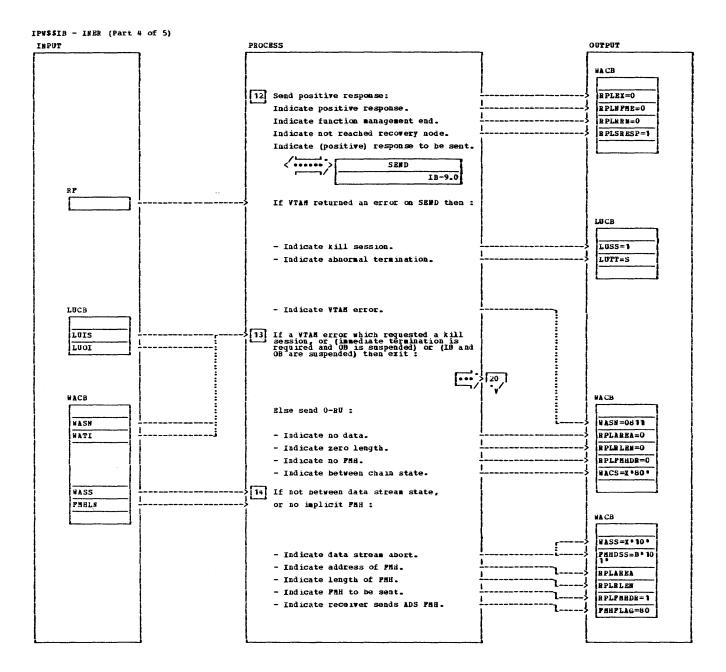
| MODULE | LABEL | REF

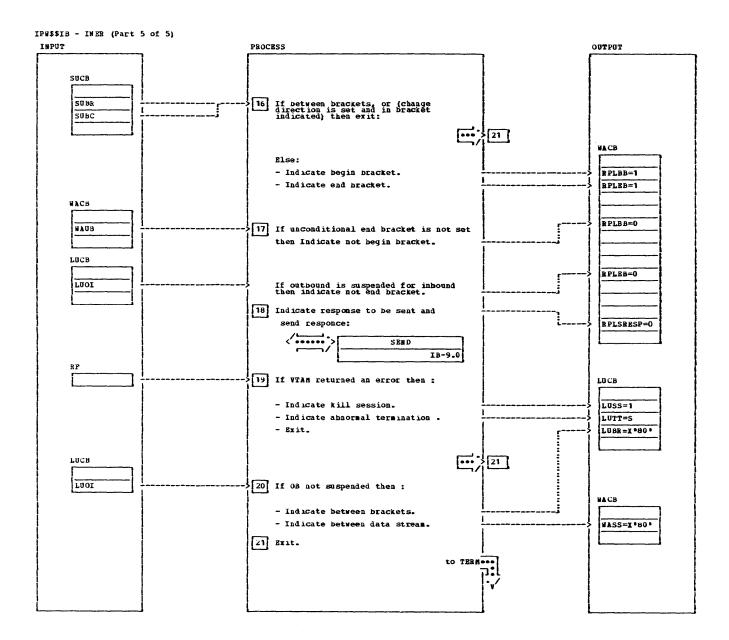


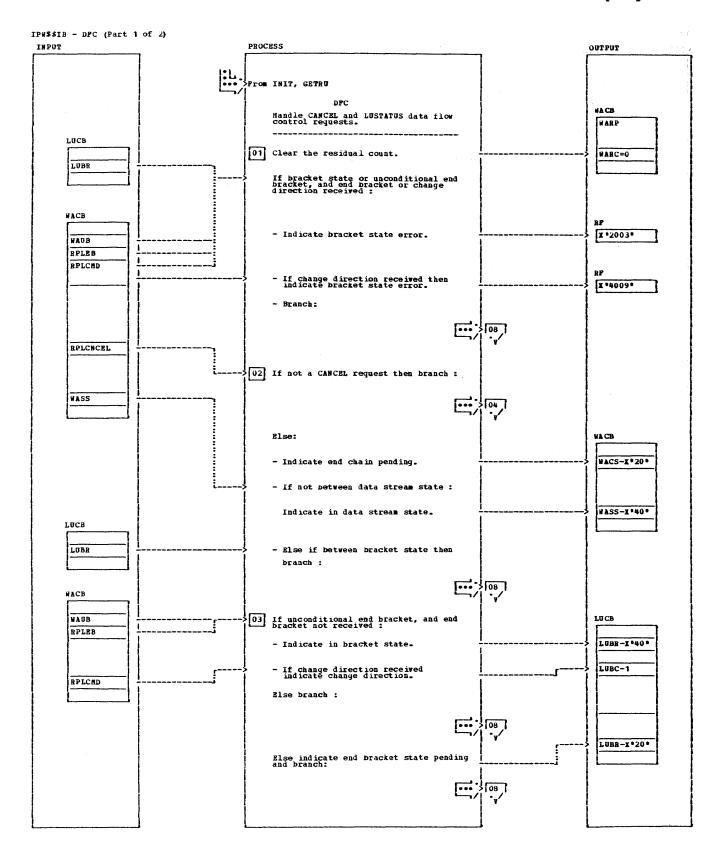
ADDALONDU LTU LOT	SE/POWER PLM Part	3
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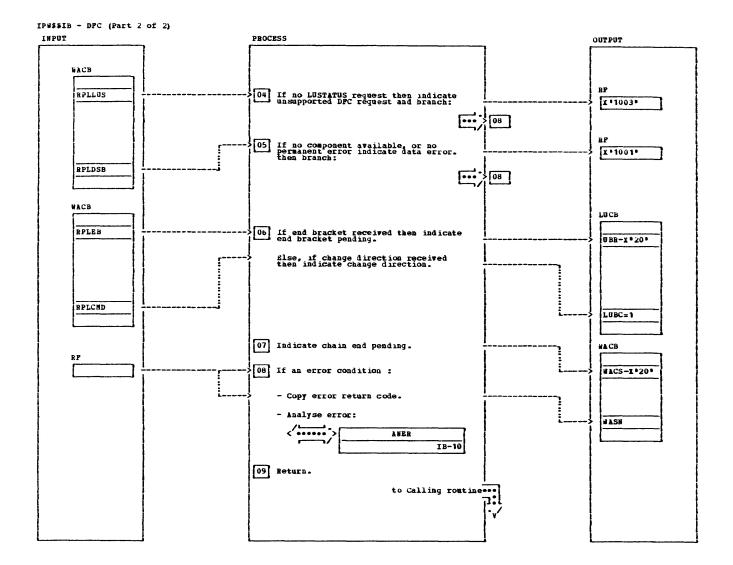


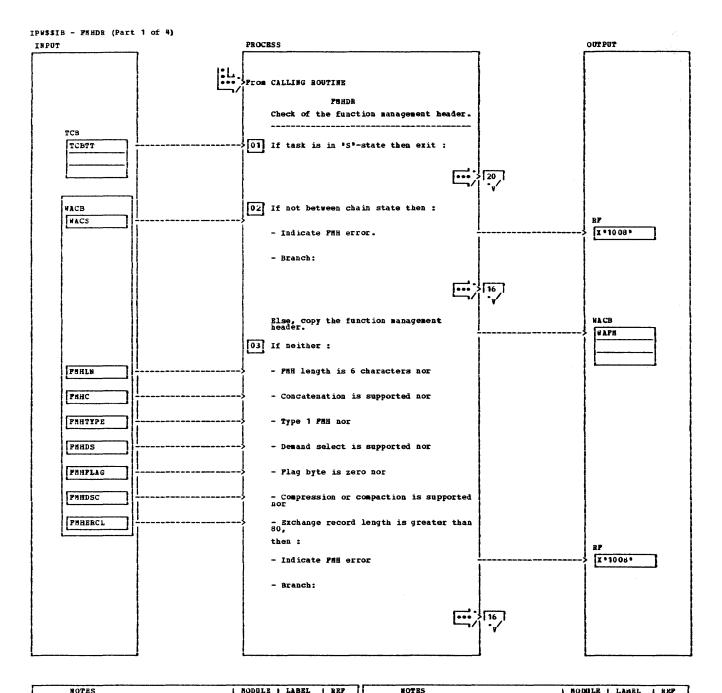
NOTES	HODULE LABEL	REP	NOTES	MODULE LABEL REP
11 If a CANCEL was received a PME must be sent				



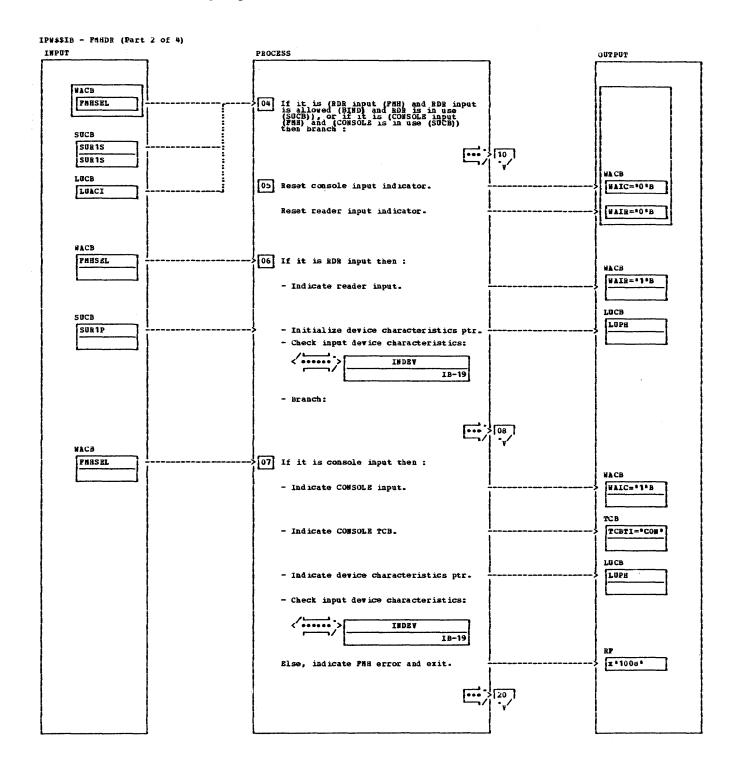


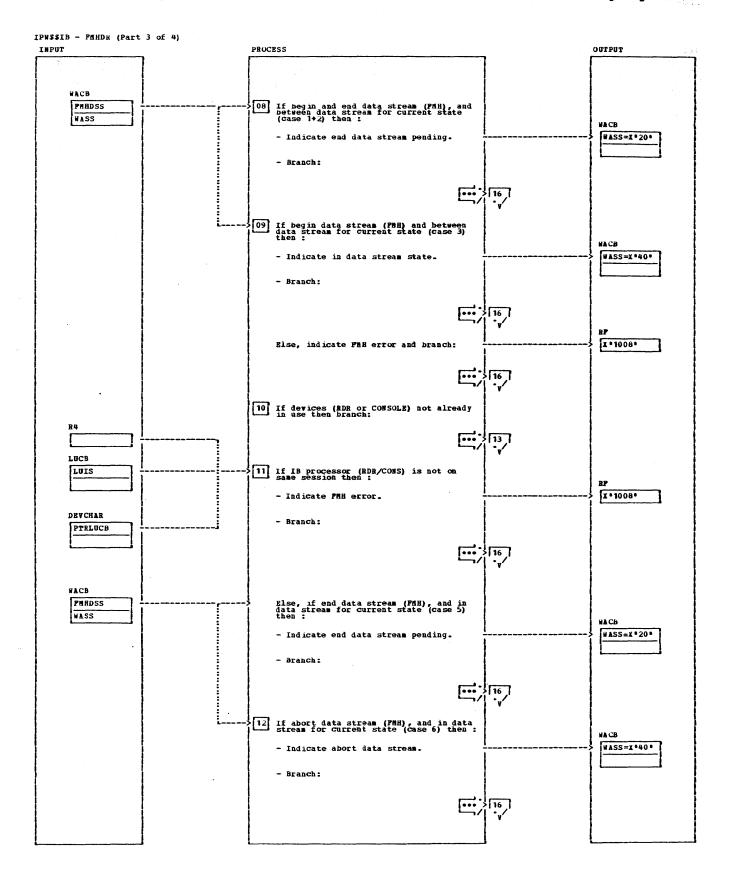






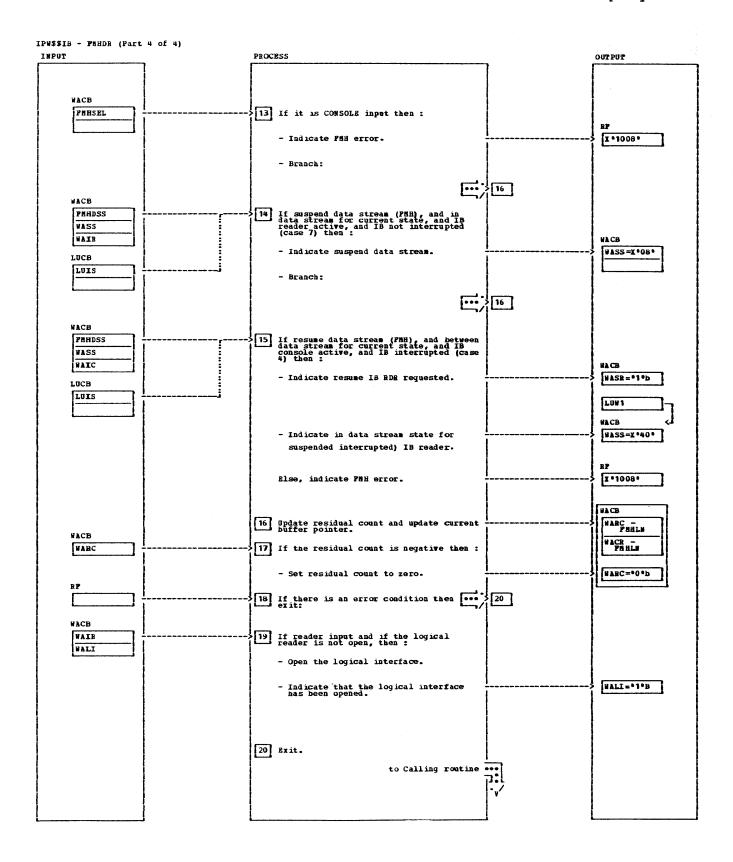
NOTES	1 MODULE 1	FYRET	REP		ROTES	PODGIE	LABEL		REP
4 If it is not the first FHH which is arrived by this procedure the branch is made.				5	It is a BDS or BDS/EDS FMH, because BDR or COMSOLE has not been active.			1	
LUCI indicates, that card inbound is allowed. It will be set during logon according to the BIRD-parameters.				7	In case of coasole input the TCB identification field (TCBTI) will be changed from RDE to COM's For implicit function management headers (FMH) it will be done in subroutine STAT.				





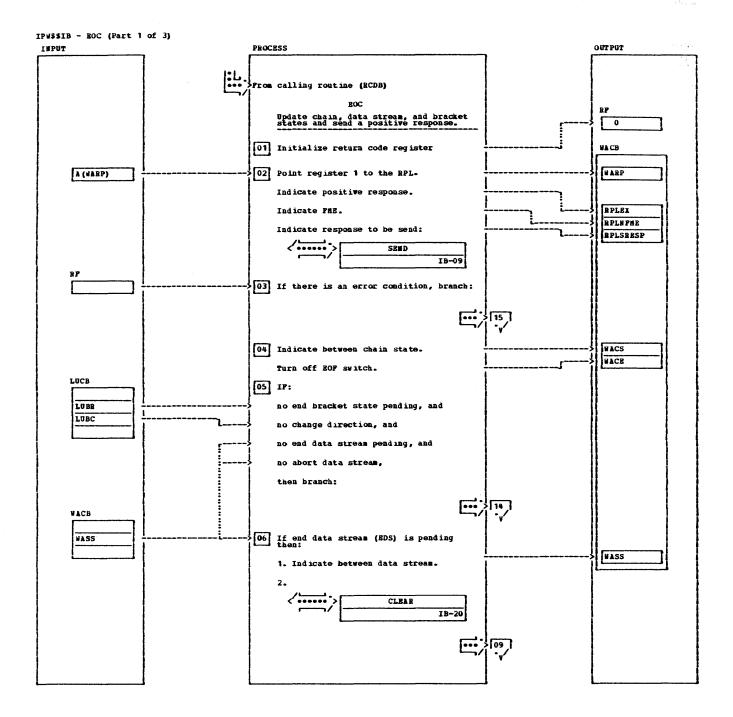
IPW\$\$IB - PHHDR (Part 3 of 4)

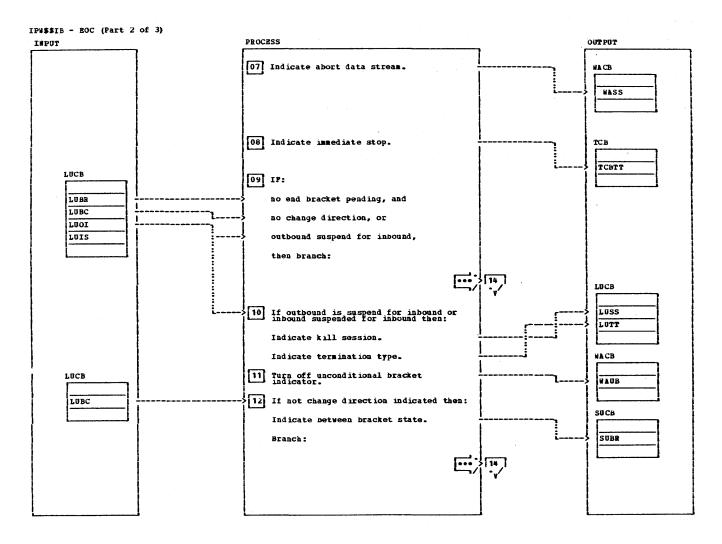
	NOTES	HODULE	LABE	L I	REP	NOTES	1	HODULE	LABBL	REP
8	The case number identifies an entry in the listing decision table. Case 2 is also verified by subroutine IBDEV (no second BDR allowed, that means it is not possible to interrupt IB reader for IB reader).					11 R4 always points to the LUCB on which the IB processor TCB is associated. PTRINCE must also point to the same LUCB. PTRINCE references the pointer to the LUCB in the SUCB device characteristics field.				
10	In this case LUPH also points to the appropriate device characteristics field (SUCB).									



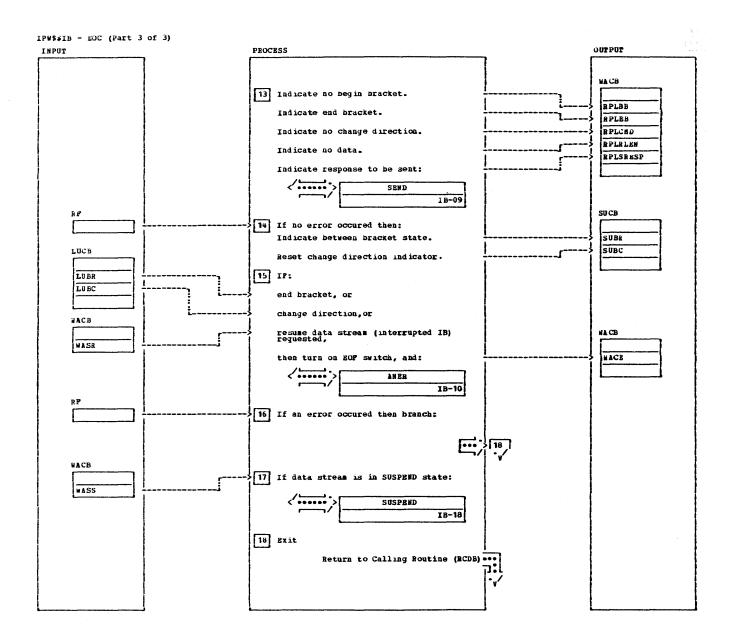
IPW\$\$IB - PMHDR (Part 4 of 4)

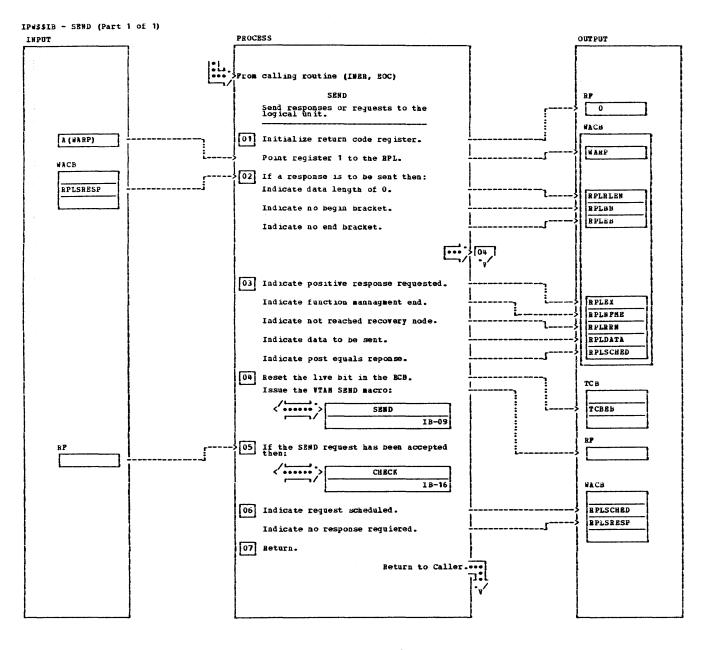
NOTES	HODULE	LABEL	REP	NOTES	MODULE	LABEL	REP
13 It is not allowed to interrupt IB console.			1	19	l		2 OLI
A check must be made, if a second device (RDR or CORSOLE) tried to send data. When this happened, the device was already started and a BDS, EDS was sent.							



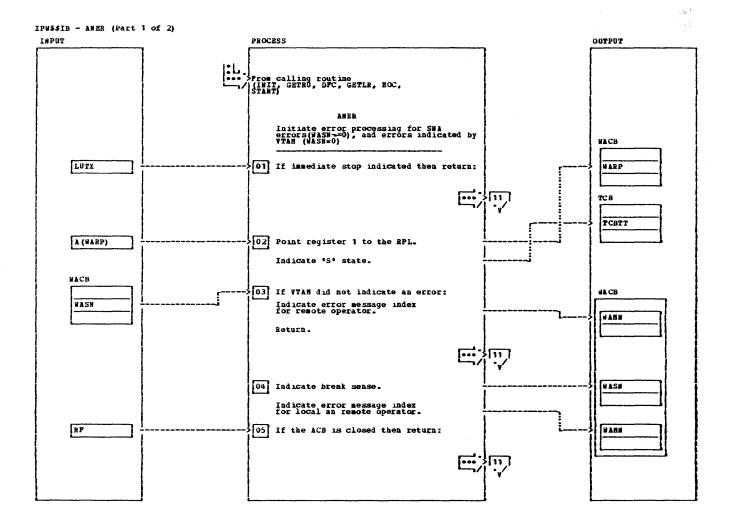


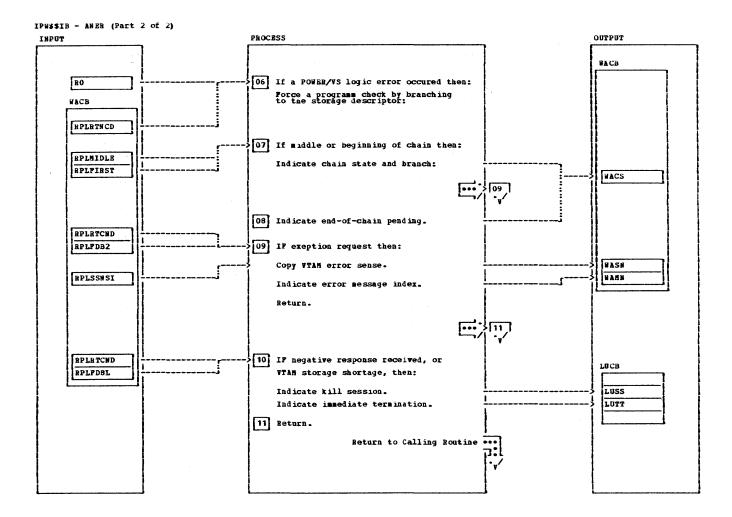
NOTES	MODULE	LABEL	REP		WOTES	I WODULE	LABEL	ī	REF
7 If a data stream has to be aported, no queue record should be written. This is indicated with "stop immediate" or "flush" depending on the current condition of the task.				10	If an EB is pending and a reader or writer is interrupted the session must be killed. The workstation sent an EB and therefore did not follow the SBA-rules.				



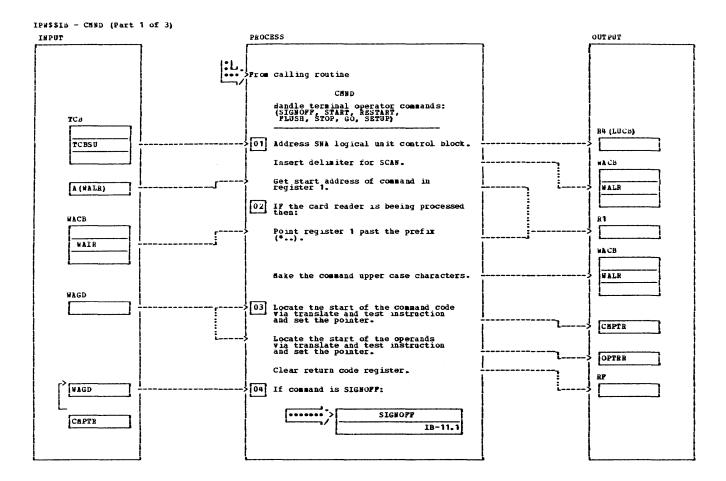


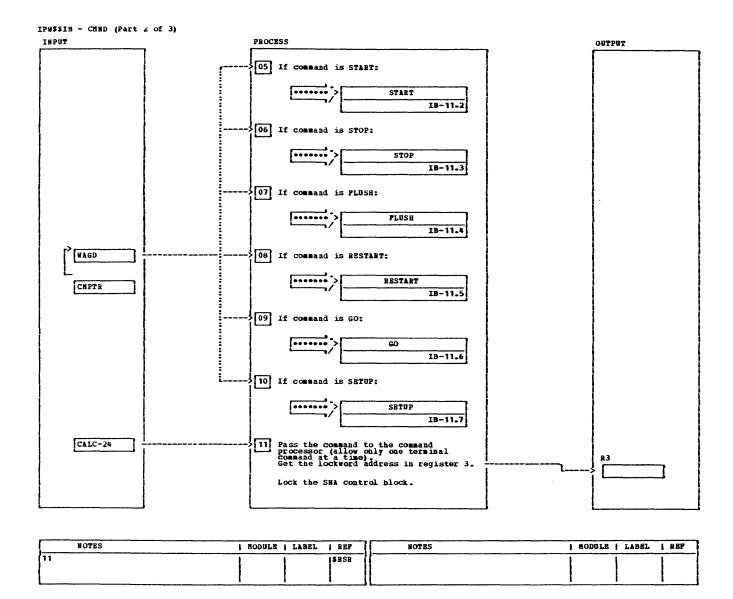
NOTES	MODULE LA	BEL REP	NOTES	MODULE	LABEL	REF
3 Message indicated:	1	1,	4 Message indicated:	1	1	ı
19241 ttt TERMINATED REASON =xxxx			1V071 ERROR ON request RTMCD, FDB2=xxxx ON luname			

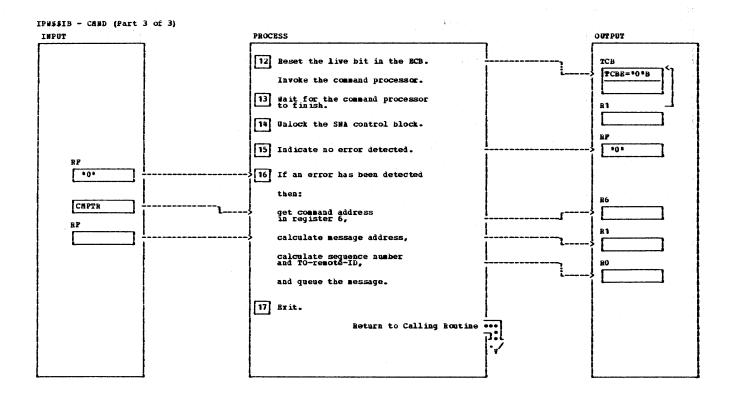


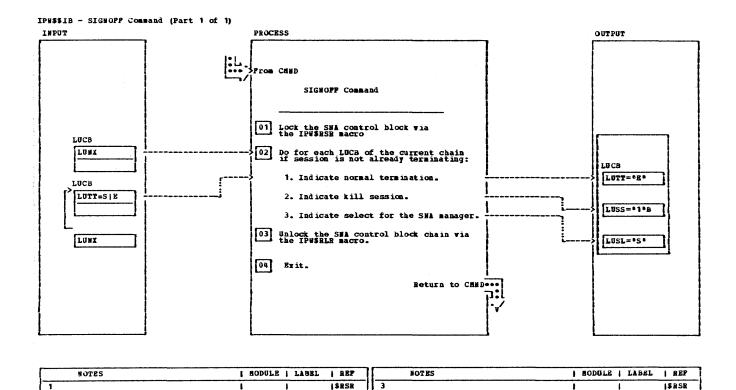


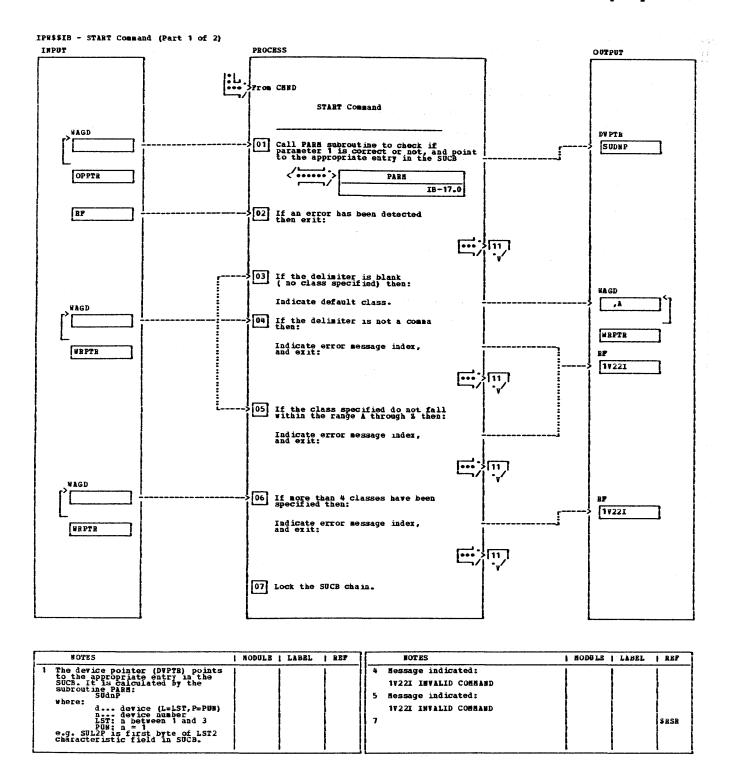
NOTES	i node	LE LABI	SL REP	NOTES	i HODULE	LABEL REP
9 Message indicated:	1	1	ļ.		!	! !
17241 ttt TERMINATED REASON =xxx	c	1	1			1 1
	<u> </u>		1			1

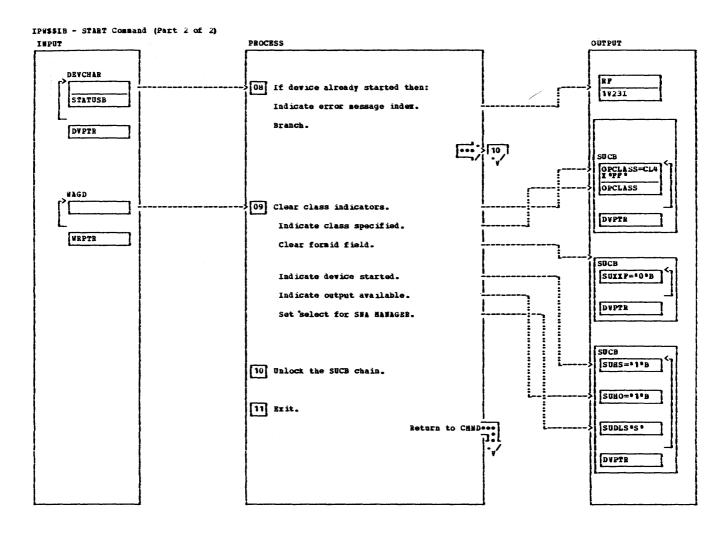




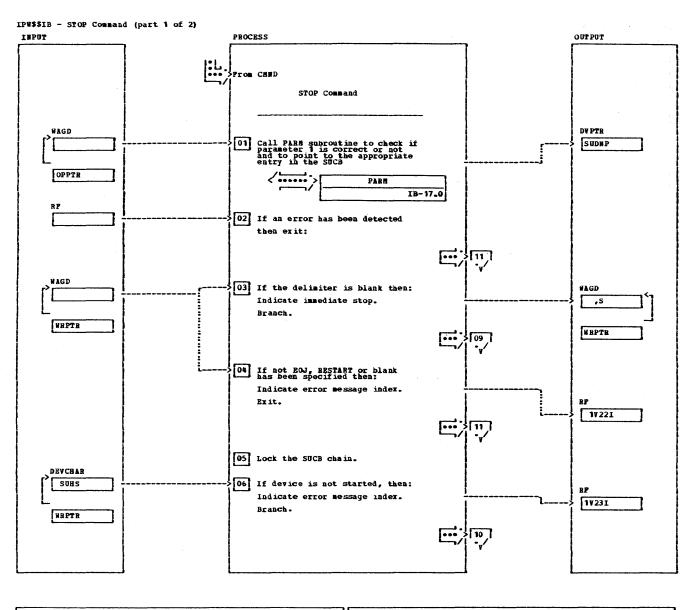




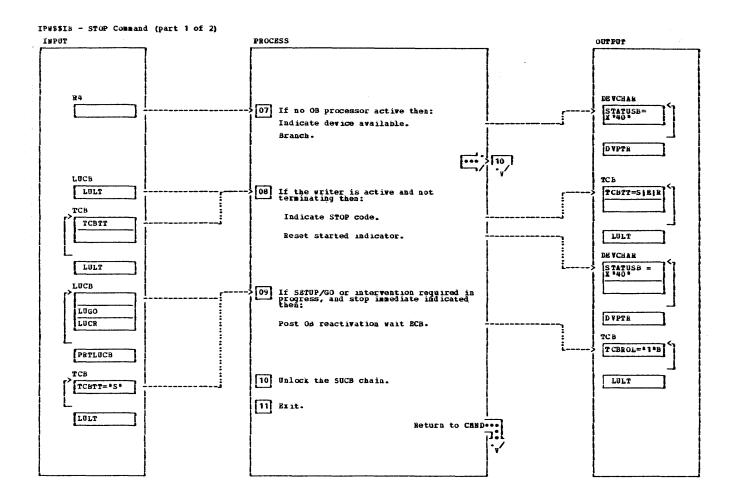




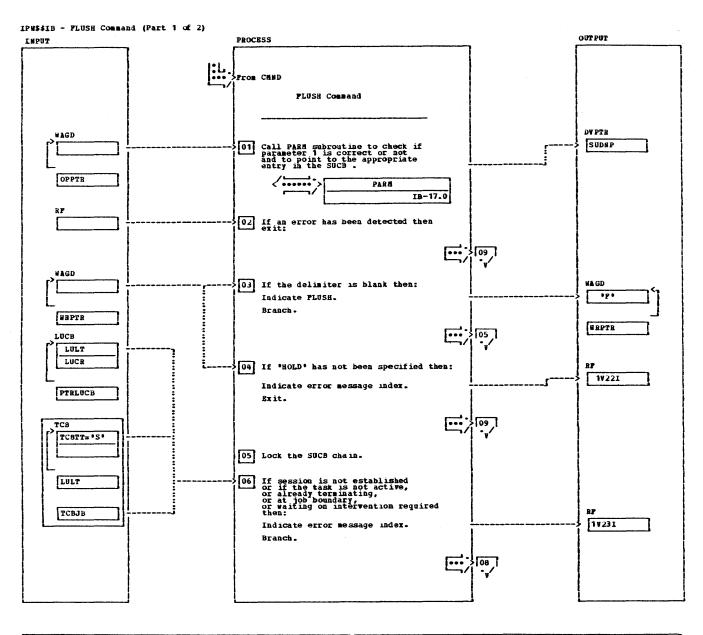
NOTES	WODULE	LABEL	REF	NOTES	HODGLE	LABEL	REP
8 STATUSBYTE (STATUSB) based on DVPTE appropriate to SUGES: ddevice (Lst/Pun) ndevice number Hessage indicated: 19231 COMHABD OUT OF SEQUENCE				9 The classes and the indicators are set in the device characteristics area in the SUCDB. This area is pointed to by DTPRT OPCLASS is set according to SUdnC.			\$RLR



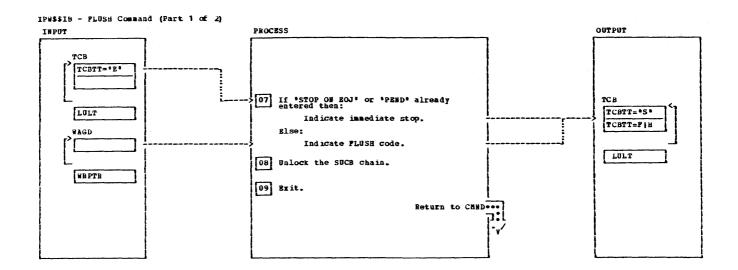
NOTES	HODULE	LABEL RE	NOTES	HODULE	LABEL	REP
1 The device pointer (DYPTR) points to the appropriate entry in the SUCB- It is calculated by the subroutine PRHM: **SUCB- It is calculated by the SUCB- It is calculated by the SUCB- It is calculated by the subroutine PRHM: **SUCB- It is calculated by the SUCB- It is between 1 and 3 PUN: **e-g- SUL2P is first byte of LST2 characteristic field in SUCB- Indicate message: **1V22I INVALID COMMAND.**			5 6 Indicate message: 1923I COMMAND OUT OF SEQUENCE. 6 STATUSBYTE (STATUSB) based on DVPTM appropriate to SUdns: ddevice (Lst/Pun) ndevice number			\$ k SR



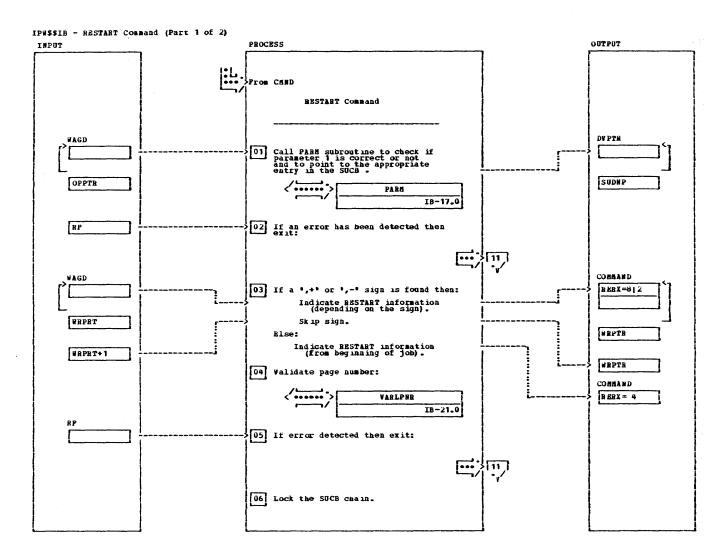
NOTES	HODULE	LABEL	REF	Notes	MODULE	LABEL	REP
8 The writer task is only active, when LULT not equal *0*		1		10			\$RLR
9 Only when immediate STOP is indicated, the OB-processor must be posted. Otherwise the OB-processor goes immediately in the wait state without any action taken.							



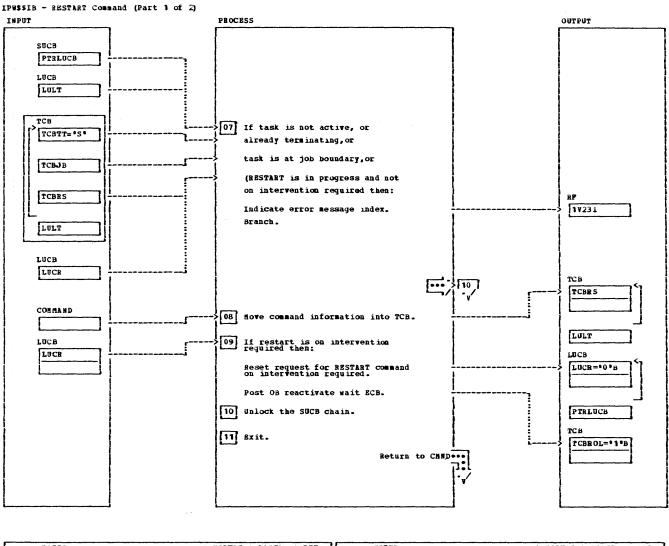
NOTES	HODULE LABEL	REP	NOTES	MODULE LABEL	REP
1 The device pointer (DVPTR) points to the appropriate entry in the SUCB- It is calculated by the subroutine PARM: Where: d device (L=LST/P=PUN) n device number LST: n between 1 and 3 PUN: n = 1 e.g. SUL2P is first byte of LST2 characteristic field in SUCB. 3 Valid command forms are e.g. F LST2> F LST2, F will be initialised.			4 Indicate message: 1V22I INVALID COMMAND. 5 6 A writer is active, when a TCB is existing. That is also true, when the task is suspended. Indicate message: 1V23I COMMAND OUT OF SEQUENCE.		\$ MSR



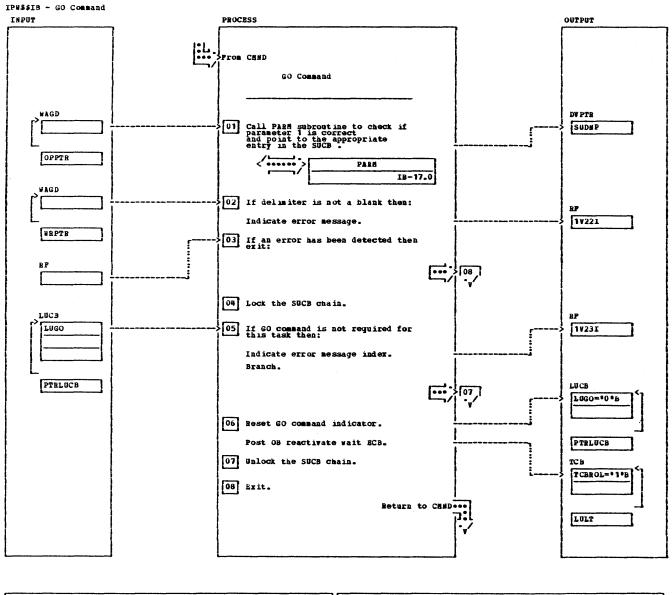
NOTES	HODULE	LABEL	REP	NOTES	HODULE	LABEL	REP
7 If the PROCESSOR is in a STOP or EOJ condition, the task must be set into "5" state to simulate a flush.				8			SELR



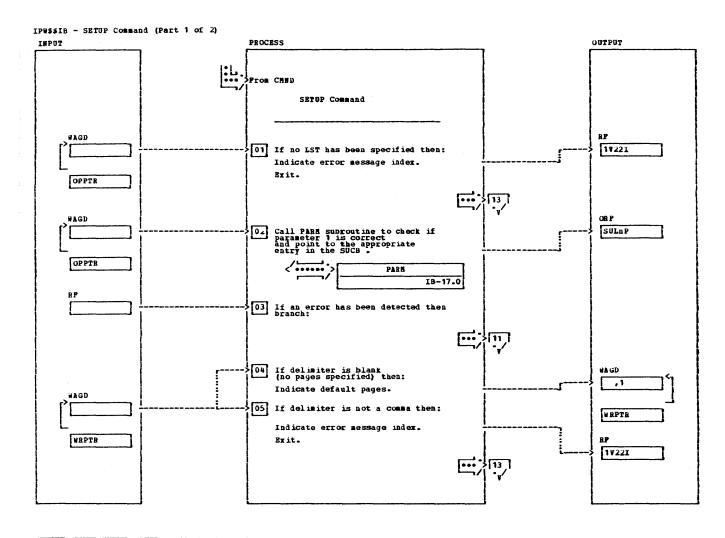
NOTES	MODULE	LABEL	REP	HOTES	# MODULE	LABEL	REP
1 The device pointer (DVPTR) points to the appropriate entry in the SUCB. It is calculated by the subroutine PARM: SUGNP where: d device (Lst/Pun) n device number LST: n between 1 and 3 PARM: per land 3 e.g. SUL2P is first byte of LST2 characteristic field in SUCB.				4 Page number must be between 0 and 9999.			SESE



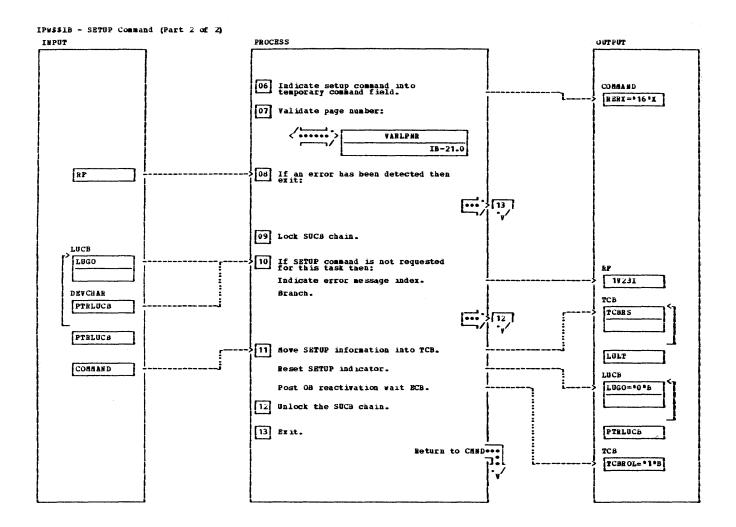
-!_	NOTES	HODULE	LABEL	REF	NOTES	HODGER	LABEL REF
-	7 Indicate message:	!	!	1	10	1	\$RLR
	1V23I COMMAND OUT OF SEQUENCE.	ļ	1		}	1 1	1
L		<u> </u>	<u> </u>	1	L	1	



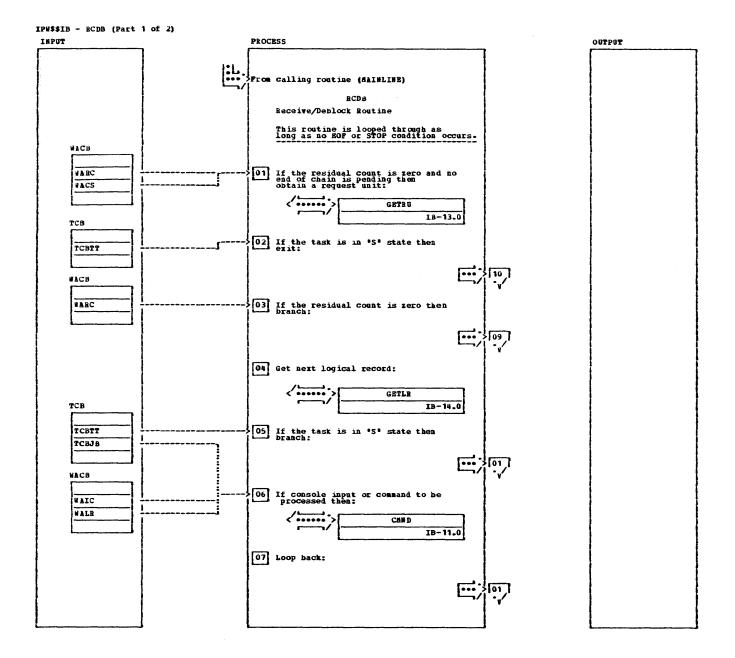
NOTES	HODULE	LABEL	REP	NOTES	I WODGITE	LABEL	REP
1 The device pointer (DVPTR) points to the appropriate entry in the SUCB. It is calculated by the subroutine PART: SUGNP where: 1 device (L=LST,P=PUN) 1 device number LST: n between 1 and 3 PUN: n between 1 and				2 Indicate message: 1V221 INVALID COMMAND. 4 5 Indicate message: 1V231 COMMAND OUT OF SEQUENCE. 7			\$RSR \$BLP

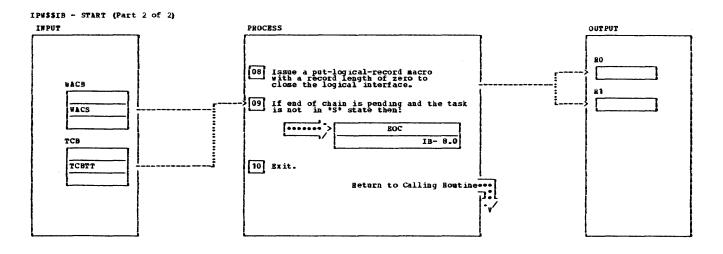


	NOTES	HODULE	LABEL	REP	NOTES	i HODULE i L	ABEL REP
1	Indicate message:	1	1	1	5 Indicate message:	1 1	
1	1V22I INVALID COMMAND.	ì			17221 INVALID COMMAND.	1 1	i i
2	The device pointer (DVPTR) points to the appropriate entry in the SUCB. It is calculated by the subroutine PARM: SUGD. Where: device (L=LST, P=PUN)						

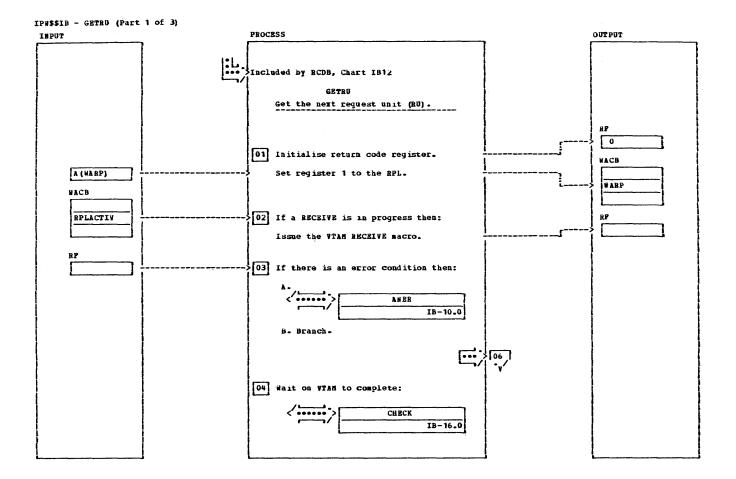


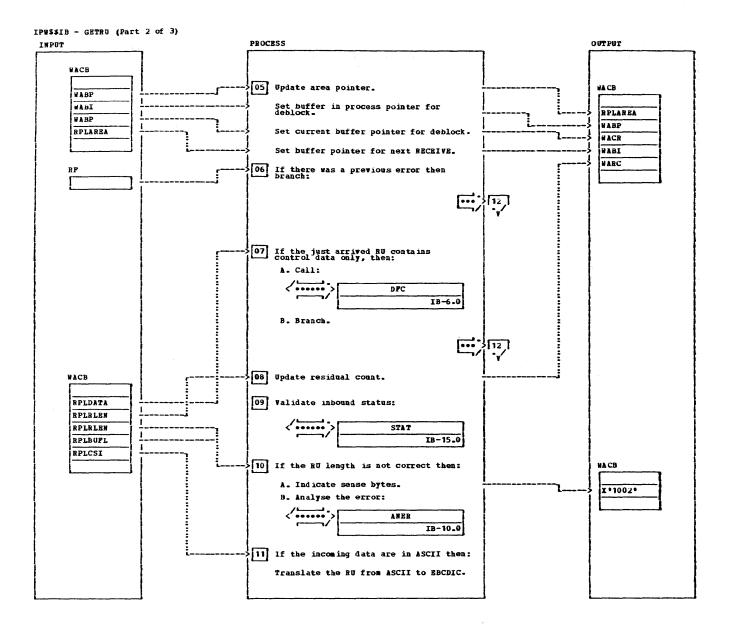
NOTE	S I	MODULE	LABEL	RBP	HOTES	1 WODULE	LABEL	REF
9				SESE	12	1	1	15HLR
10 Indicat	e message:				1	i i		1 1
17231 C	OMMAND OUT OF SEQUENCE.				1	1	ļ ··	
L			1	<u> </u>		1	1	1

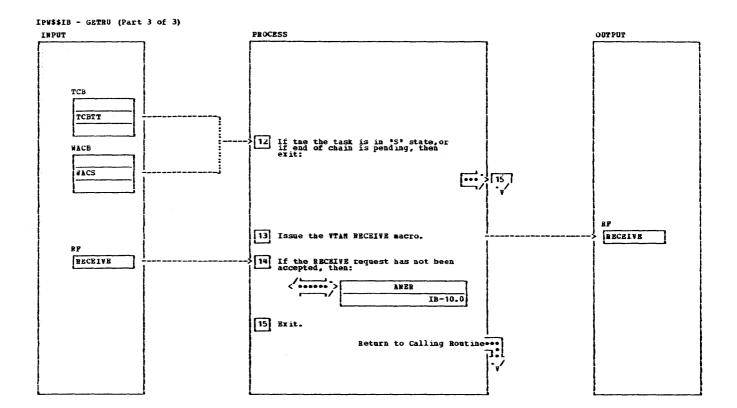


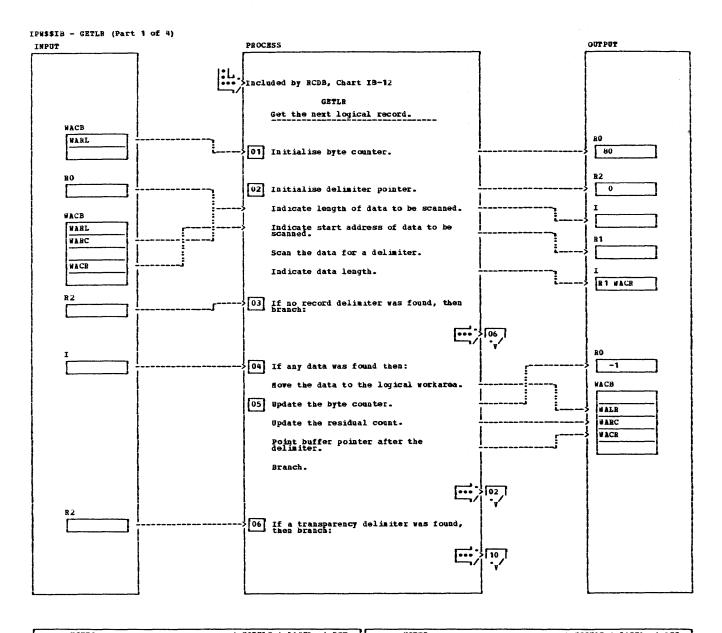


NOTES	HODULE	LABEL REP	HOTES	MODULE LABEL REP
8	i i	\$PLR		
1	1 1	1	11	
	<u> </u>	<u> </u>		i

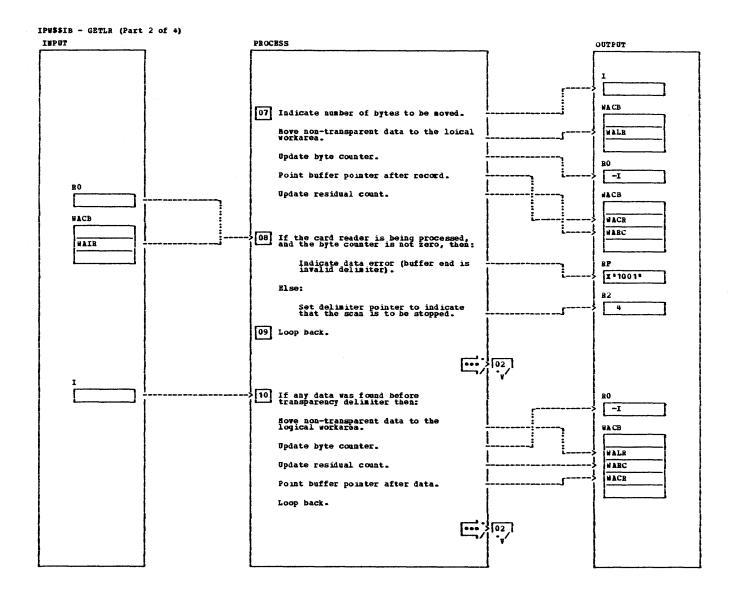


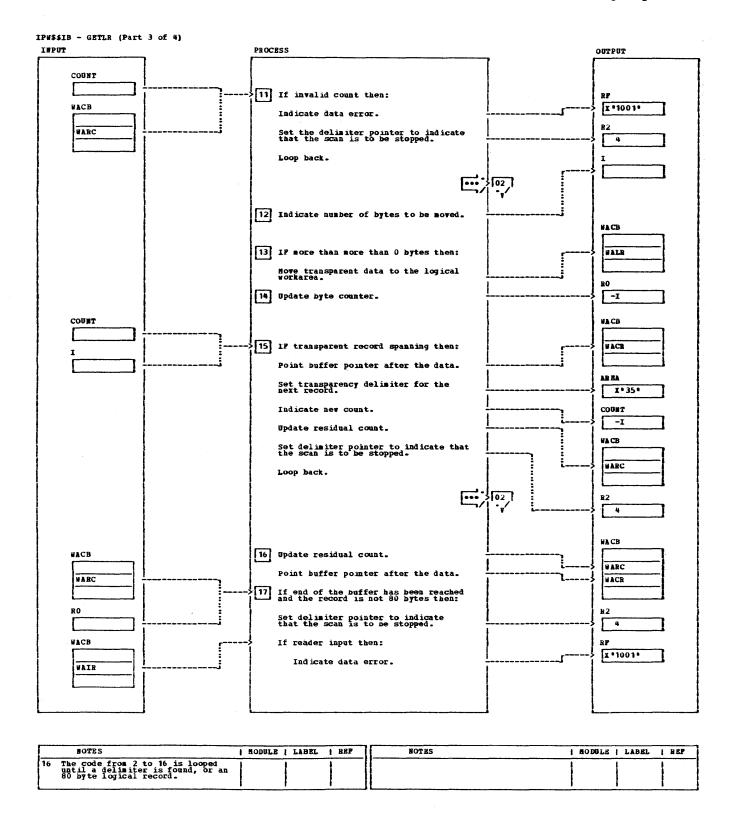


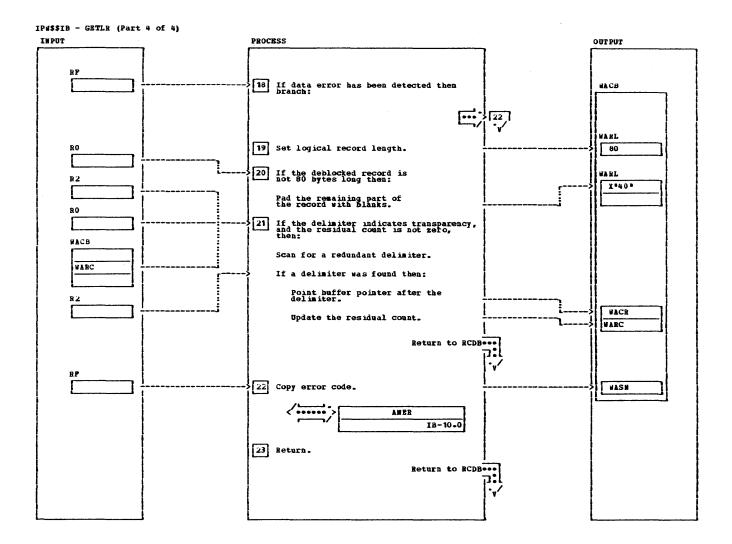


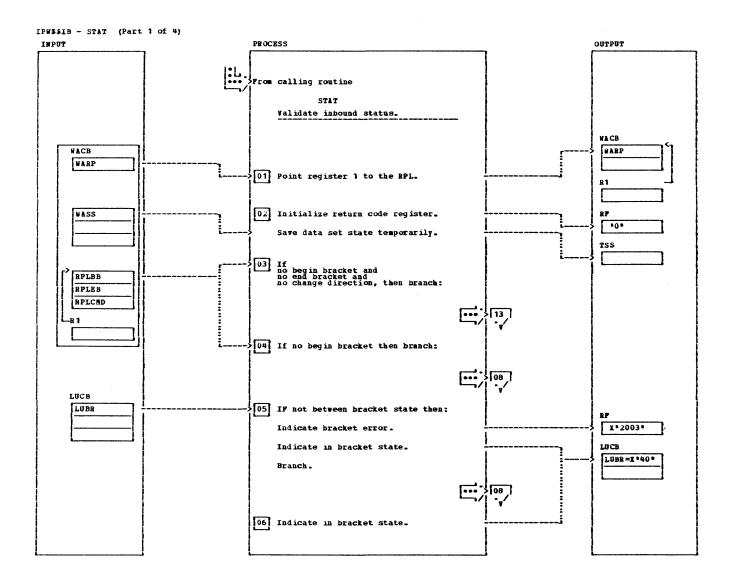


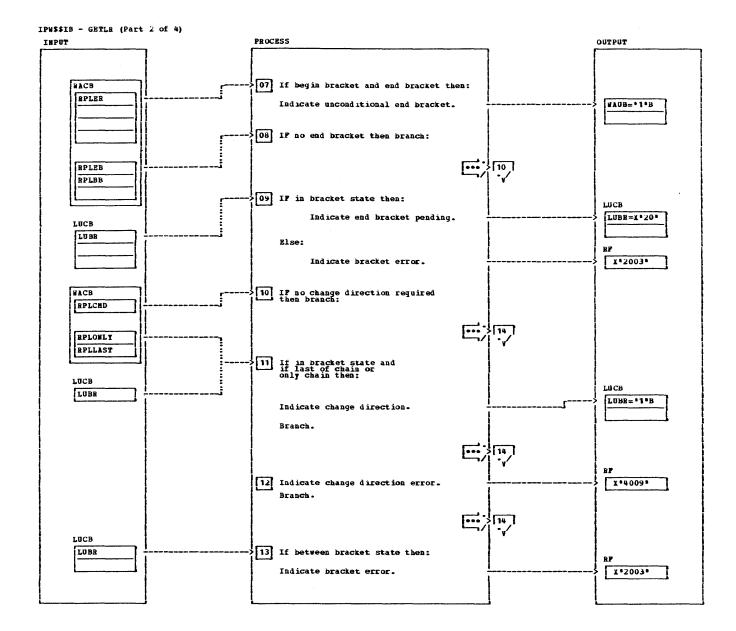
NOTES	HODGER LYB	EL) REF	NOTES	HODULE LABEL REF
2 The code from 2 to 16 is looped until a delimiter is found, or an 80 byte logical record.				

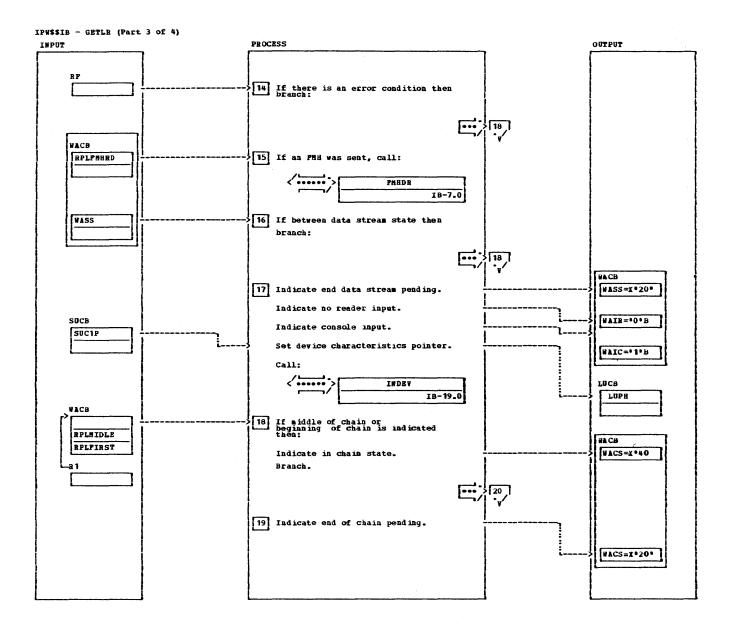




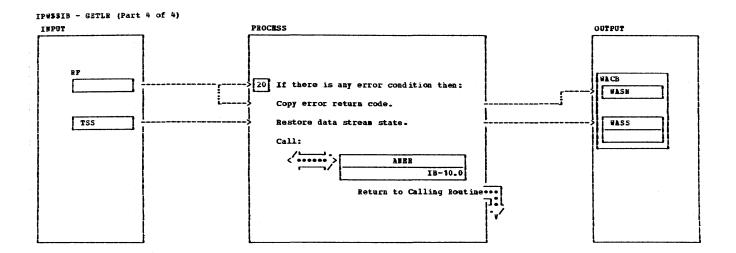


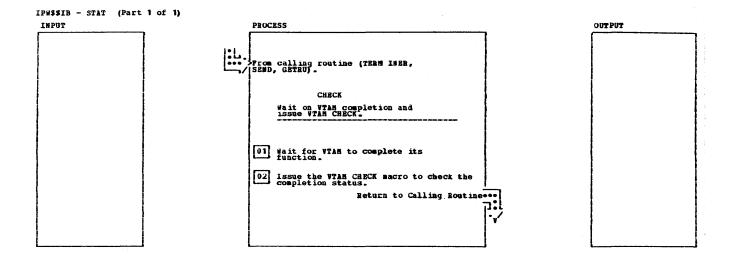


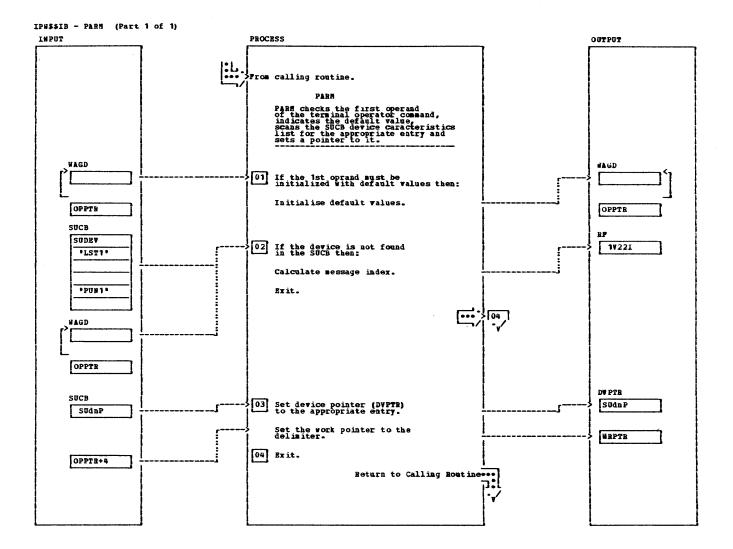


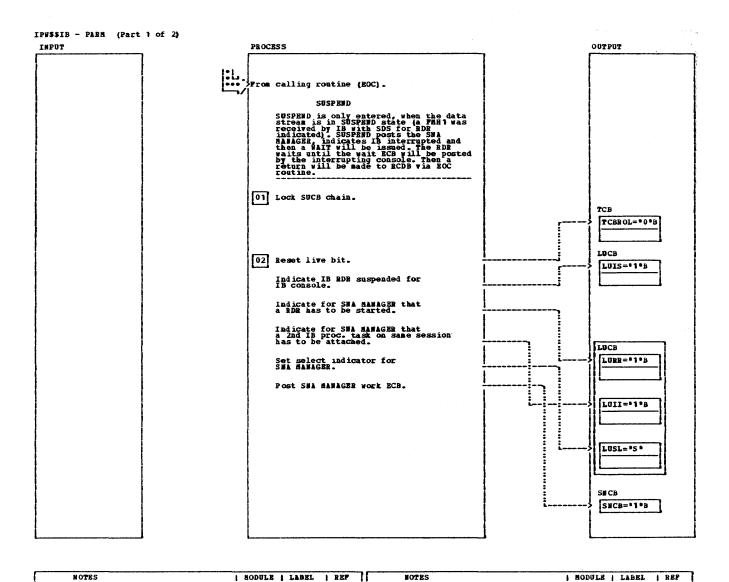


HOTES	MODULE LABEL	REP	NOTES	MODULE LAB	EL MEP
16 No PHH was sent. Default PHH with EDS, BDS, Console has to be taken. For further action see decision table chart IB7 in listing.			18 The chain state must also be updated in error case (RF not equal zero). The processor has to know whether he has to go in purge state or not (subroutine IMER).		

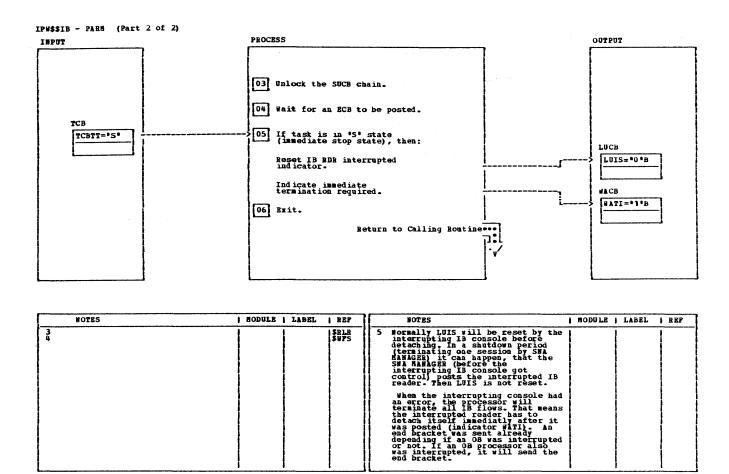


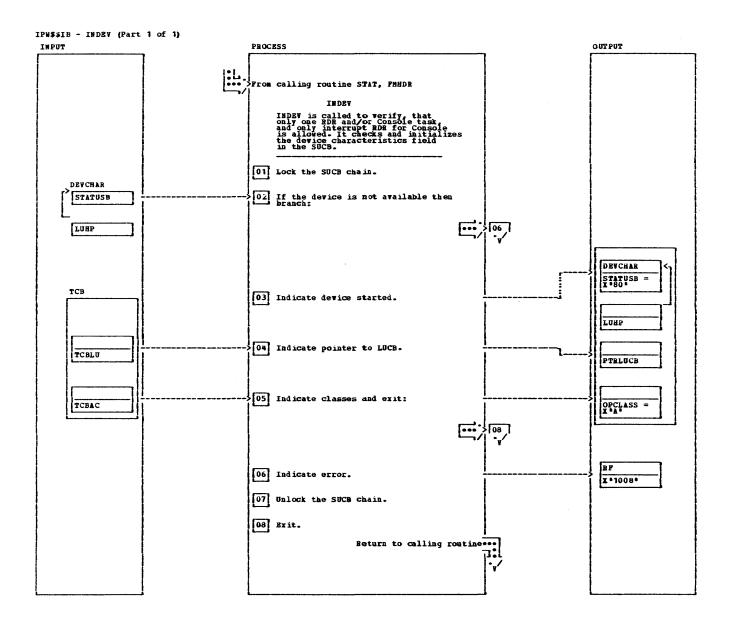




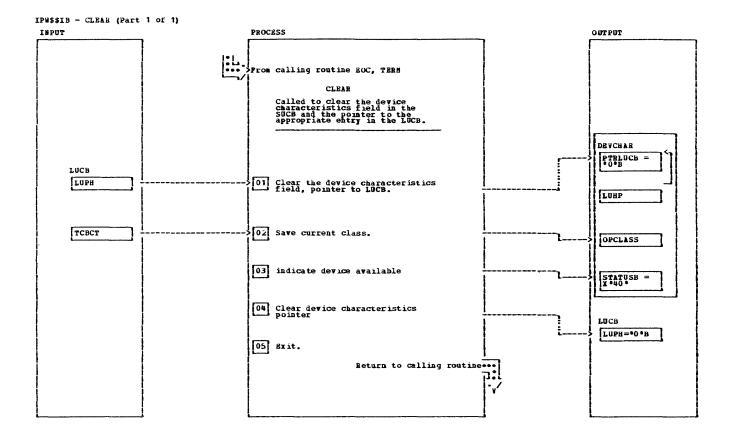


FRSE

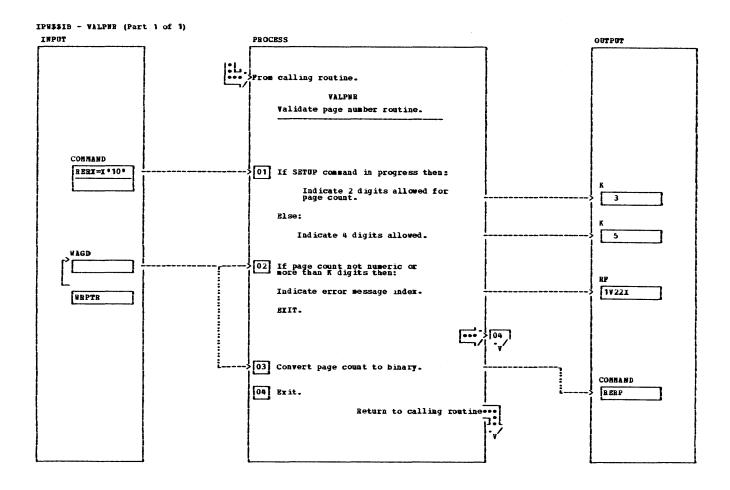




NOTES	HODULE	! LABEL	REF	DOTES	MODULE LABEL	REP
				7		SRSR SHLR



| MODULE | LABEL | REP



NOTES

Message indicated: 1V221 INVALIO COMMAND

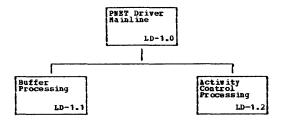
If the page number is valid, it will be packed, converted to binary and moved into the "COMBAND" work field. This workfield will later on (when the whole command is valid) be moved to the appropriate TCB (will be done in the "CHMD" routine).

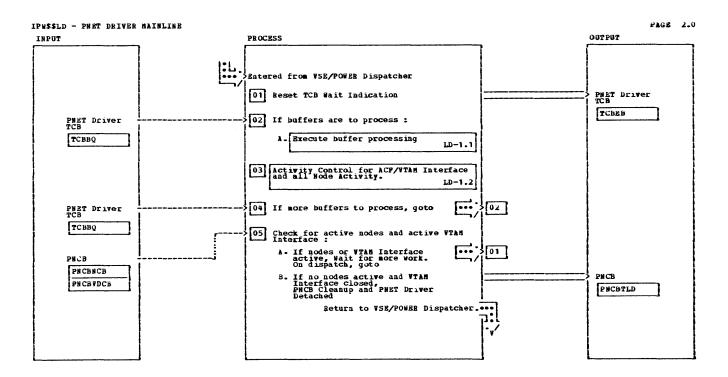
| MODULE | LABEL | REP

VALPER validates the page numbers (page count) entered as an operand of a SETIP or RESTART command. It will be called whenever a valid SETUP or RESTART command was entered.

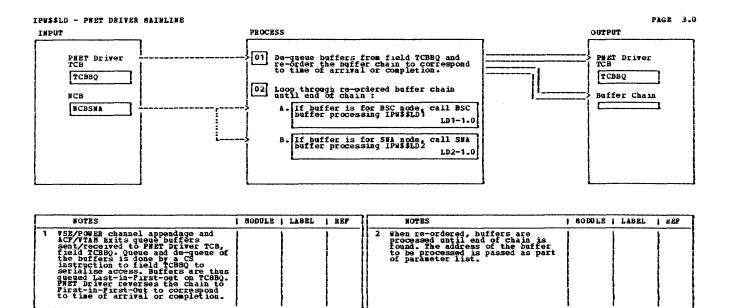
The number is checked if all digits are numeric and then if the number has the allowed digits (for SETUP 2 digits are allowed, for RESTART 4 digits).

CHART LD: IPWS\$LD - PNET LINE DRIVER

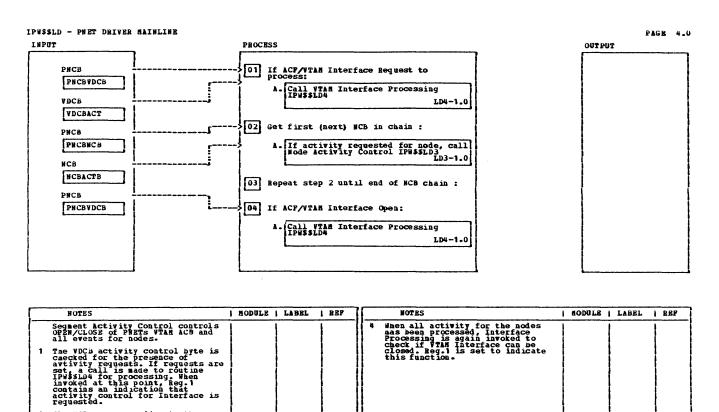




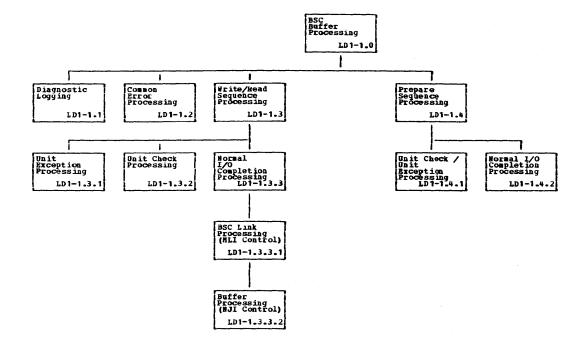
HOTES	MODULE LABEL	RBF	NOTES	NODULE	LABEL	REP
The PHET Driver is attached when the first PSTRT for a PNET Node is given by the operator. A node control block (MCB) is created and queued to the PHET Control Block (PNCB). If the node is a SNA node, a VTAB Interface Control Block (VDCB) is also created. When dispatched, the PNET Driver executes an endless loop until it detaches itself, when all NCBs and YTAB Interface is terminated. The PNET Driver is both event and time driven. Events are set by different other VSE/POWER task to request activity by PNET Driver. When there are no more events to process, the PNET Driver places itself, into a VSE/POWER Rait, was a completed of BSC buffer or ACF/VTAB Exit schedules Send/Receive completion. A node is requested to terminate by PSTOP or due unrecoverable line error or Signoff by remote. Examples of timer driven events are: Examples of timer driven events are: Wait for buffer resources for SNA nodes. Delay I/O for timer interval for BSC nodes.			1 PMET Driver Event Control Block Post is reset to dispatch PMET Driver again, when it is posted during process with a new event. 3 While buffer processing is conditional on the presence of buffer events, activity control processing is always erecuted whe PMET Driver is dispatched. 4 Buffer events may have occurred during processing of buffers and events. A check is therefore made for new buffers to process at thi point. 5 As long as there are nodes (at least one NCB) or the VTAM Interface is critically WCB present to PMET Driver places piself into VSE/POWER Wait. When all nodes are terminated (no NCB) and VTAM Interface closed (no VDCB), PMET Driver detaches itself. Note that when there are only BSC nodes, there is no VDCB.			

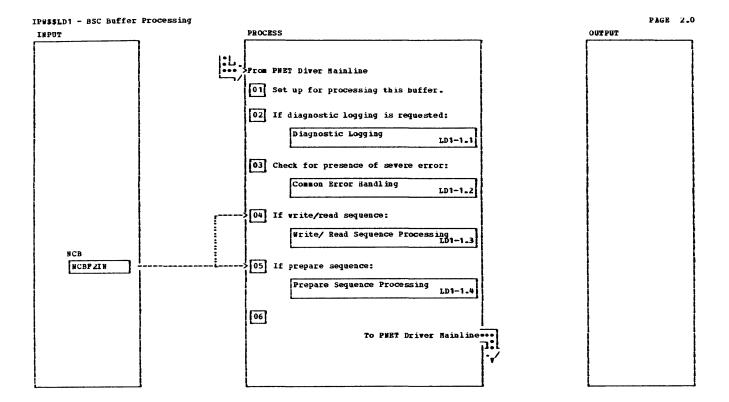


The NCBs corresponding to the nodes are queued to the PNET Control Block (PNCB), when the node is started (last started at top). The PNCB is checked for the presence of NCBs and if so, a loop for activity requests for each node. The current NCB is kept in field NCBPTR. If activity request[s] are present, module IPMSELD1 is called to process the requests.

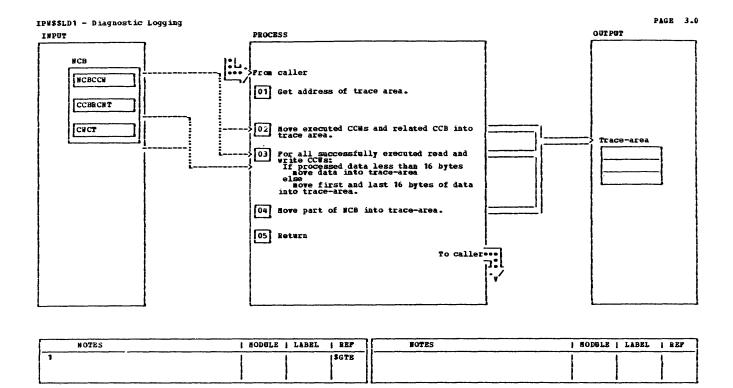


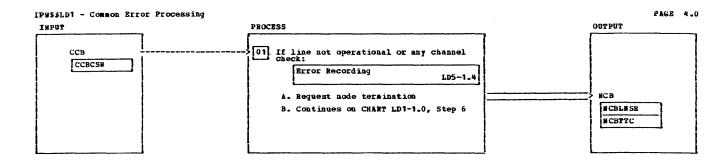
IPW\$\$LD1 - BSC Buffer Processing



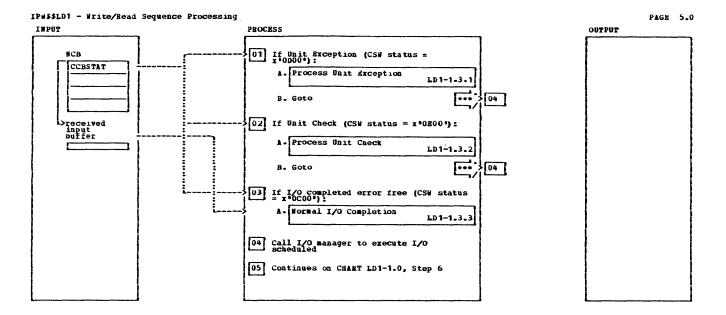


NOTES	HODULE	LABEL	REP		HOTES	HODELE	LABEL	REF
The SSC Buffer processing performs two distinct tasks: 1) It maintains the BSC wultileaving (NLI) protocol. This is called the Link Level of PMET. 2) It controls and processes to a certain extent the NJI buffers received. This called NJI Level of PMET. To 1): I/O is scheduled and recovery performed with two sets of channel command word (CCW) sequences supported: I lid is a foon Write/ Read Sequence used for text transmission and reception. On completion of the I/O the channel end appendage in VSZ/POWER Nucleus queues the buffer to PMET Driver TCB and updates the NCB with CSW of completion. The channel end processor basically consists of two parts: A section to handle responses when the NII prepare sequence is in effect. A section to handle responses when the multileaving write/ read CCW sequence is in effect. The type of CCW sequence which in effect is determinated by flag NCBFZIN in the NCB.				3	mefore control is transferred to the appropriate section, interrupt information is stored in the 1/0 trace Duffer if requested. This routine handles errors which can occur in Prepare and Write/Read Sequence and are so severe that line is immediately terminated The prepare sequence is used when a line is started. The prepare sequence is used when a line is started. The prepare sequence is used when a line is Storement of the NULTI LEAVING line protocol. This routine transmits and receives data, notifies the receiver and transmitter of successful data transmission and reception and effects error recovery. The received information is interrogated and appropriate control characters are: DLE-STI (transparent text), DLE-ACKO and NAK.			

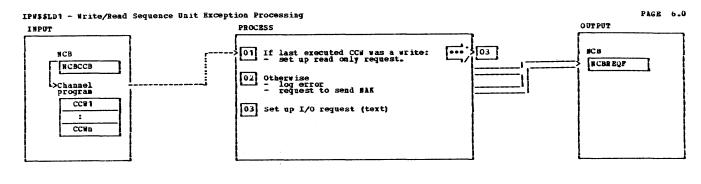




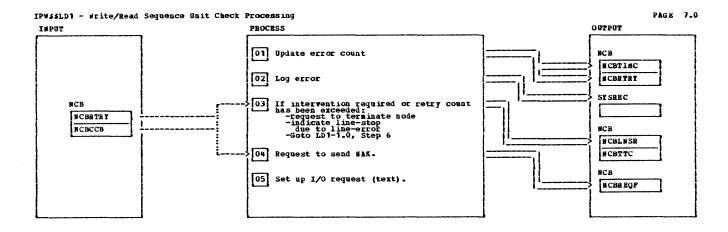
NOTES	MODULE LABEL	REP	NOTES	I MODULE	LABEL	REP
1 The following errors are handled in this routine: - Line Bot Operational - Program Check, Protection Check - Channel Data/Control Check, Channel Interface Check Channel Chaining Check			1 Except for not operational, Unit Check is set up as parameter for Error Logging Routine. 1 The node is requested to terminate by setting a stop request due to line error. Termination is then initiated in Activity Control.			



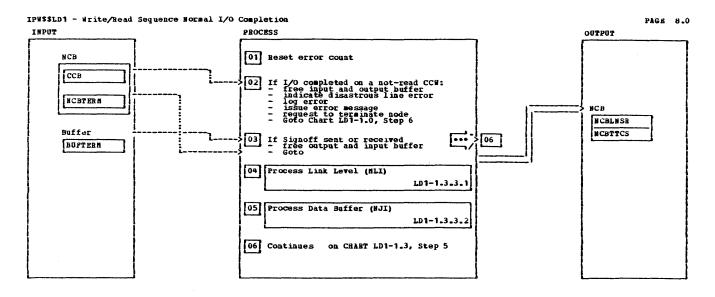
NOTES	MODULE LABE	LIREP	HOTES	HODBLE	LABEL	BRP
If unit exception or a unit check has occurred, the appropriate segment is executed. A unit exception can occur if VSE/FOWER withes to the line is writing too. If this happens, the I/O is reinitiated, starting with the read command to clear the data in the control unit. A unit exception can also occur when an EOT is received by the control unit, however an EOT is invalid according tool. An error message is written to the console and MAK is returned.			2 When a unit check has occurred, the error count is updated for stationary purposes and the error is the sense is count in the count is count in the sense is examined for time out count is increased by one, however no further analysis of the unit check sense is done and a NAK is written. 3 On normal I/O completion, the received information is examined and appropriate action taken. Walid MULTI-LEMYING control characteristic apparent text), DIE-ACKO (transmission acknowledged or synchronizedidle state), SOM-ENO and NAK. Note: ACKI and WAK are not supported).			



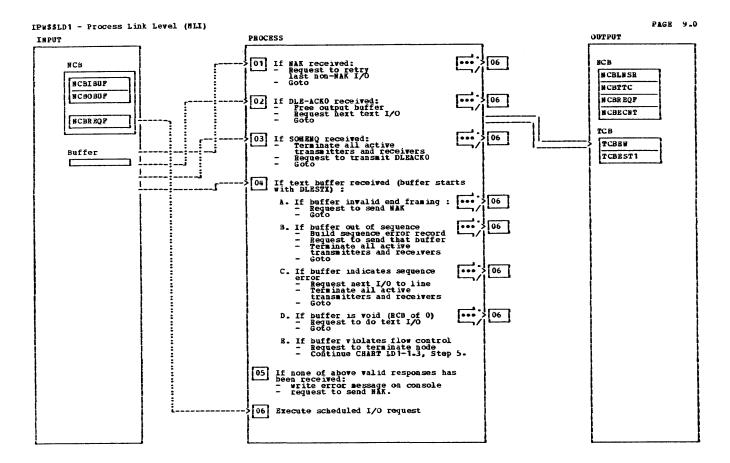
NOTES	HODULE	LABEL	REP	NOTES	HODULE	LABEL	ı	REP
A unit exception can occur if VSE/POWER writes the line while the other and of the line while the other and of the line is, the Vois reinitiated starting with the read command to clear the data in the control unit. A unit exception can also occur when an EOT is received by the control unit, however an EOT is invalid according to the MULTI-LERVING protocol. An error message is written to the console and a MAK is returned.				2 Note: I/O buffer is not released. 3 Done by going to central I/O call.				



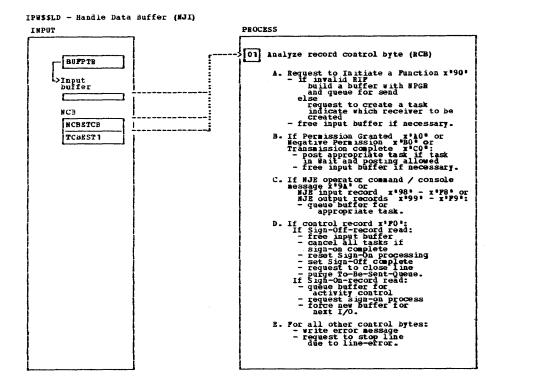
NOTES	HODULE LABEL	REP	HOTES	HODGER	LABEL	REF
1 WCBRTHY will be reset, if normal I/O-completion			2 The error is logged using STC 44. 5 Done by going to central I/O call.			



i	NOTES	MODULE	LABEL	REP	NOTES	MODULE LABEL REP
1	2 (Note: MULTI-LEAVING always issued CCW's in write/read pairs).				3 Sending or receiving the record terminates all I	ne Signoff



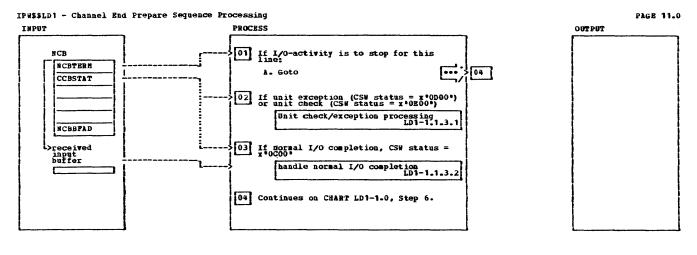
NOTES	MODULE	LABEL	REP	NOTES MODULE LABRL RRE
1 A MAK sent by the other CPU causes a retry of the last non-MAK buffer. 2 A DLE-ACKO is an acknowledgement for the buffer just sent. The appropriate transmitter or receiver task may be posted for status change (e.g. RIF sent) if indicated in buffer header. The output buffer, if any has been used and it is not the line-buffer, is freed and put in the free output buffer queue. Note: When VSE/PORER sends text to another node, multiple output transmitters can be active filling their own buffers. These buffers are then queued to the To-be-Sent-Queue anchored at MCBOTBS. 3 Receiving SOHENO means that remote node is restarting and that all transmissions in progress must be remained and the Signon process re-entered. 4 A text block has been received (the receipt of text in response to a text of block constitutes an implied DLE-ACKO). 4 The last received text byte is calculated by addressing the last buffer byte and subtracting the residual length provided in the CCB.			\$ BUP	4B In block sequence count verification there are four possible exception actions: - while receiving data, if the received block sequence count shows a duplicate block received, it implies that a last buffer must be re-transmitted. - If the received block sequence count is in error: - Message TRCOI BUPPERS LOST - Thee input buffer if necessary - treminate all active - receivers and transmitters. 4C When a buffer indicating remote detected sequence error: - Message TRCOI BUPPERS LOST - Treminate all active - receivers and transmitters. 4C When a buffer indicating remote detected sequence error: - Message TRCOI BUPPERS LOST - Tree input buffer if necessary - terminate all active - transmitters and receivers. 6 A call is made to the I/O manager. Parameter is MCBREQF which is set up above



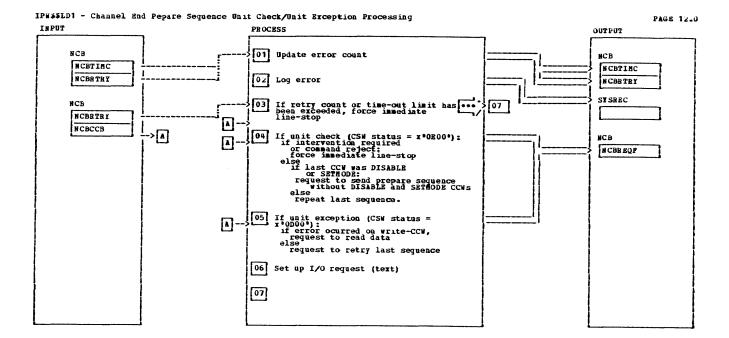
TCB
TCBEW
TCBEST1

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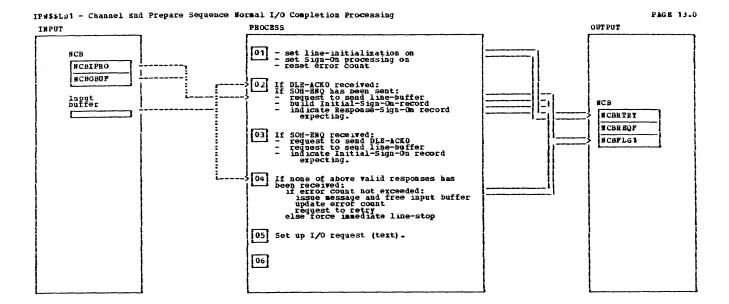
	NOTES	HODULE	LABEL	REP		HOTES	1 HODULE	LABEL	REP
1.	Invalid RIF means: SRCB not within the valid range appropriate receiver is drained no permission to activate receiver line is in "S" state				10	The following SRCB-types are validated: C*I* = I'C9* Initial-Sign-On C*J* = I'D1* Response-Sign-On C*B* = I'C2* Sign-Off. The validation of the Sign-on record is done by activity control which also will free the buffer.			
1B	Por PGR or NPGR the task will be only posted, if this task is watting for a PGR or NPGR or 201. Por NPGR: if task is not waiting for PGR or NPGR, the stop code "H" is set.					the belief.			
1C	Buffer management cares about number of allowed buffer: if limit reached, buffer management sets switch for 1/0-manager to send wait-A-Bit if number of used buffer is decreased due to freeing a buffer and the Wait-A-Bit switch is set on, buffer management resets the switch if this is the only buffer in the queue of the appropriate receiver task is posted by buffer management.								
	The data records and the console commands/messages can be destined for different tasks. Once a receiver task has been found for the first unit of work in the buffer, the buffer is allocated to that task and the task is posted for work.								
	If VSE/POWER last sent a WAIT-A-BIT, all receiving and sending is terminated as data is lost.								
	The NCB receiver task entries are scanned for matching RCB-If not found or the RCB is not within the valid range, the input buffer is ignored and like-stop is requested.								



NOTES	HODULE	LABE	L BBP	HOTES	HODULE	1	LABEL	ı	REP
If unit exception or a unit check has occurred, control is passed to the appropriate routine 2 A unit exception can occur if YSE/POWER writes to the line while the other end of the line is writing too (out of synchronization). In this case the the unit exception occurs on the write command. If this happens the I/O is reinitiated, starting with the read command to clear the data in the control unit. A unit exception can also occur when an EOT is read by the control unit, however an EOT is invalid according to the MULTI-LEWING protocol. An error message is written and NAK is returned.				In unit check processing the resulting sense is interrogated and appropriate error recovery initiated. The bulk of processi is for time-out. 3 On normal I/O completion, the received information is examine and appropriate action taken. Val in NUI-I-EMPING control characters are: LR-ST1 (transparent text), DLR-ACKO (transmission acknowledged or synchronizedial state) and NAR.				أد النائد والأدر بيدور والتراث والتراث والتراث الأوائد التراث والتراث	

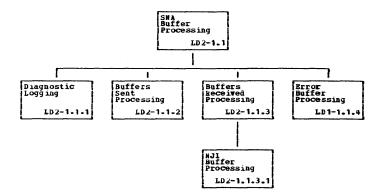


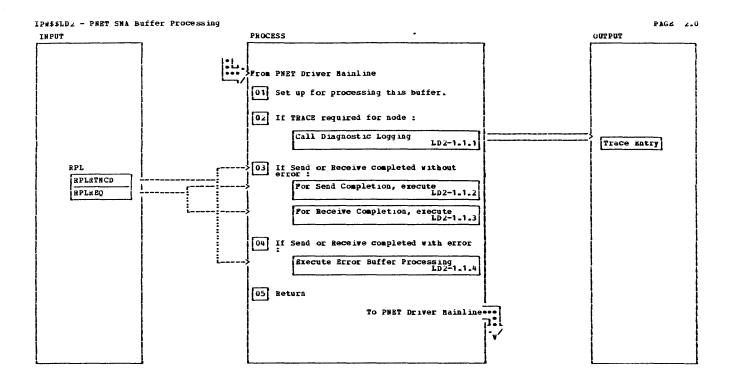
NOTES	MODULE LABEL	REP	NOTES	HODGLE	LABEL	REP
The error is logged using SVC 44 when it is a Unit Check. A unit exception can occur if VSE/POWER writes to the line while the other end of the line is writing too (out of synchronization), in this case the the unit exception occurs on the write command. If this happens, the I/O is reinitiated, starting with the read command to clear the data in the control unit.		\$WPC	A unit erception can also occur when an ROT is received by the control unit however an EOT is invalid according to the AULTI-LEAVING protocol. The prepare sequence is repeated.			\$ION



NOTES	WODULE	LABEL	REP	NOTES	HODULE	LABEL	REP
3 If a SOH-ENQ has been received, the node on the other end of the line is requesting permission to sign on. An DLE-ACKO is sent and the other node is expected to respond with an initial signon record.				5 A call is made to the network I/O manager which builds up the channel program based on the supplied request code and then issues the I/O.			
4 If other node keeps on trying to send response, which this node does not understand at this early time of initializtion (e.g. a NAK), the retry will be done only a certain predefined number of times.					the sate of the sa		

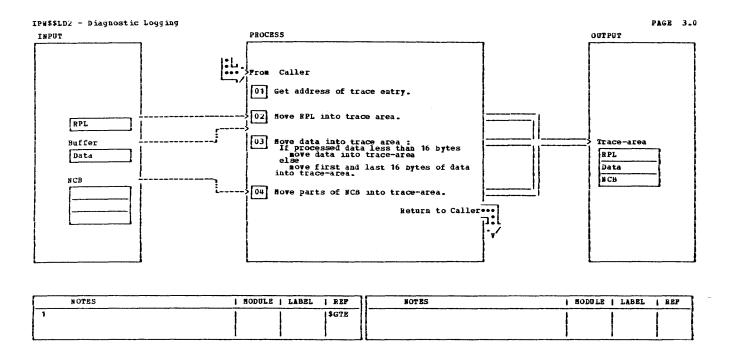
IPW\$\$LD2 - PNET SNA Buffer Processing

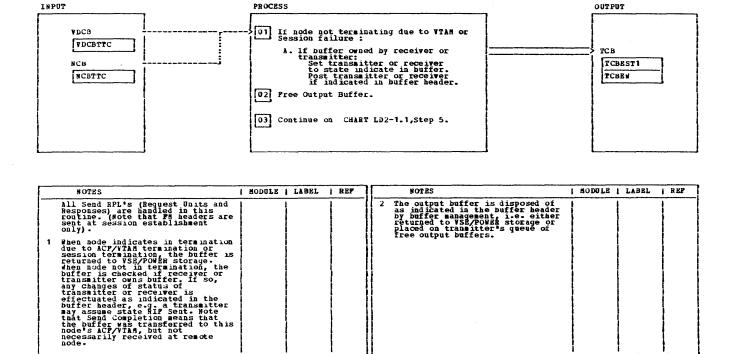




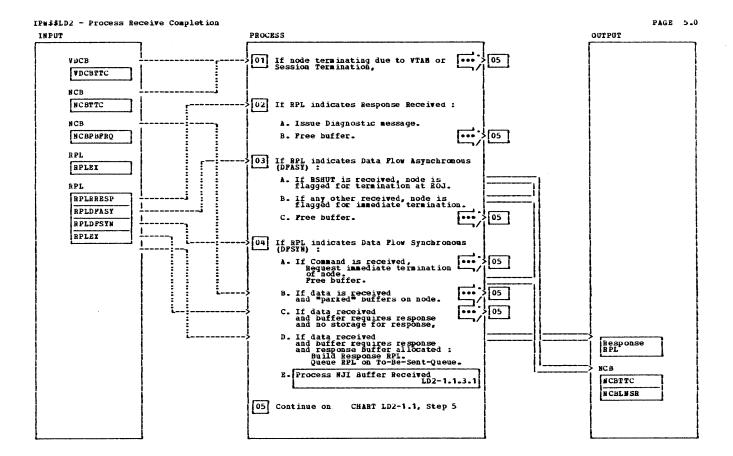
NOTES	HODULE	LABEL	RE	P	NOTES	1	WODDIE	LABAL	REP
For Send and Receive Operations, the RPL is part of the buffer and is queued as part of it to the PET DI iver TC. The RET Send and Receive Exit and finite in the leaf of the property of the					3 Any RPLRTNCD but 0 causes execution of the buffer error segment.				

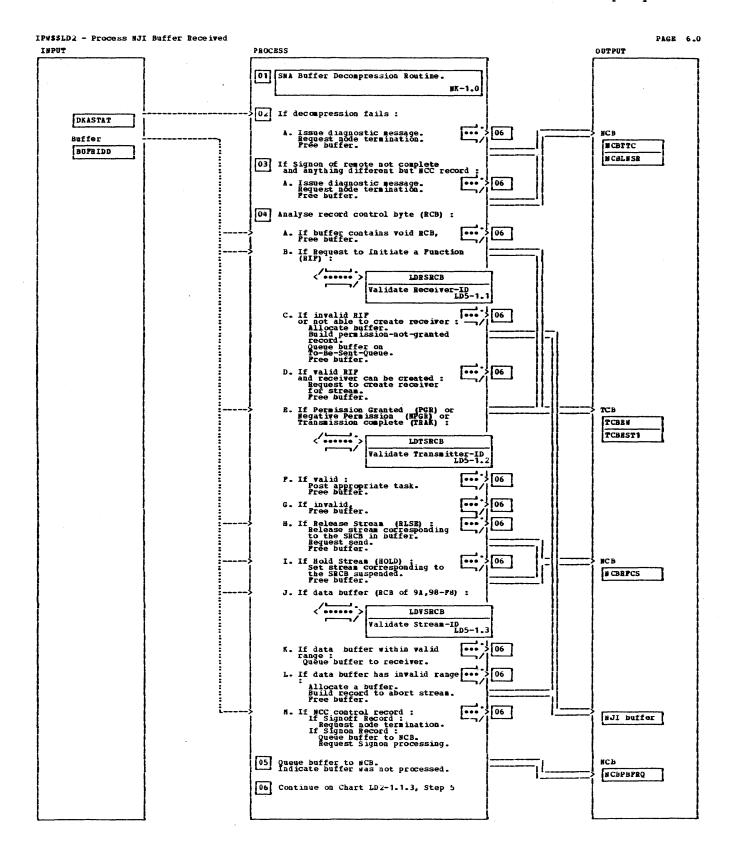
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IPW\$\$LD2 - Process Send Completion

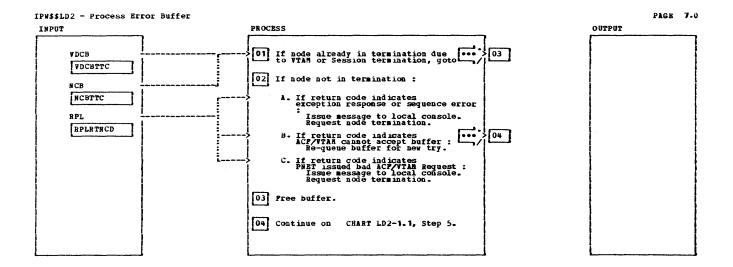




IPW\$\$LD2 - Process NJI Buffer Received

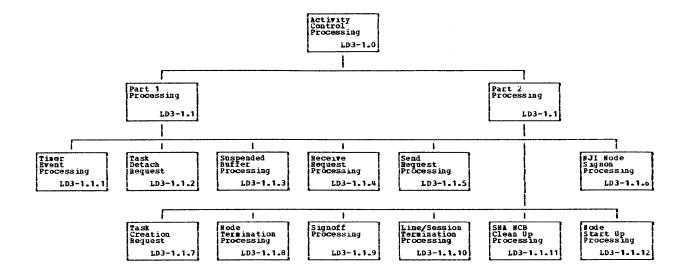
10	GB	 _	.0

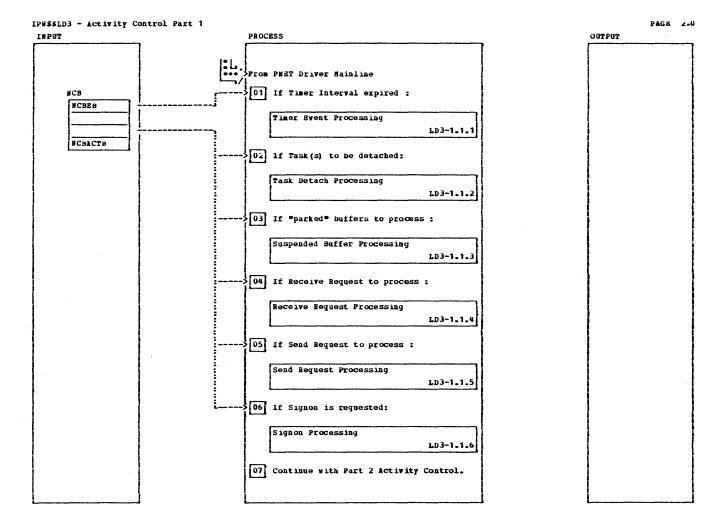
NOTES	WODULE	LABEL	REP	NOTES MODULE LABEL M	REP
1 NJI buffers are sent compressed by remote node. Before processing them the first RID is decompressed into field BUFRIDD in buffer. This field is analysed in the following.				4I To hold a stream, this MJI control record is sent by remote. The SRCB in the RID is used to find the stream for which buffers can no longer be sent until released again.	
4B Invalid RIF means: RCB out of range of allowed ones. 4B Receiver cannot be created when appropriate receiver is drained no permission to activate receiver task already exists node is in immediate termination. 4E Por PGR or NPGR the task will be only posted, if this task is waiting for a PGR or NPGR or PGR or NPGR or Stop code "H" is set. 4B To release a stream suspended earlier, this NJI control record is sent. The SRCB in the RID is used to find the stream on which buffers can now be sent again.				4J If this is the only buffer in the queue of the appropriate receiver task, his receiver task is posted by buffer management to the composition of the composition o	BUP

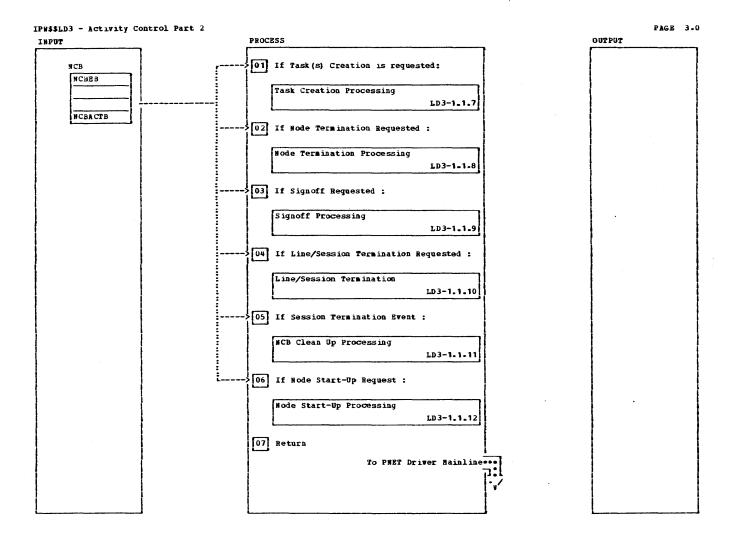


NOTES	MODULE	LABEL	REP	NOTES	HODULE	LABEL	REP
All Send RPL's (Request Units and Responses) are handled in this routine. Note that PM headers are sent at session establishment only) The RPLATHCD in RPL is analysed for type of error. If YTAM or session termination in progress the error is not handled. For all other cases the session is requested to terminate, when error buffer is not an outcome of session termination.				2A Sequence error of request units received or exception responses cause termination of session. 3 The buffer is freed using the appropriate buffer sanagement service and is either returned to YSE/POWER storage or to queue of free input resp. free output buffers. 3 The output buffer is disposed of as indicated in the buffer header by buffer management, i.e. either returned to VSE/POWER storage or placed on tranmitter's queue of free output buffers.			\$BUF

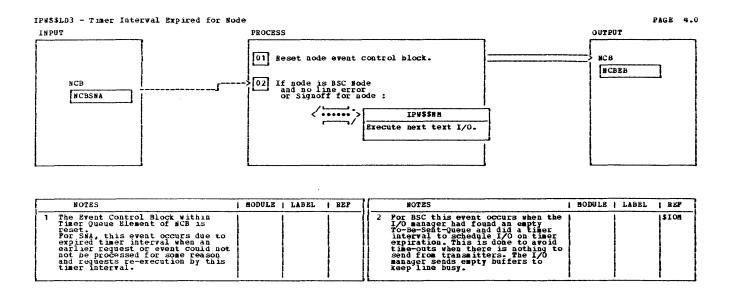
IPW\$\$LD3 - Activity Control

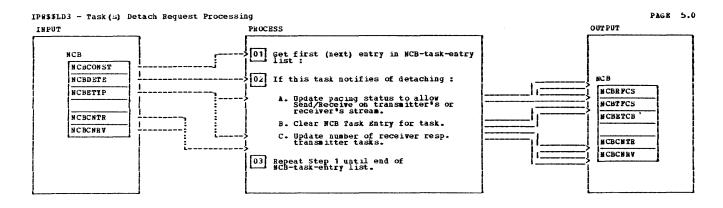




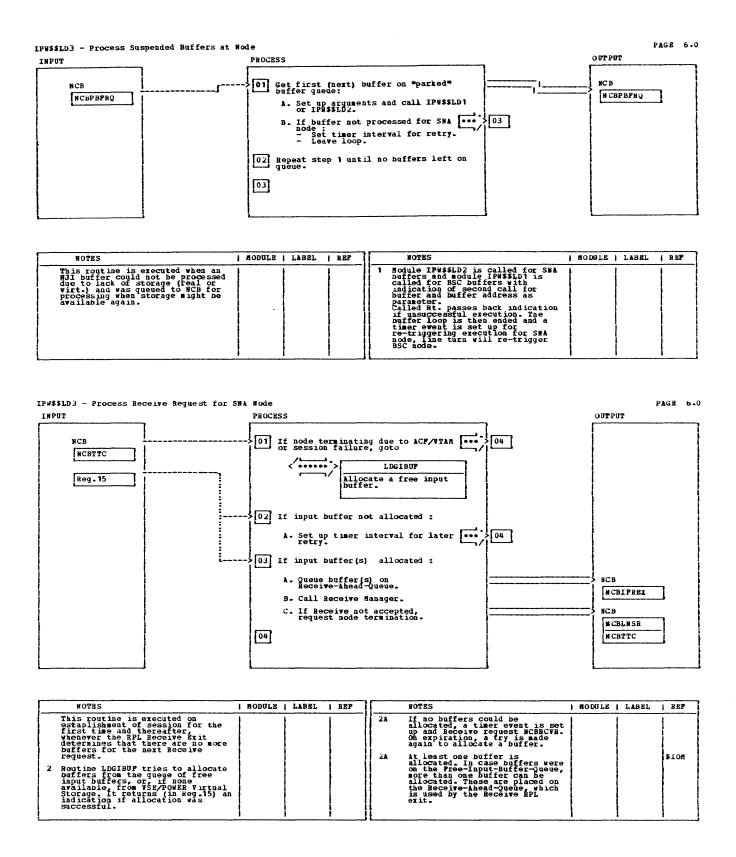


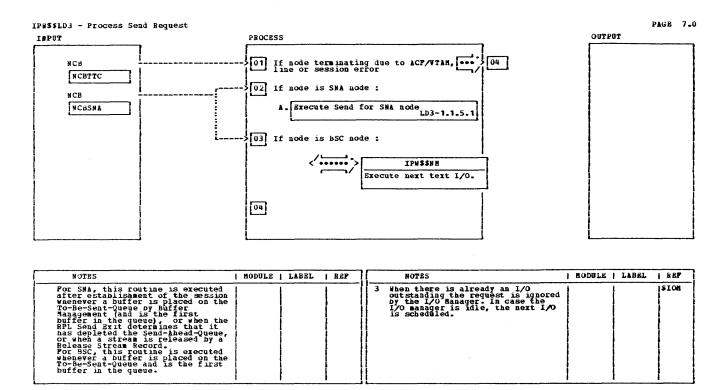
HOTES	MODULE (LABEL	REP	NOTES	- 1	MODULE	LABEL	Į R	rep
Part 1 as well all Part 2 are distinguissed for HIPO technical reasons only. More than one request for an activity can be present for a node at the same time. The sequence of processing is ordered in such a way, that events being pre-requisits for other activities are handled first and that events generating new events are handled before the generated event. An example would be: To terminate a node all transmitters and receivers must have terminated. Event task detach is therefore processed before Line or Session close.				All request will reset their request flag. If the activity cannot be processed at that point in time, it is set on again and a new event sust occur to trigger execution (by line turn-around or a timer event) again.					

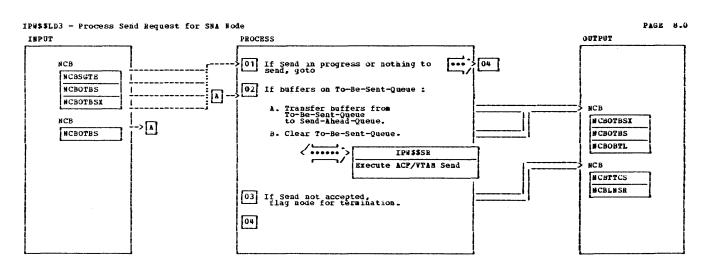




NOTES	MODULE	LABEL	REP	NOTES	MODULE LABEL REP
This routine is called by activity control, whenever a general Detach Request in the WCB indicates that either a receiver or transmitter task notifies PNET Driver of Detaching. 2 To notify of Detach the task sets flag WCBDETE in its NCB-task-entry. 2A When tasks terminate, the stream status relative to pacing is reset to allow Send/receive on that stream again.				This routine resets only the MCB-task-entry-list. Both the space of the TCB and the workarea have to be released the task itself before requesting task detach. The console transmitter and receiver are not included in the number of active transmitters and receivers, because they have to be cancelled only when Signoff/Session termination started.	by

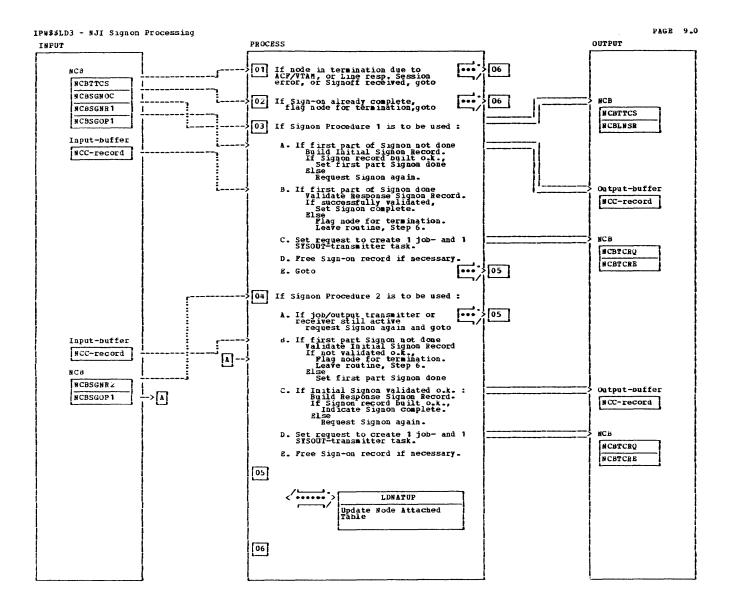






NOTES	WODULE	LABEL	REP	NOTES	I WODSTE	LABEL	REP
This routine is the interface to Send Manager for SNA for all Send operations (except exchange of FM headers). It transfers all buffers, placed on the To-se-Sent-Queue by buffer management, to the Send-Ineed-Queue-Fnich is used by Send-Ineed-Queue-Fnich is used by Send-Manager [FM\$\$SR. Send is interlocked with this routine, iee hile gate is set, this routine does not call the Send Manager.				1 When there is already a Send active, or when both To-Be-Sent-Queue and Send-Ahead-Queue are empty, this routine is a no operation. 2 The Send Manager is invoked and starts sending from Send-Ahead-Queue. The Send Gate set, so that Send manager will be invoked again until all buffer on Send-Ahead-Queue are transferred to VTAM (or an error occurs).	it i		\$IOH

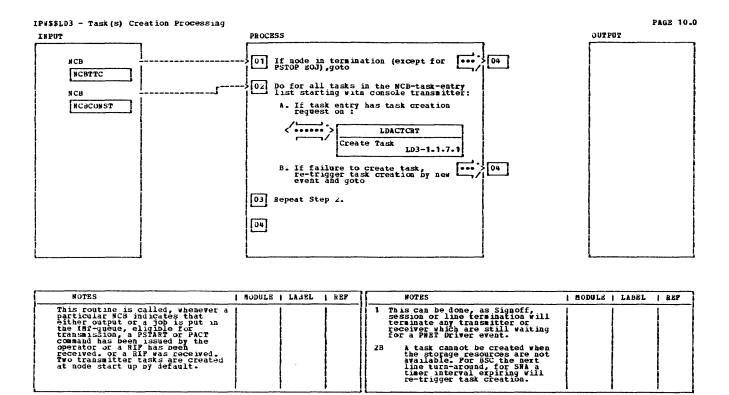
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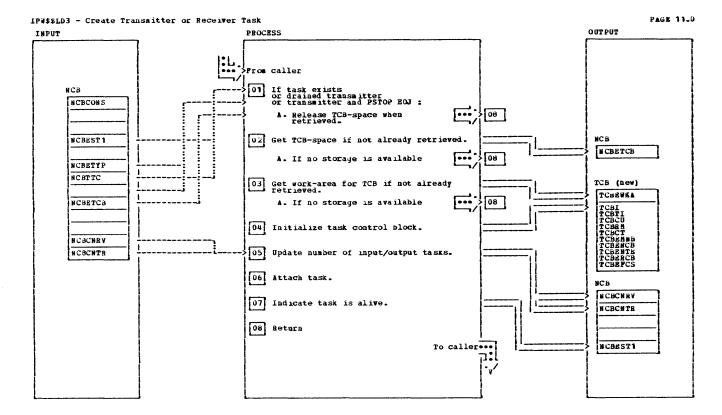


IPW\$\$LD3 - NJI Signon Processing

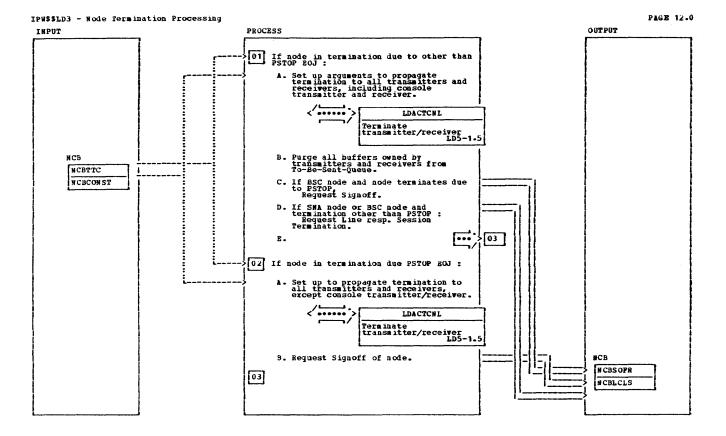
PAGE 9.0

NOTES	MODULE	LABEL	REP	NOTES MODULE LABEL	REF
The Sign-on process consists of two steps: 1. Send a Signon Record 2. Validate the received Signon Record. This node sends an Initial Sign-on-record and receives a Response Sign-on-record (Signon procedure 1). 2. This node receives an Initial Sign-on-record and sends a Response Sign-on-record (Signon procedure 1). 7. This node receives an Initial Sign-on-record and sends a Response Sign-on-record (Signon procedure 2). For BSC the outcome of the line bid determines which Signon his procedure is to be used. For St. was a recorder to use. In BSC the under receiving a DLEACKO on his line bid will send the Initial Signon Record and expect the Response Signon Record. For SAL, the node with the higher node name will send the Initial Signon Record. It ial resp. Response Signon Record. The India Find the remote processing routines to the NCB, The India RESBERRO. The SKGB identifies the Sign-On-record as follows: C'I' = X''C'' = Initial-Sign-On C'J' = X''D'' = Response-Sign-On. When Signon is already complete, another Signon record is considered an error and will terminate the node. 3A If no storage for the Sign-on record could be retrieved, the same process is executed next time once more re-triggered by line turnaround or by timer event. If built, the Signon Record is placed on the To-Be-Sent-Queue. 3B Signon request is set again by buffer processing when a Signon record was received. The buffer is youed to NCB.	HODULE	LABEL	S BUP	## For BSC, whenever a SOH-ENG-record has been read during normal processing (i.e. line has already been successfully signed-on), processing continues with normal Signo-On-Processing, but only after all transmitters and receivers left since last Signom have terminated. ### Signom request is set by buffer processing when a Signom record was received. The buffer is queued to MCB. I waild, the orror message invalid, it is issued with the appropriate return code according to the invalid parameter. ### If no storage for the Sign-on record could be retrieved, the same process is executed next time once more. The record is placed on the To-Be-Sent-Queue. On Signom complete, the date and time is set and message 1RBJI is issued, when Signom is updated if shared spooling support is provided.	* BUP * BUP * B S R * B S R * B S R * B S R * B S R
puffer processing when a Signon i					

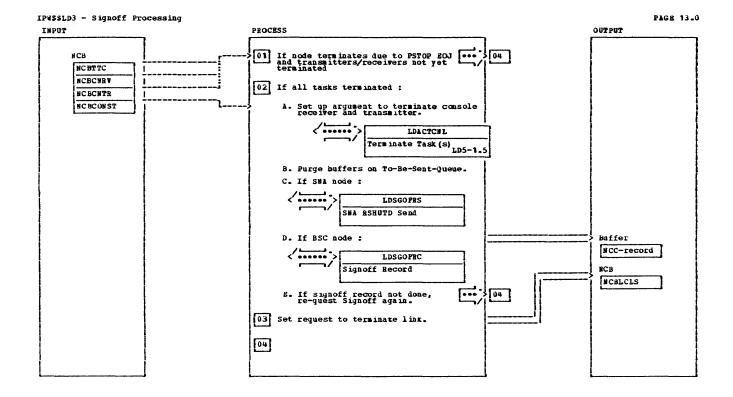




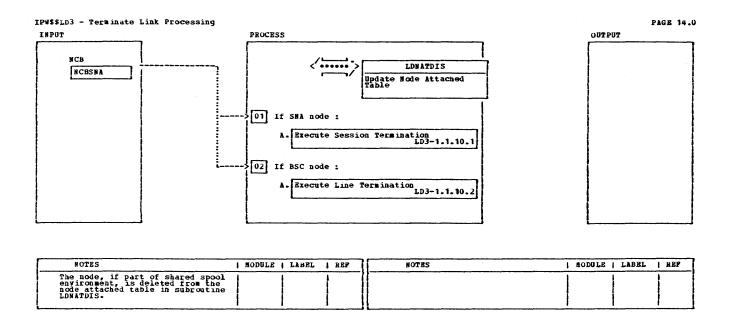
NOTES	HODULE	LABEL	REP	NOTES	HODULE	LABEL	REP
During task creation two major steps are performed: first real space for the TCB is retrieved, second virtual space for a wortand space for a wortand in the second virtual space for a wortand in the second virtual space for a wortand in the second virtual space for a wortand in the second second in the second second in the first attempt, the routine may nave to be entered more than once. 1 If the task, requested to be created, already exists the request is ignored until task has detached. 2 After task creation is requested processing, a PSTOP command may have been entered. In this case it is not necessary to create a transmitter task (except console transmitter), whereas a receiver must be created in order to handle the NJE protocol properly.				The following fields of the new TCB are initialized -Tasked unit -Class table pointer -max-number of buffers -MCB address -MCB task entry address -MCB related to task -RIF received (not for console-task) -PCS mask. 5 The number of output/input processors currently active is updated. These numbers are used to check for task active during node termination process. The console transmitter is not included in the new task is attached.			SATI

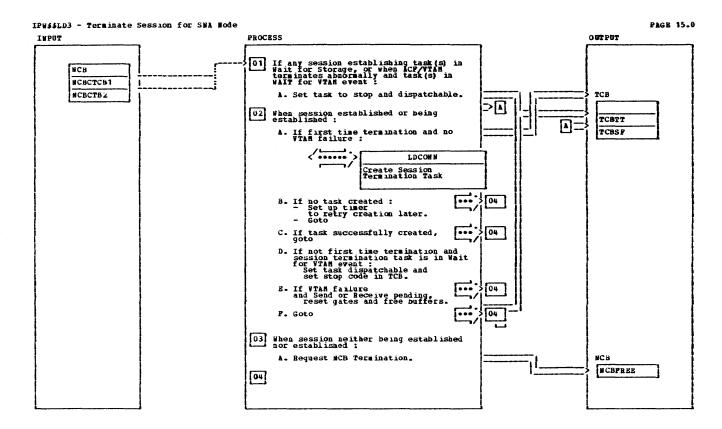


NOTES	HODULE	LABEL	REP	NOTES	MODULE	LABEL	REP
This request is invoked, if 1. an operator command has been entered (PSTOP, PSTOP EDJ, PEND) la. a YTAM operator command has been entered (Z NET, Z NET QUICK, VARY INACT) for SNA node(s) 2. invalid Sign-on received 3. sign-on out of sequence received. 4. PRET Driver halts node due to internal error 5. Signoff Record received. 6. Line error or session retaine error or session Total Abend or Cancel for SNA nodes This request is not invoked, if SOH-ENO received when Signon completefor BSC node in which cases the tasks are cancelled immediately in line.				The node is terminated by terminating the transmitters and receivers first, then requesting the session or line to terminate. If node termination is set, all task(s) which are still active have to be stopped. This is done by scanning the NCB task entries and setting the stopcode in each ICB, which still exists. If the task is waiting for posting (because waiting for puffer or storage), the task is posted, if the task is usiting for the task is usit half-created, i.e. the TCB-space is retrieved, but not TCB-space is released. 1 A node may experience multiple termination, i.e. a PSTOP is being processed and a line error occurs. Only the most severe termination type is executed for each activation of node termination segment.			\$RLW

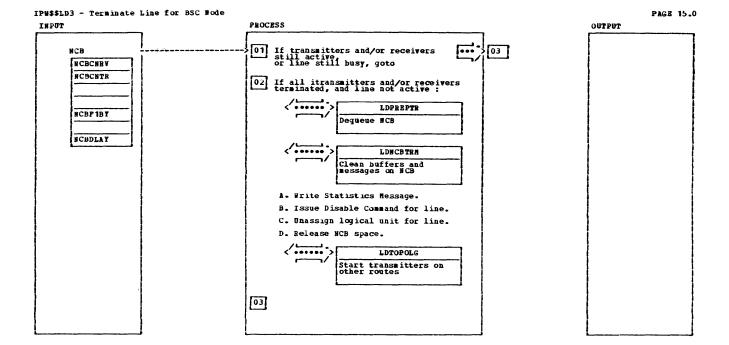


NOTES	MODULE LABEL	REP	NOTES	MODULE LABEL REP
The signoff routine is called whenever a PSTOP EOJ or a PEND command has been entered, and all job/out transmitters and receivers have terminated. It is invoked immediately for PSTOP.		SBUP	ZE If no buffer could be retrieved, event is not reset and in the next mainloop of activity control, this routine is recalled. ZD A SIGH-OFF record (RCB=X*FU*, SRCB=C*B*) is built and placed on To-Be-Sent-Q.	Saup

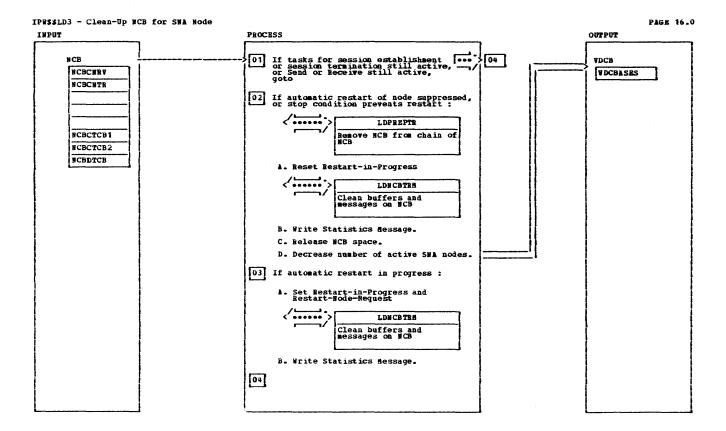




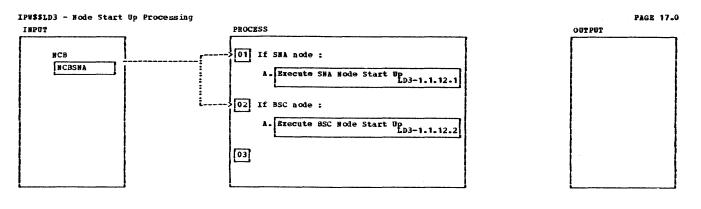
NOTES	HODULE	LABEL	REP		NOTES	HODULE	LABEL	REP
To term inate the SNA session between this node and the remote, a VSE/POMER Suptask is created and attached, which will perform the proper action to the session. This can however only be done, when tasks for session establishing have term inated. Two tasks may be active at the same times and at same times only be ended to session at same times only be ended by ACE/VIRM operator command inactivating LU. PMED Driver cannot terminate these tasks except when VTAM fails.)				2D 28 3A	When multiple termination occur session termination may be in progress. If second termination is due to With ideal or Cancel, task is set dispatchable in order to free its resources. When Send or Receives are still active gates and buffers must be explicitly reset resp. be freed. NCS can only be terminated when there is no session, otherwise session termination task must request free.			



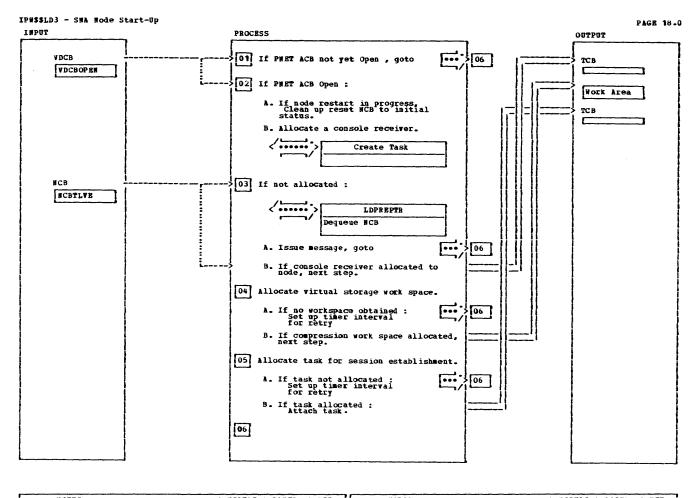
NOTES	MODULE	LABEL	REF	NOTES	HODGER	LABEL	REF
The line close indication is set by the signoff routine or node termination routine (e.g. due to a line-error). The termination of the line and freeing of NCB cannot progress until all activities on the node are quiesced. Therefore this routine is re-entered until all is quiete. Subroutine LDPREPTR takes the NCB out of the chain and releases the line Duffers of the node. Whenever the chain of NCBs is changed, the PNCB has to be locked. The statistic message 18031 is written to the central operator and the session account record is written. Subroutine LDNCSTRM does the following: If immediate stop was requested or a disastrous line error has occurred, causing immediate stop, commands and messages can be queued to the NCB. All commands are therefore deleted and storage is freed. If imfers which are still in the lebulatiers which are still in the lebulatiers which are still in the lebulatiers as well as the input and output line-buffer.			\$RSR	ZB The last sequence for the node is: WRITE DISABLE. The channel appendage routine has seen removed from the CCB and a WAIT will be done here in place. The Signoff message IRBOI is issued with the reason code: 0 = PSTOP or PSTOP EOJ entered 1 = Signoff record received 2 = Signon record out of sequence received 3 = Command reject occurred 4 = line error occurred. 5 = PRET Driver halts node. 6 = WYNM failure. 2C The logical unit is unassigned. Subroutine LDTOPOLG is called to start transmitters on alternate routes, if this node was a store-and-forward-node in the network.			SGAM SULP SRLH



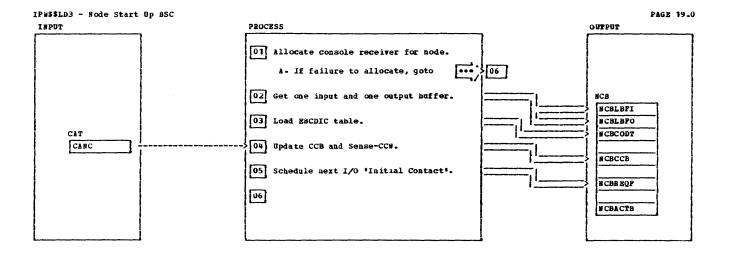
NOTES	MODULE	LABEL	REP	HOTES	HODULE	LABEL	REF
The session termination request is set by the signoff routine or node termination routine (e.g. due to a PSTOP). The Clean Up of the NCB cannot progress until all activities on the node are quiesced. Therefore this routine is re-entered until all is quiete. The session is tried to be re-established for certain terminating conditions. Subroutine LDPREPTR takes the NCB out of the chain. Whenever the chain of NCBs is changed, the PNCB has to be locked. 2B The statistic message 1R051 is written to the central operator. 2D The number is used to determine if the VTAM Interface can be closed.			\$PSR	Subroutine LDECBTRE does the following: - If immediate stop was requested or a disastroms. line error has occurred, causing immediate stop, commands and messages can be queued to the NCB. All commands are therefore deleted and storage is freed. Fifters which are still on the labut buffer queues or output queues or parked Buffer queues are released. The Sagnoff message 1RBOI is issued with the reason code: 0 = PSTOP or PSTOP EOJ entered 2 = Signon record out of sequence received 4 = line error occurred. 5 = PPET Driver halts node. 6 = VYAH failure. 2C The NCB itself is released. Subroutine LDTOPOLG is called to start transmitters on alternate routes, if this node was a store-and-forward-node in the metwort.			\$GAM



NOTES	MODULE	LABEL	REP	NOTES	ı	MODULE	1 1	LABEL	rep
This routine is executed when the node is started by the central transport of the mode is started by the central transport of the mode is started by the central transport of the mode in the mode in the mode in node in node in node in the mode in				Start Up procedures for SWA and BSC node are different, mainly because for SWA session has to restart is the reast for SWA in the swall of the swall					

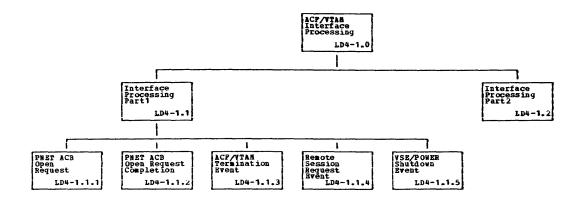


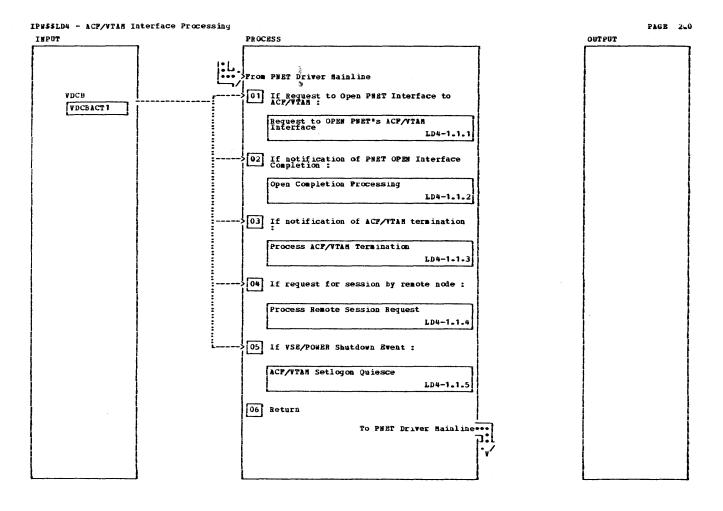
NOTES	MODULE LABEL REF	NOTES	RODULE	LABEL	REP
1 A SMA node cannot be started unless PMET ACB was opened successfully. Pirst start of a SMA node requests also PMET ACB PSM. Start UP will re-execute when OPEN complete. 2B A console receiver must be allocated at this point as console messages flow without transmitter receiver handshaking, when not allocated node terminates. 4 A work area is required to compress buffers sent by PMET dirver. When not allocated, allocation is retried by setting up timer interval.		4 Workspace can be allocated while TCB not allocatable. In this case work area must not be allocated twice. 58 A task to establish the session with the remote node is allocated. When not allocated, allocation is retried by setting up timer interval. Note that a task is also created by IPW\$\$LDW when remote node requests a session with this node. Resolution of possible conflicts is in IPW\$\$S2.			And the state of t



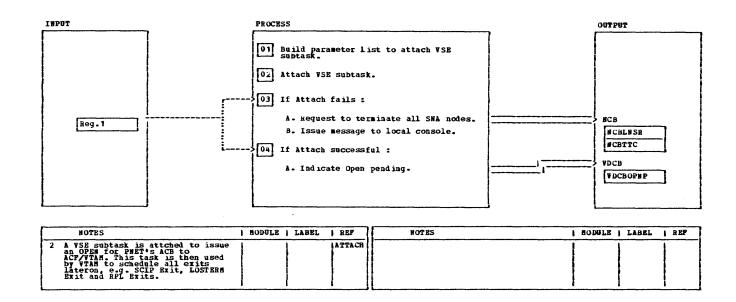
	NOTES	HODULE	LABEL	REP	NOTES	1 HODULE	LABBL	BEP
	This routine is invoked when the line is started by the central operator. The command processor has already reserved storage for the NCB and partially formatted it i.e. all information out of the NDT: e.g. node-id, node-password, line-password, RCB-pytes in task-entry-list, buffersize, maximal numbers of buffers for receiver, job- and output transmitters). The NCB is already queued as first entry of the network NCB chain by the command processor.				5 The "initial contact" chann program consists of: -DISABLE -SETMODE -SETMODE -ENAMLE -WRITE SON ENQ -READ Creation is requested by se appropriate request code in and invoking I/O manager, w fact creates the channel propage of the request code af inally issues the I/O.	tting MCB hich in		\$IOR
2	These buffers are only used by the line-driver to avoid deadlocks (e.g. after having sent a Wait-A-Bir-ALL). They are released not before line-close.			\$BUP				
4	The CCB is updated with the indication that a channel end appendage exists and the address of this channel end appendage, as well as with the real address of the first CCW and the indication for accepting irrecoverable I/O-errors CCW (as part of the CCB) The sense CCW (as part of the CCB) is updated with op-code, suppress wrong length indication, length of data, real address of data-area.		Paristant de la companya del companya de la companya de la companya del companya de la companya del la companya del la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya del la companya de la companya de la companya de la companya de la companya de la companya de la companya del la companya					

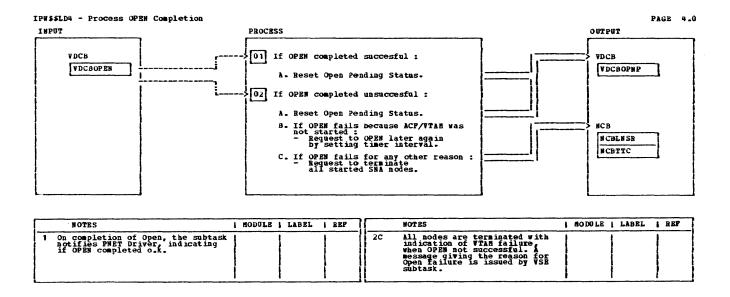
IP#\$\$LD4 - ACF/VTAM Interface Processing

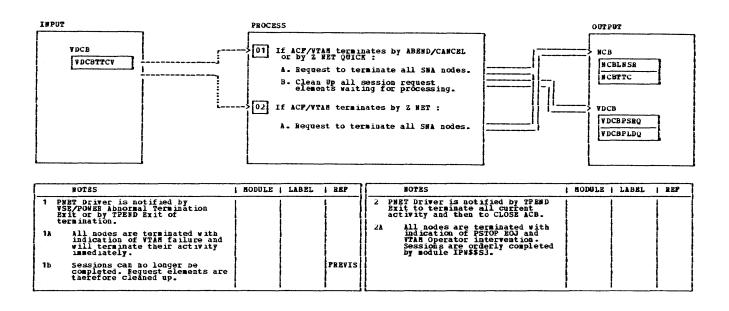


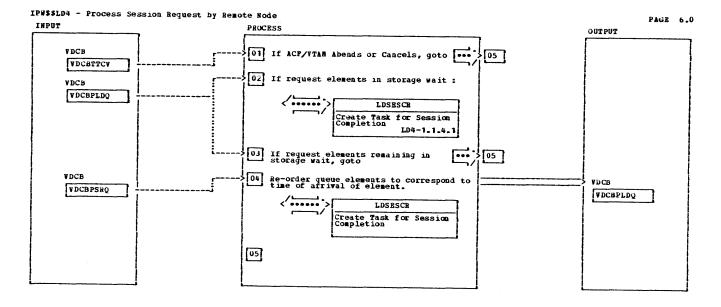


NOTES	HODULE LABEL	REP	NOTES	1 HODULE	LABEL	REF
More than one request for interface activity can be present at the same time. The sequence in which they are processed is as follows: Events related to PMST as application under ACP/VTAM. Session related events. Part 1 of Interface Processing is invoked before node activity is processed.			All request will reset their request flag. If the activity cannot be processed at that point in time, it is set on again and a new event must occur to trigger execution (by a timer event) again.			

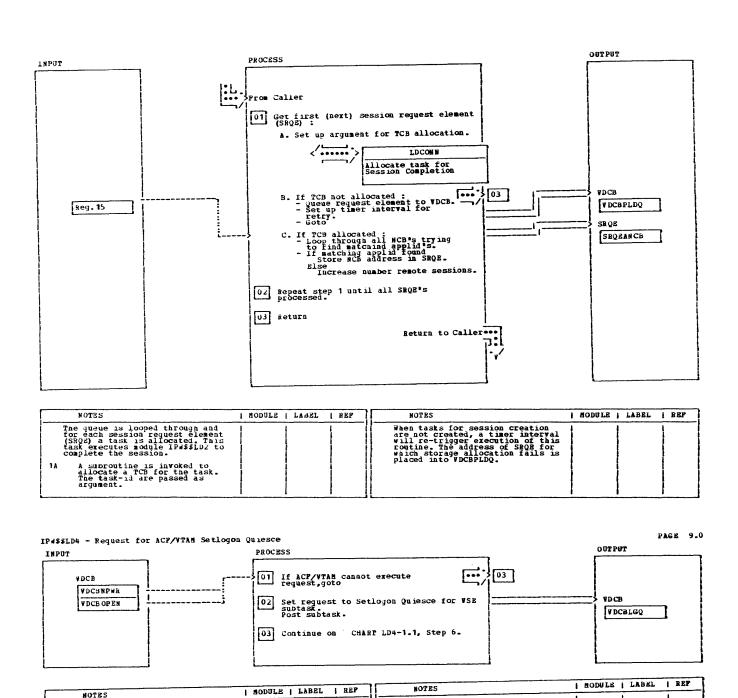




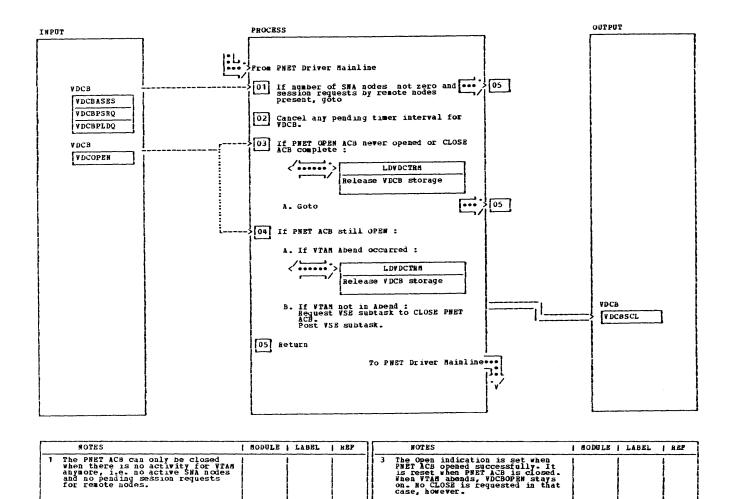


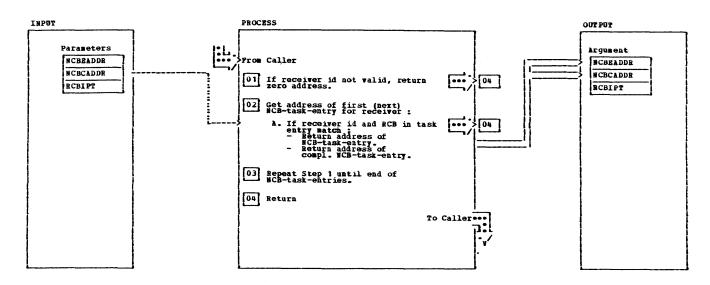


ACF/VIAM cannot execute request, when it terminated earlier or when OPEN not complete. In case OPEM not complete event will re-execute when it completes.

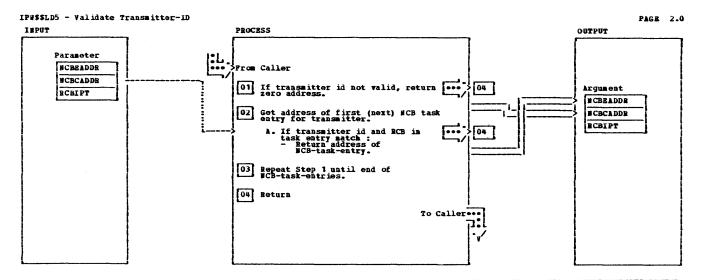


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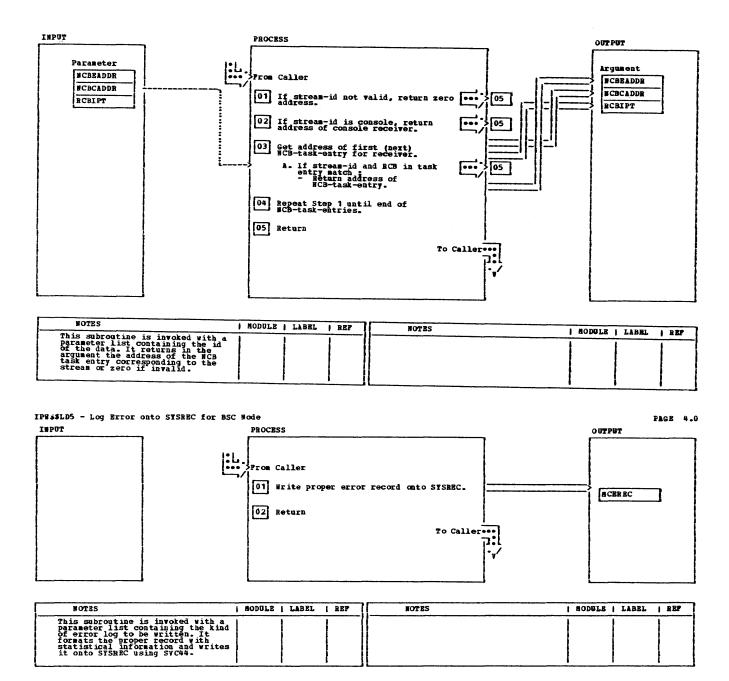


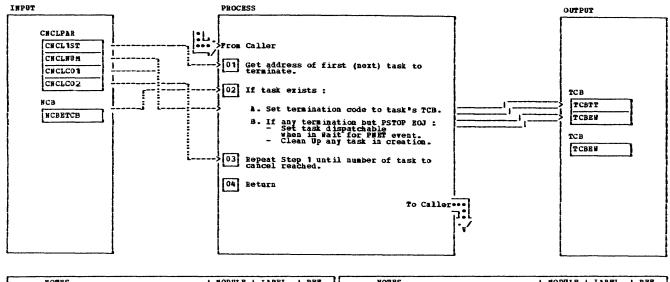


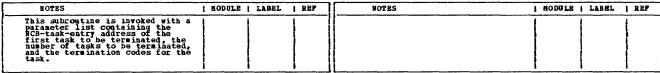
NOTES	HODULE	LABEI	L	REF	NOTES	i MODULE	LABEL	1	REP
This subroutine is invoked with an parameter list containing the receiver (the RCB of the receiver the RIF is for) the request to initiate a function is intended. It returns in the argument list the address of the NCB task entry corresponding to the receiver which must not exist at the same time complementary receiver) and the address of its returned, when receiver—in address of zero is returned, when receiver—id is invaled.									

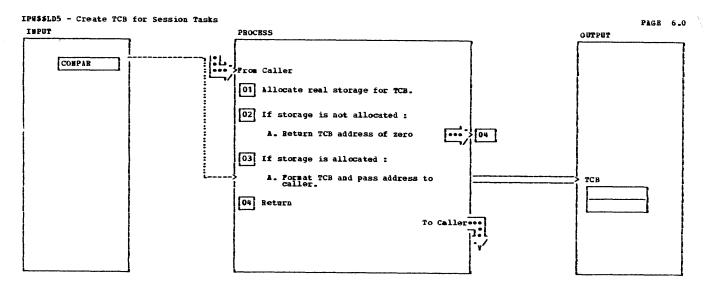


NOTES	HODULE	LABEL	REP	MOTES	i sodere i label i re	
This subroutine is invoked with a parameter list containing the transmitter—id as passed by the function request in buffer. It returns in the argument the address of the WCB task entry corresponding to the transmitter or zero if invalid.						







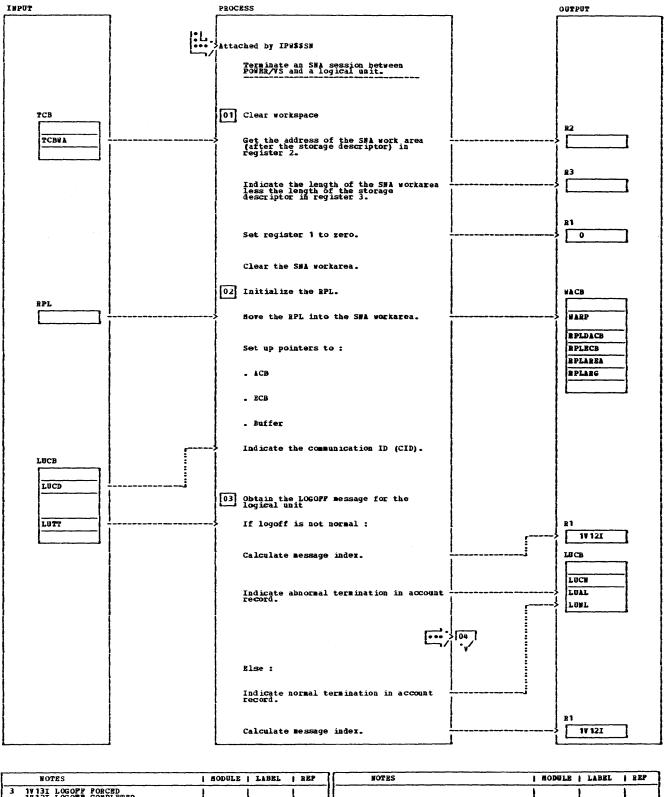


NOTES	HODULE	LABEL	REF	BOTES	HODULE 1	LABEL REP
This subroutine is invoked to allocate and format the TCB used to establish or terminate SNA sessions. The task identification is passed in an argument list. Address of TCB is passed in Reg.15 to caller.						

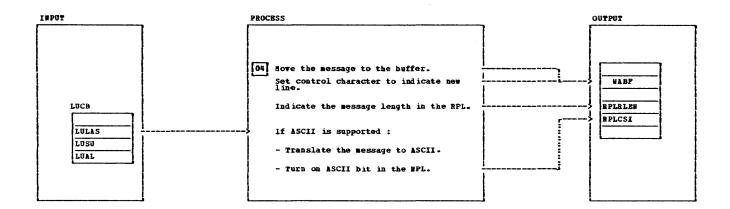
CHART LP: IPWS\$LP - RJE, SNA LOGOFF PROCESSOR

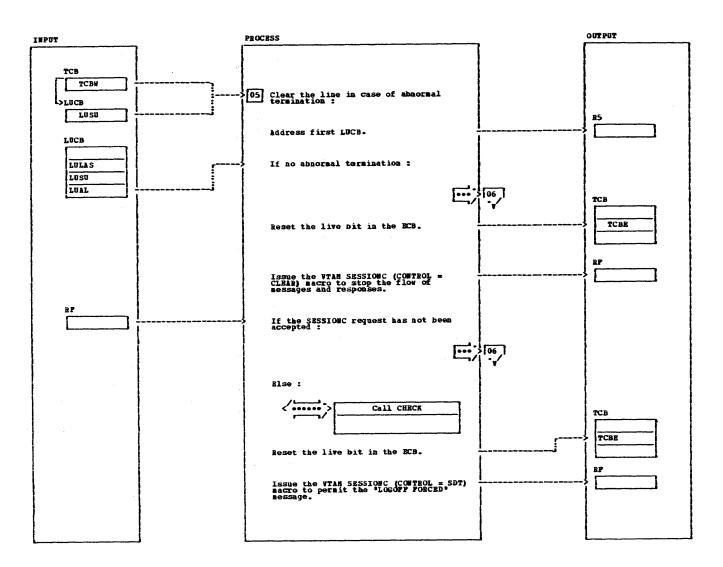
MAINLINE	
LP	-2.0

NOTES	I HODULE	LABEL	REP	WOTES	HODGLE	LABEL !	rep
The RJE, SWA LOGOFF processor consists of only 1 segment which consists of only 1 segment which consists the following function: - Initialize work area, RFL, and message buffer. - Clear the line in case of abnormal termination. - Send a LOGOFF message to the logical unit. - Disconnect the session to logical unit. - Write an account record. - Send a LOGOFF message to the central operator. - Release the work space of the SWA control block.							

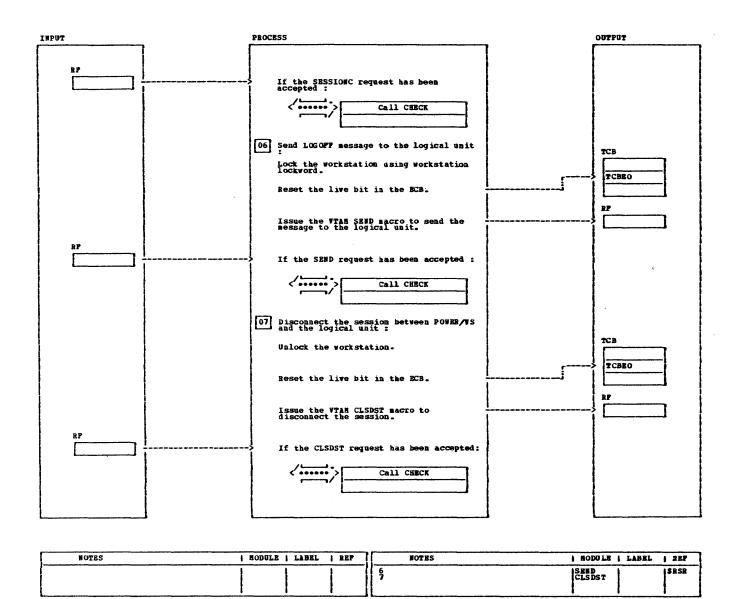


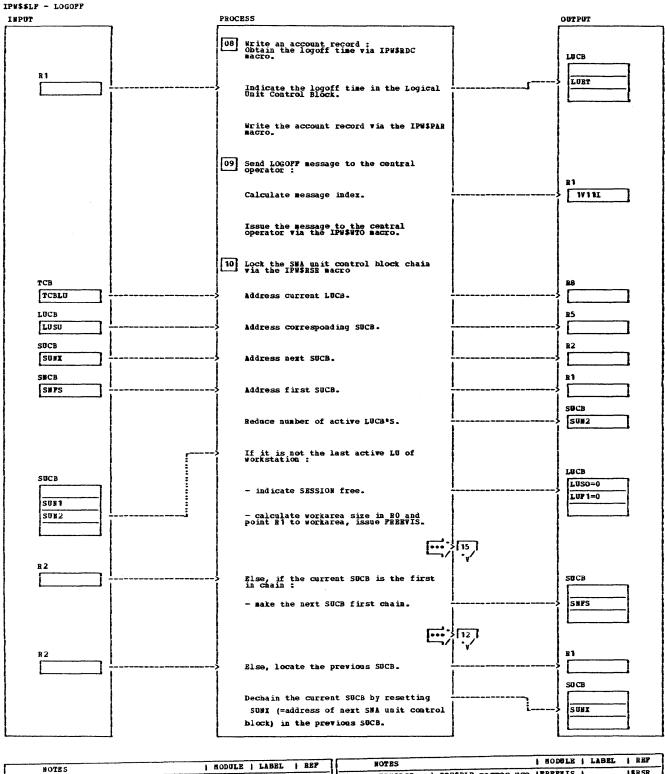
NOTES	MODULE	LABEL	REP	NOTES	MODULE LABEL REP
3 1V13I LOGOPP FORCED 1V12I LOGOPP COMPLETED		1	1		
	1	1	1		1 1 1



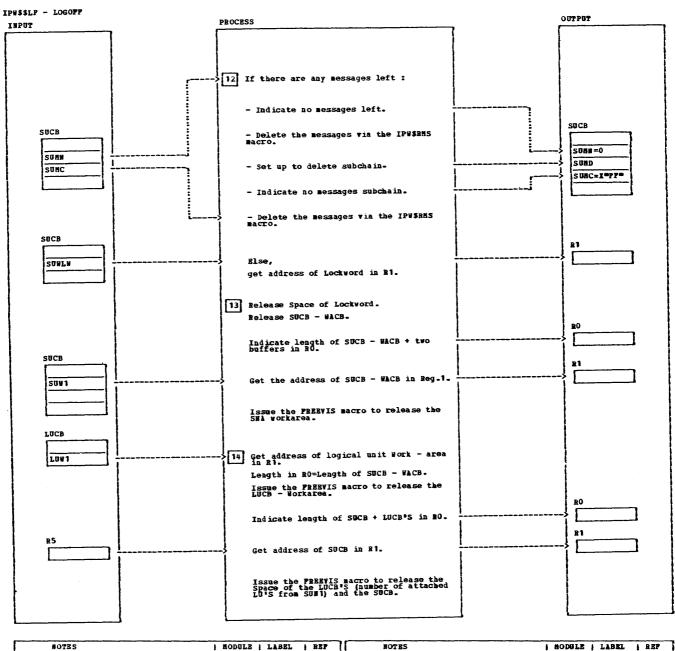


NOTES	MODULE LABEL	REP	NOTES	HODULE	LABEL	REP
5	SESSIONC			!	1	
§		1	}	1	i '	1
<u> </u>	<u> </u>	<u> </u>	Landau and the second s		<u> </u>	

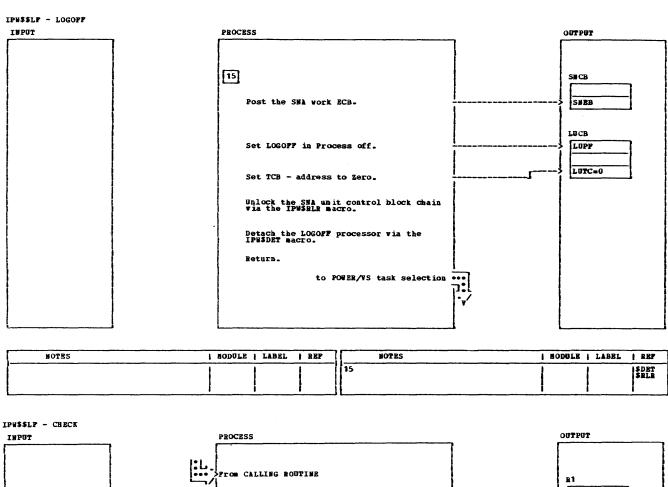




NOTES	MODULE LABE		NOTES 10 The IPW\$RSR and IPW\$RLR macros use	PRENTS I	1\$RSR
8 9 19111 BEHOTE TTT LOGGED OFF FROM POWER ON luname. The IPH##TO macro uses registers		SPAR SPAR SWTO	10 The IPESES and IPESELE macros use registers 2 and 3.	PRESVIS	
0,1,2 and 3.				<u> </u>	



MOTES	MODULE LABEL	REP	NOTES	MODULE LABRL REP
12 13 The PREEVIS macro uses registers 0,1 and 15. The length of SUCB/WACB + two buffers is calculated : = WALW + (2 * LUBS)		\$RMS \$RLW	The FREEVIS macro uses registers 0,1 and 15. The length of the SUCB + LUCB s is calculated: * * * * * * * * * * * * * * * * * * *	FREEVIS



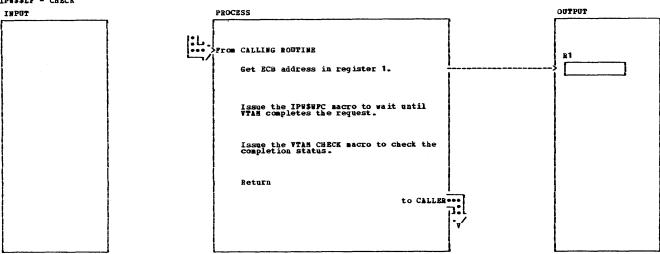
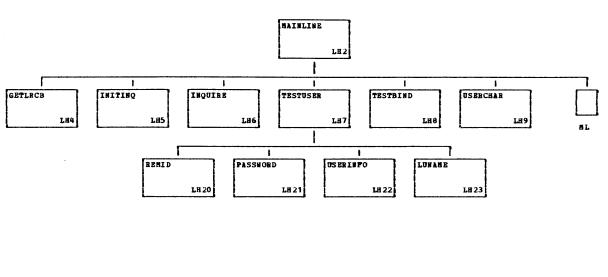
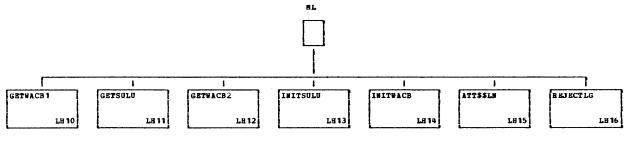
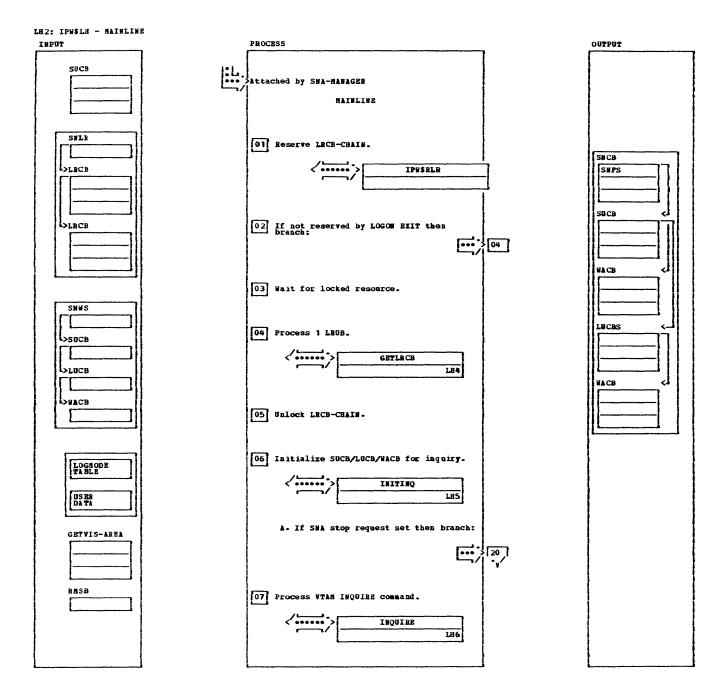


CHART LH: IPW\$\$LH - RJE, SNA LOGON PROCESSOR



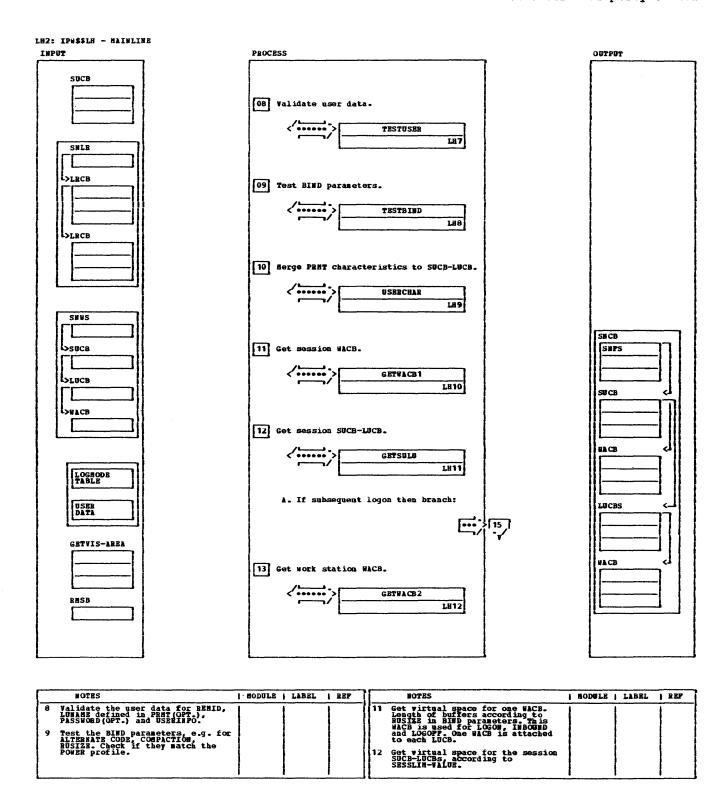


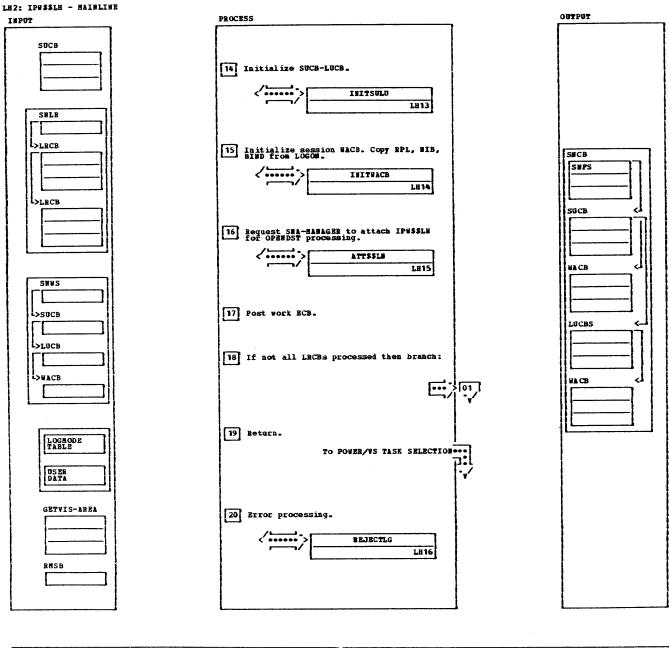
NOTES	HODULE	LABEL	REP	NOTES	HODULE	1	LABEL	1	REP
Each LOGOW request (ACBname, LUname, Length of LOGOW message) is queued to a LRCB chain (LOGOW request control block chain) by the WTAM exit. Each LOGOW request is then processed by the LOGOW processor 1 (IPW\$\$I,H). Since IPW\$\$I,K works only with host internal functions (DOS/VS, YTAM) and not with the network, it is most unlikely that the process is delayed by the time-consuming functions (except page faults). IPW\$\$LH works with one SUCB-LUCB-WACB structure, therefore it has to be executed straightforward before it can be reentered.				When processing a LRCB, IPH\$\$LH locks the LRCB chain to prevent a simultaneous update of this LRCB by the WTAH LoCOW exit. The LGCOW exit in this case, chains a new LRCB, instead of using a possibly available LRUB entry within this LRCB. IPH\$\$LH is not reentrant, since it processes one INQUIRE command and the following action with one SUCB-LUCB-SACB.					



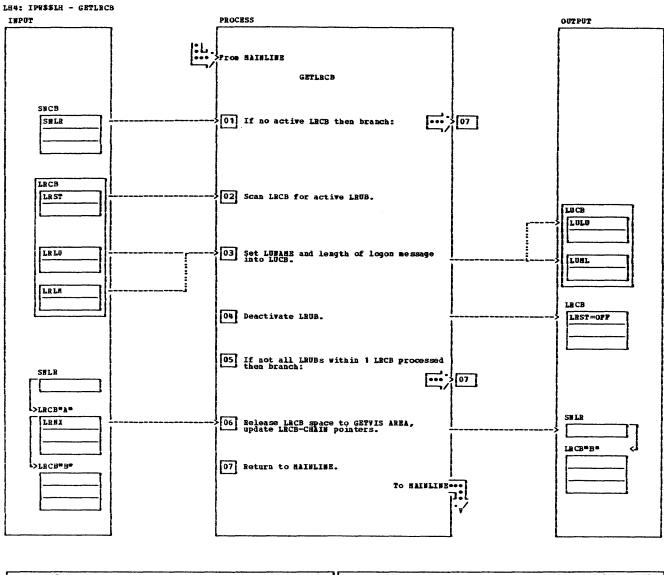
LH2: IPW\$LH - MAINLINE

Γ	NOTES	HODULE	LABEL	REF	NOTES	MODULE LABEL	REP
1 2 3 4	A lockword is set to inform the LOGON EXIT that IPW\$\$LH processes the LRCB-CHAIN. If LOGON EXIT already processes the LRCB-CHAIN itself, a wait in IPW\$\$LH is issued, until LOGON EXIT unlocks the CHAIN. Etc. Scan LRCBs for active LRUB, merge LUNAME to LOGON LUCB, release			\$RLR \$WFC	5 Unlock the LRCB-CHAIR. 6 Nove RPL and WIB image Initialize RPL and WIB. 7 Issue INCUIRE command to session parameters. Iss to wait until VTAM comprequest, check the RPL and deactivation.	o get the	
	LUNARS to LOGON LUCE, release virtual space if 1 LECE completely processed.						

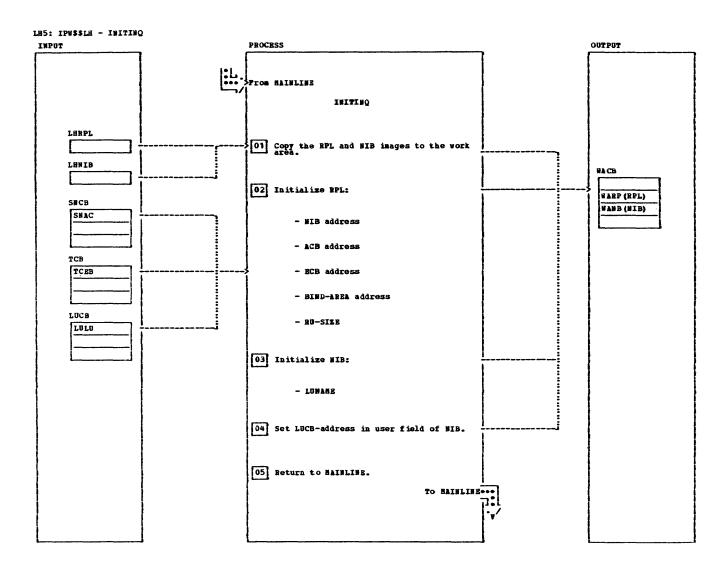




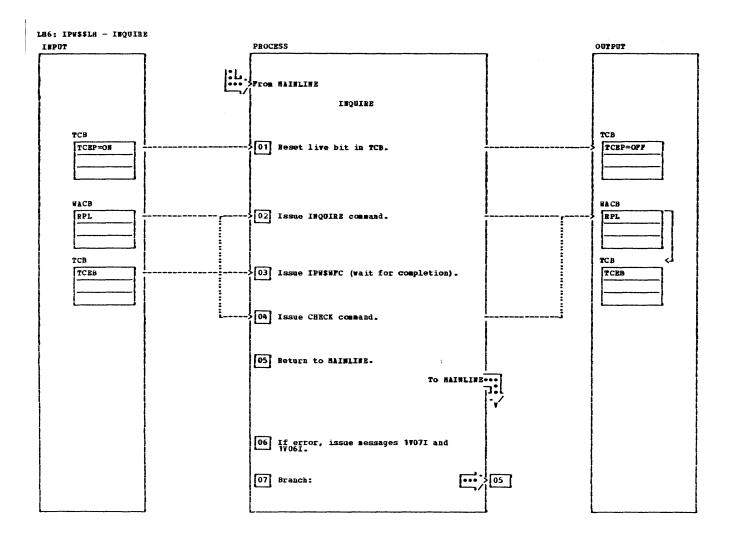
WOTES	MODULE LABEL	REP	NOTES	MODULE	! LABEL	REP
14 Initialize the SUCB-LUCBS. 15 The WACB obtained in step 11 is used for LOGON processing in LPW\$\$1.W. The WACB with the EXESPARM INOUIRE LOGOW HIB/RPL is merged to this WACB for OPWDST processing. 16 Attach IPW\$\$1.W to establish the session. The session related control blocks SUCB-LUCBS-WACBS are set up. IPW\$\$1.W is reentrant to process one or more OPWDST requests in parallel.			20 Storage is freed using the PREBVIS macro, and messages for the macro, and messages for the central process of the process o			



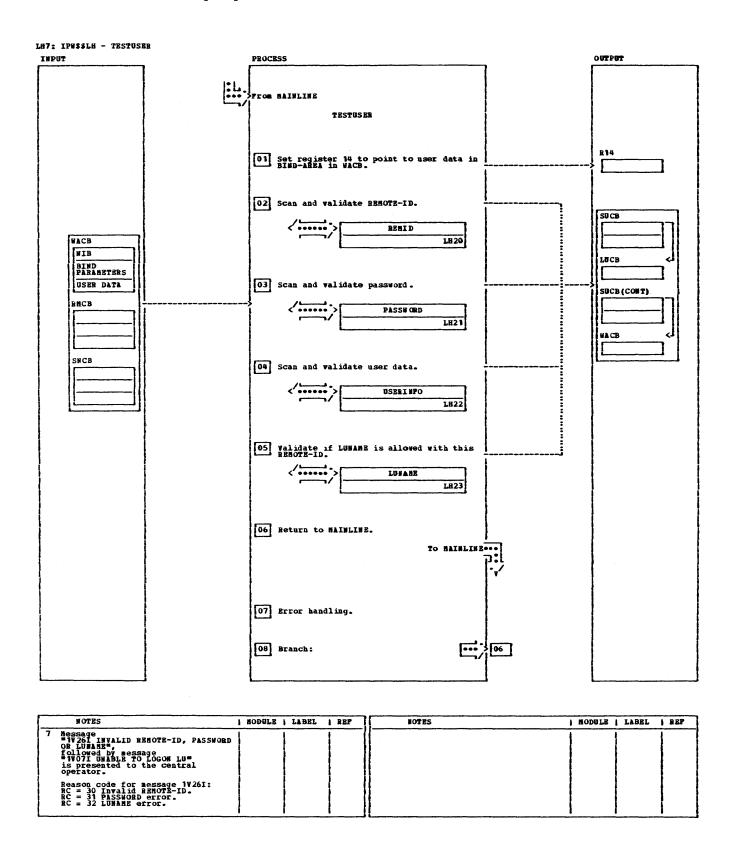
NOTES	HODULE	LABEL	REF		HOTES	I HODU	LE	LABEL	ł	rep
1 If SWLR contains all zeros, no LRCB is chained. 2 Back LRUB within a LRCB contains a status byte (LRST) which is set to "ON" when a LRUB is filled with data by LOGOW EXIT. 3 A LRUB entry contains the LUMAME which requests logon, and the length of userdata, entered with the logon request. The LUMAME is moved into the LUCB (LULU), and the message length is saved in the LUCB (LUCD).				5	The LRUB space is marked deactive (LRST = OFF). LOGOW EXIT can use this entry within the LRCB again. If all LRUBs within a LRCB are processed, the LRCB can be released back to the GRTFIS AREA. The LRCB-CHAIF is updated. NO LOGOW requests are pending, then mainlife detaches IPW\$\$LM.					

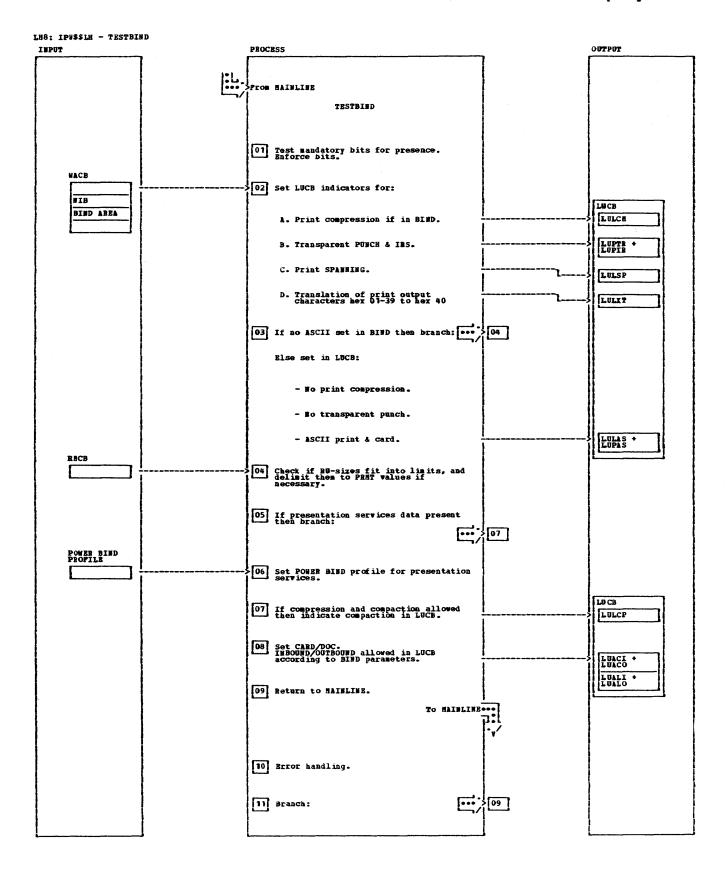


NOTES	MODULE LABEL	REP	HOTES	HODULE	LABEL	REP
1 At assembly time a RPL and a MIB image is built within IPP\$\$IH. These images are copied to the LOGOW WACB'S RPL and MIB area.			3 The LUBAME is accessed in the GETLEC routine and stored in the LUCB. Now the LUBAME is moved from the LUCB to the BIB.			



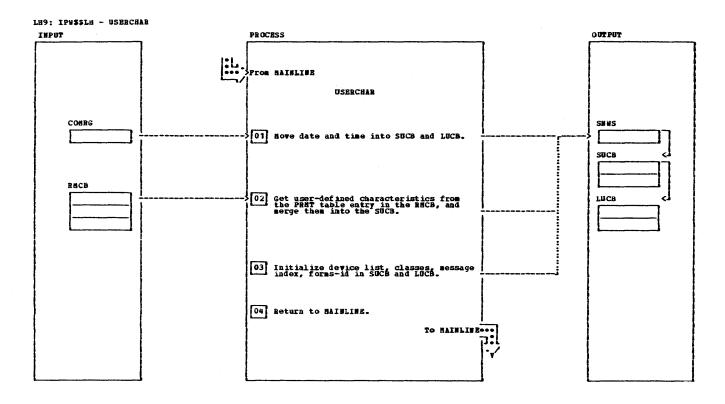
NOTES	HODULE L	ABEL REP	NOTES	WODGTE	LABEL	REF
1 The INCUIRE command is processed asynchroneously by YTHM. Upond final completion a ECB, pointed to by the RPL, and located in the TCB, is posted. The traffic bit has to be reset before issuing the request. 2 Upon initial completion of the INCUIRE command (acceptance by YTHM), the return-code in register 15 is checked. 3 A wait for completion is issued on the ECB for YTHM's final completion of the INCUIRE command. Upon final completion, the ECB is posted, and IPWSSIH gets control. The execution return-code in register 15 is checked.	INQUIRE	\$#PC	4 A VTAM check macro is issued to deactivate the assynchroneously processed RPL. 6 Present message "NOTI BRIGH ON INQUIRE RINCD, PDBK2 = IX", followed by message "NO61 UNABLE TO LOGOM LU" to central operator. Mainline will call error processing.	CHRCK		



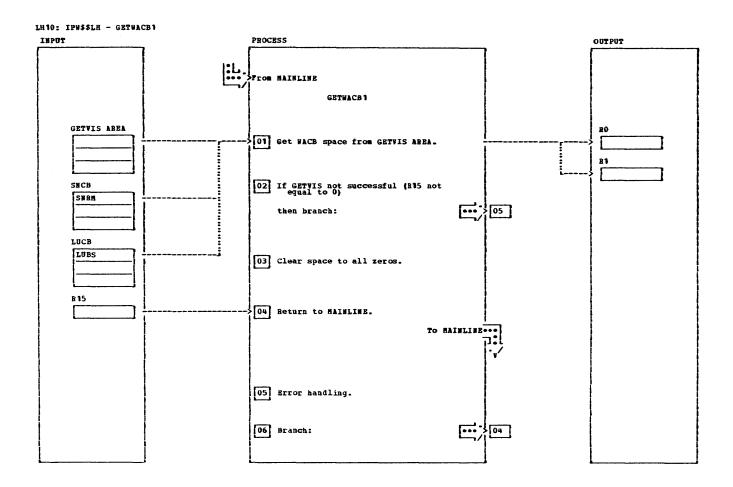


LH8: IPW\$\$LH - TESTBIND

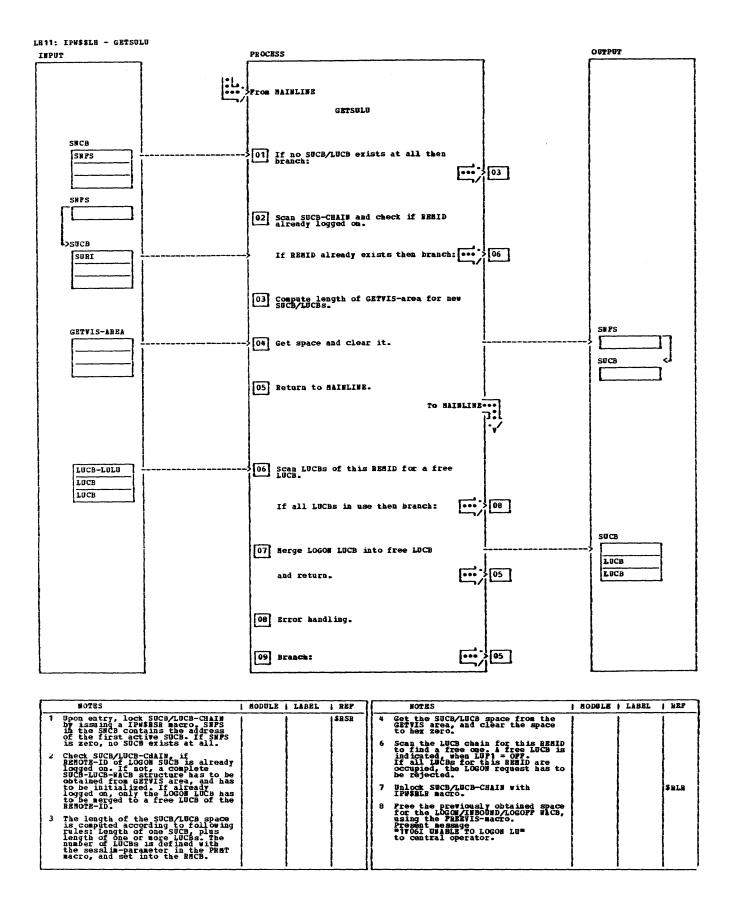
NOTES	HODULE	LABEL	REP		REP
1 If mandatory bits are not set BIND data is invalid, and LOZOW BEOUEST as rejected. Enforced bits are set according to the specifications. SLU will test them with the OPERDST command. Variable bits cause indicators to be set in the LUCB according to the specifications. If PRESENTATION SERVICE DATA is ownsitted in the BIND data, following POBER profile is set starting with byte 4 (BIRLUP) of the BIND data: Byte Her. Value Byte Her. Value 14				2D If the user specified the ILLTENTS parameter of the PRET actro, then the print output characters hav 01-39 will be translated to hex 40. 10 Present messages = "V341 BLED DATA" = "V061 ERROR OS BIND" = "V061 UNABLE TO LOGON LUB to central operator.	

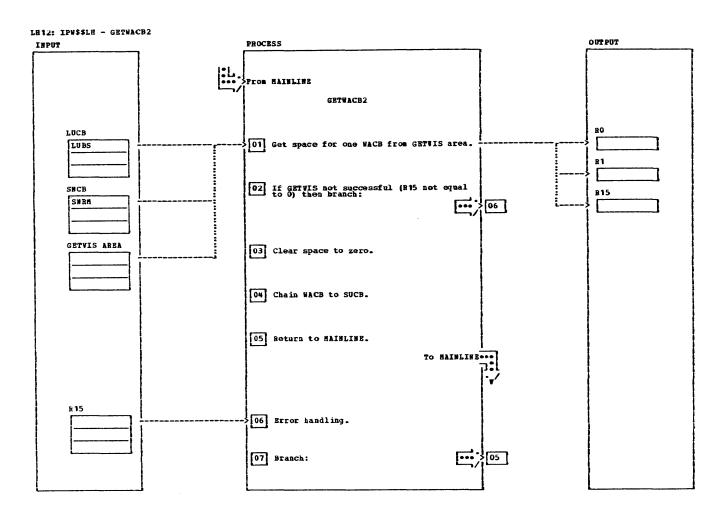


NOTES	i nodi	TLE LABE	L REP	HOTES	MODULE LABEL PEP
1	<u> </u>	1	\$RDC		1 1
i e	I	- (} }
				<u> </u>	

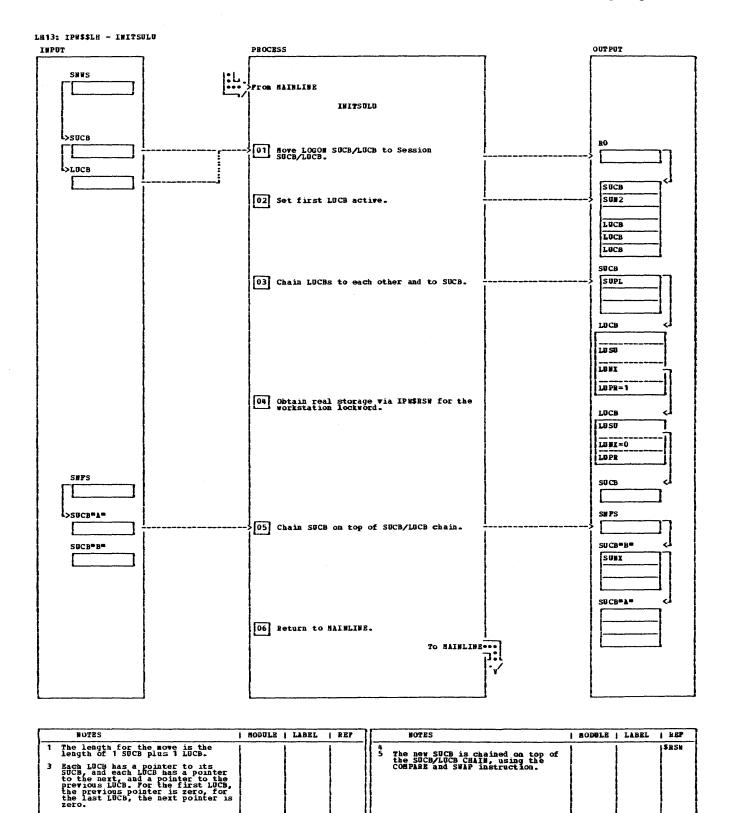


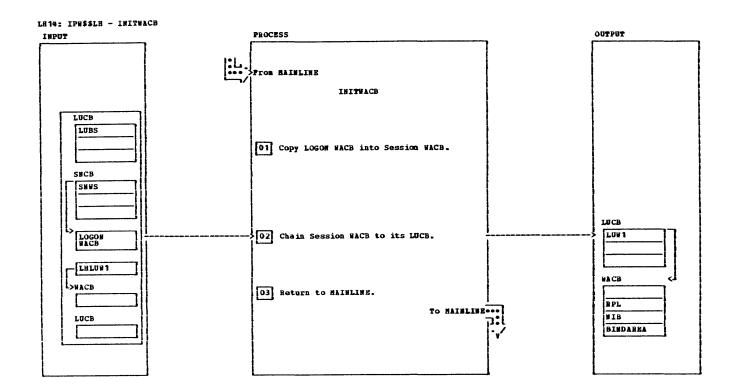
NOTES	HODULE	LABEL	REP	NOTES	MODULE LABEI	. REP
1 This WACB is attached to the LUCB and is used for LUGOW, INBOUND, and LUCOFF Processing The Space is the property of the processing the policy of the buffersize is according to the requested RU-size, specified in the PRMT and in the BIND parameters.				5 Message #17061 UBABLE TO LOGOW LUP is presented to the centra operator.	1	



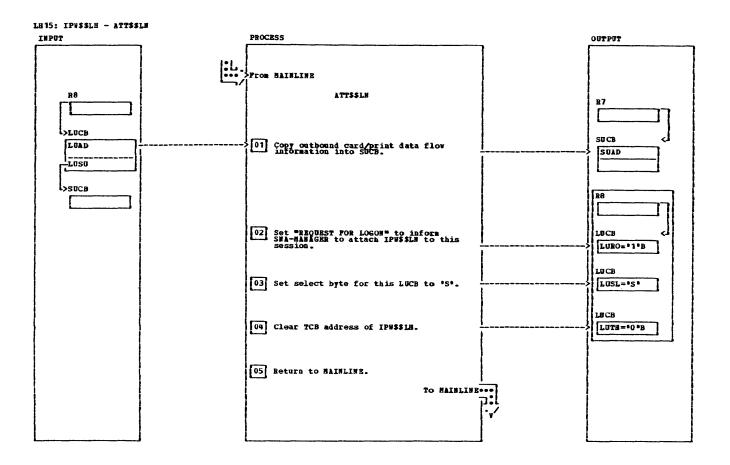


NOTES	1	HODULE	1	LABEL	- 1	REP	11	NOTES	1	HODULE	1	LABEL	ı	rep
1 This WACB is attached to the SUCB, and can be attached to any LUCB within this workstation. It is then marked to be in use, and can be used by the session to process interrupt inbound requests.								6 Free the previously obtained virtual space for locom/INBOUND/LOCOFF WACE and SUCE/LOCB using the FREEVIS macro. Present message **1V061 UNABLE TO LOCOM LU** to central operator.					-	

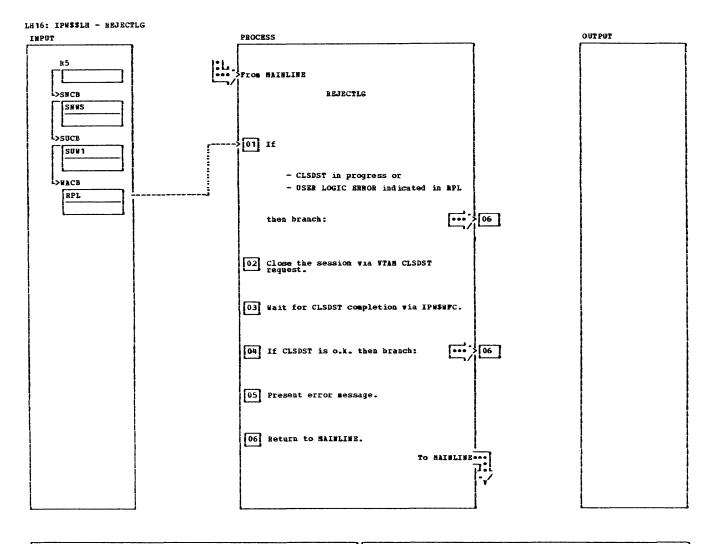




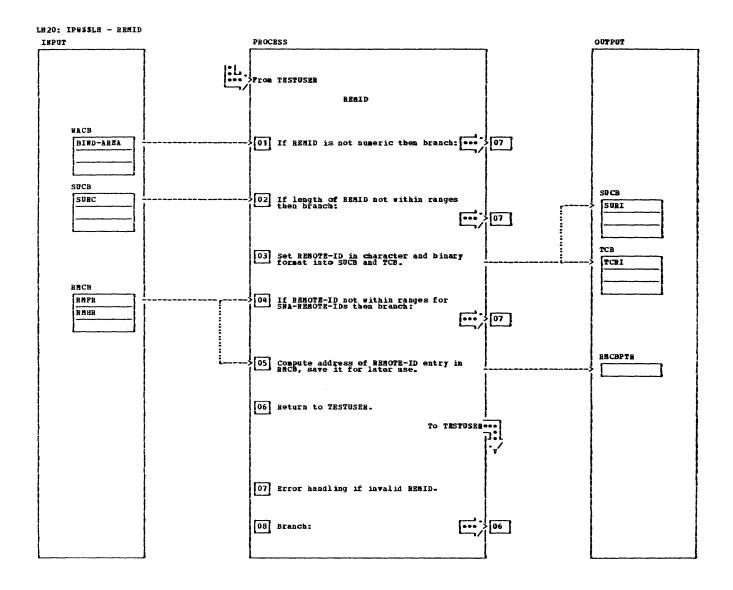
NOTES	ı	MODULE	ì	LABEL	ı	REP	П	HOTES	MODUL	B LABEL	RRF
1 The LOGOW WACE contains RPL, WIB and the BIND parameters. This WACE is copied into the session WACE for OPHUST processing in IPW\$\$LN.											



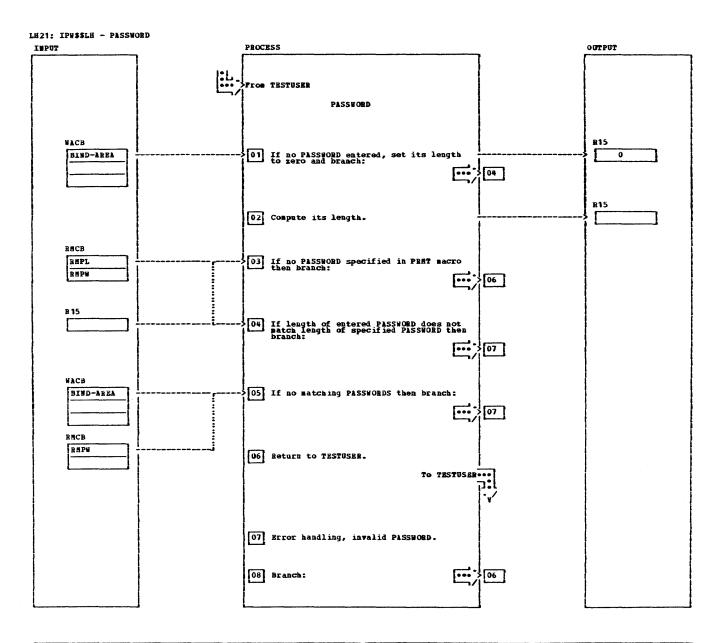
HOTES	HODULE 1	LABEL	REP	MOTES	HODULE	LABEL	REP
1 The SUCB contains a summary of outbound card/print data flow which is indicated in the bind data. This summary is used to check in the SUMA-NAMAGER if there is at least one session bound which allows card or print outbound data flow for a workstation with a BLD concept.				3 SNA-MANAGER'S "LOOK FOR WORK" routine scans all LUCBs for the select indicator 'S' in LUSL This select scan action for this LUCB has care action for this LUCB has catted Further analysis of the action bytes in the LUCB will cause the appropriate task to be attached. If LUCO is set, SWA-MANAGER will attach LOGOM PROCESSOR 2 LPW\$\$LM to process stage 2 of the LOGOM process.			



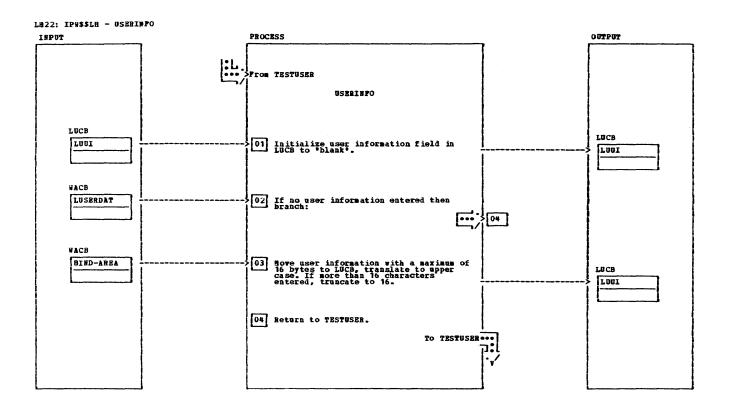
BOTES	MODULE LABEL REP	NOTES	MODULE LABEL REF
RPLETECD X.10. X.14. RPLFDB2 X.0A. X.12. In both cases do not issue a CLSDST request to VTAR.		2 3 5 Present message =1907I ERROR ON CLSDST* to central operator.	CLSDST

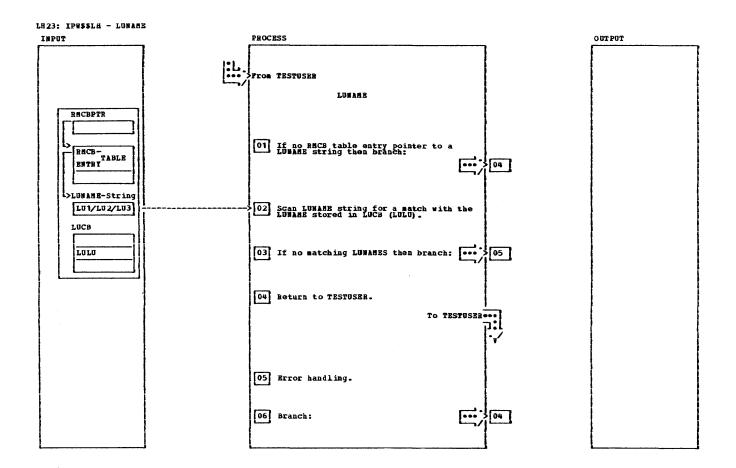


NOTES MODULE LABEL REP	NOTES	HODULE LABEL	BEP
5 This entry contains all information specified in the PRET macro and is used for further checking of PASSWORD and LUNARRS, and to set up the SUCB/LUCB with the user characteristics.	7 Present error message in TESTUSER: 1V26I, RC = 30 1V06I		



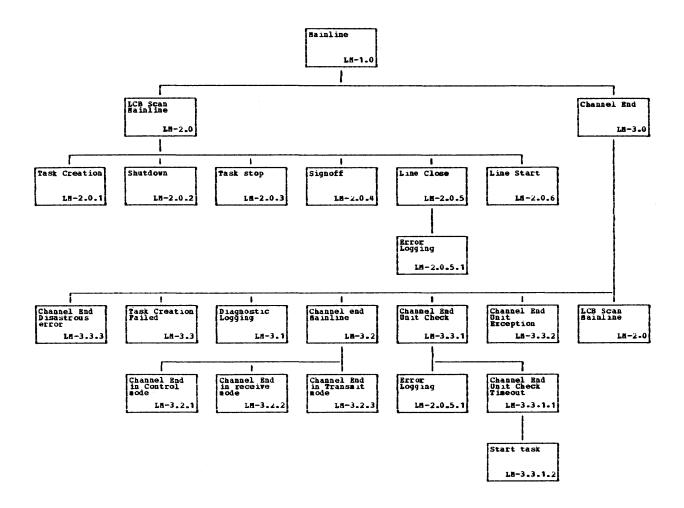
NOTES	1 HODOLE	LABEL	REP	NOTES	HODGLE	LABBL	REP
7 Present error message in TESTUSER:	1	1	1		1	ł	<u> </u>
1 1 26 I, RC = 31]	1				l
	I	i	1]	Ĭ.	i	i	i

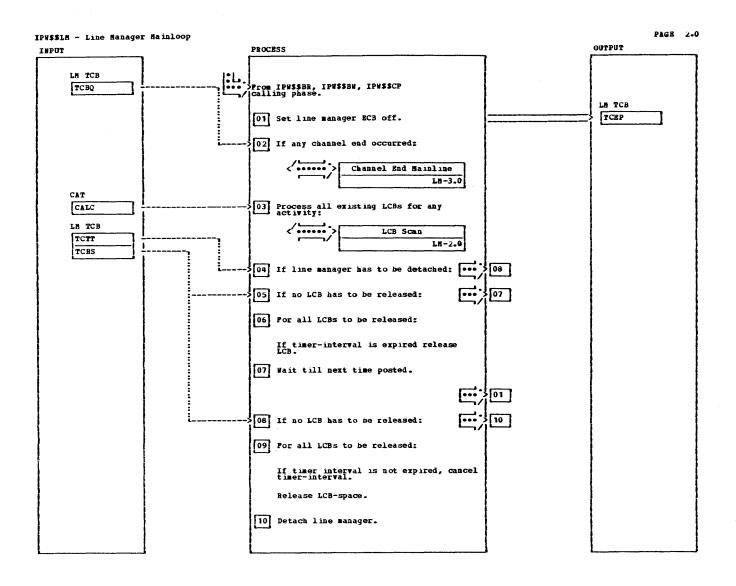




WOTES	HODULE	LABEL	REP	HOTES		HODULE	LABEL	REP
1 No LUNAME checking required for this REMOTE-ID.				5 Present error message 1726I, RC = 32, 1706I	in TESTUSER:			

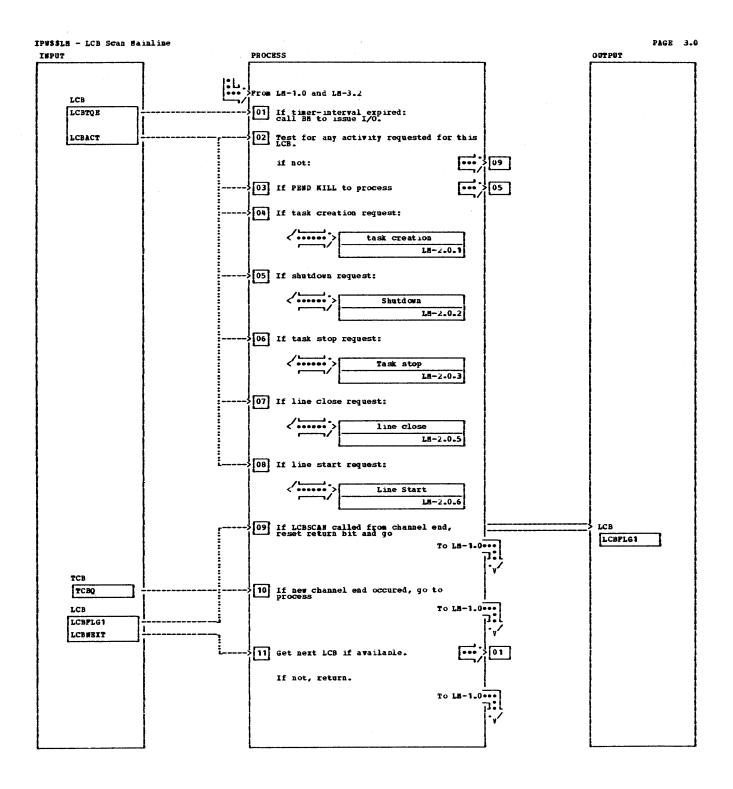
CHART LM: IPW\$\$LM - RJB,BSC LINE MANAGER





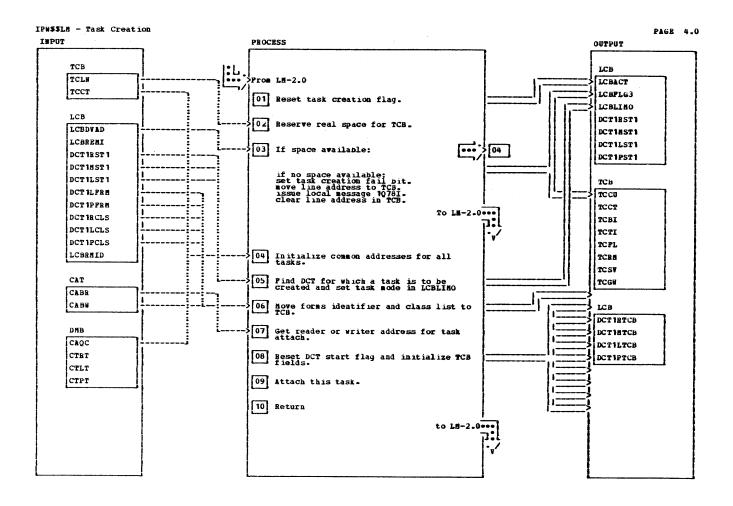
NOTES	MODULE LABEL	REP	NOTES	1 WODGIE	LABEL	REP
1 The line manager event control block is switched off. 2 If any channel end occurred, the buffers are queued into a channel-end-chain by the channel appendage routine located in the power nucleus. The channel-end-queue has to be processed first in order to keep the line busy. After the channel end has been processed first in order to keep the line busy. After the channel CB control is given serectly to LCBSCAN to execute any activity for this line, thereafter the control is given back to LMOO. 3 Process the chain of all existing LCBs for any activity. Returns either to LMIO, or to LMOO if still any channel-end must be processed or a line-close request is outstanding.	LHOO		4 If PRBD was given, the line manager has to be detached, and anager has to be detached, and idated by the TCB field TCTT, which might not be 140. 6 I Line manager wait can be annulled by: -channel end appendage -command processor PSTOP PSTRT -last active task for line stop/signoff. 9 10 Line manager is detached after processing all channel end appendages, closing all lines and an indication in the TCB.		LH10	SRLW SWPS SSTM SRLW SDET

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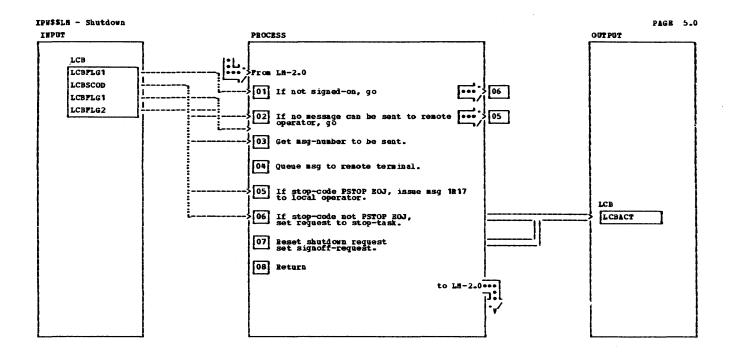


IPW\$\$LH - LCB Scan Haimline PAGE 3.0

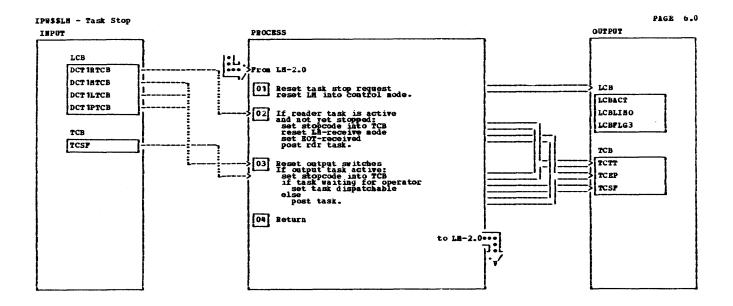
WOTES	HODULE	LABEL	REF		NOTES	HODGLE	LABEL	REF
1 The I/O is started immediately to keep the line busy.				6	Task stop is set after transmission is completed		LS20	
2 all activities are indicated in LCBACT. If no activity is to be performed L8 checks next LCB. 4 A Reader or writer task has to be created because an ENQ was received or output is awailable. 5 Shutdown is set to stop the line. After the shutdown routine has been processed, control is given directly to the signoff routine, from which return is given back to the main routine as given back to the main routine as given back to the waiting for mount-forms or the reader task is still active, return is made to LS40 and the shutdown routine is executed next		LCBSCAN		7 9 10 11	Line stop is set by signoff routine When LCBSCAW was called from channel end processing LB returns to that routine. If channel end occured during LCB processing this event has to be processed first. LCB Scan processes all line control blocks and returns to line manager mainloop.		LS40 LS50 LS60	



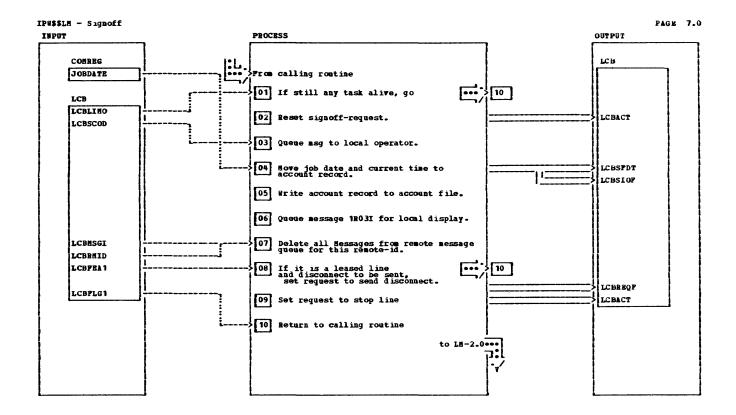
	NOTES	HODULE LABEL	REF	NOTES	HODULE L	ABEL	REP
1 2	The taskcreation bit is reset in LCBACT. The length of TCB is defined by TCLW. Real space is reserved with IPW\$\text{FSW macro.} If no space is available register 0 contains zero. If register 0 is zero the task creation failed bit is set in LCB,	TCREATE	\$RSW \$GAM	5 Search for DCT with DC on in 1st DCT status b LCBLING flag according type. 6 The class list is nove to DCT. Reader tasks done class, writer task up to four, while RSG have classes. Class list Fif?	yte and set to task	:20	
4	If register 0 is zero the task creation failed bit is set in LCB, the line address is moved to TCB, the message 1079I is written to the local operator, line address is cleared after message is written, and return is made to LCBSCAM. Get DHB an class list pointer addresses for common routines.	T C 10		7 For attach register 3 the module address to task is to be attached 8 The DCTSTRT flad is reflag byte, fields are LCB to TCB, and regist saved in TCB save area 9 Attach is done via att	which this set in 1st moved from ers are		Satt



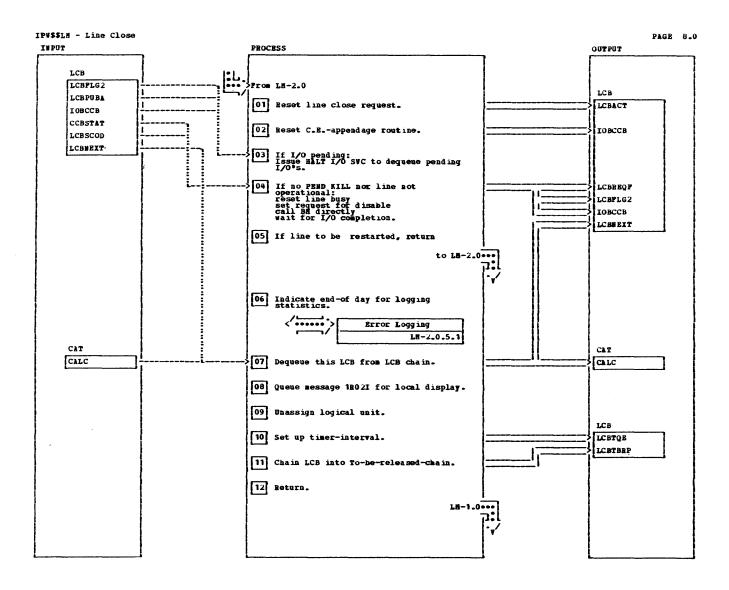
	NOTES	HODULE	LABEL	BBP		IOTES	I HODULE	LABEL	REF
1	The reason wight be: STOP HSG has been entered PEBD KILL has been entered task creation failed time error occurred time-out occurred HSG already queued. If no task is active, go immediately to the Signoff routine, because a posting may be missing, if e.g. lime-error occurred during the prepare CCF. Following messages are sent to the	AODULE	SHUTDOWN		5	If the stop-code is PSTOP EOJ and a list or punch task is vaiting for a mount-forms reply, the messages are not queued, but are queued not before the tasks are finished. A message for the local operator is only issued, if PSTOP ROJ has been entered. In all other cases the messages are sent in the signoff routine, which is entered immediately after this routine. For PSTOP ROJ the time may be too long, till the signoff routine is	HODOLE	SHUTD 10	SGAH
	remote terminal: If remote terminal sent SIGNOFF, msg 1817 is sent. In the other cases msg 1816 and if signon was complete msg 1818 are sent. If remote terminal sent SIGNOFF or time-out occurred, msg 1808 is sent (but only if signon was complete).					entéred.			



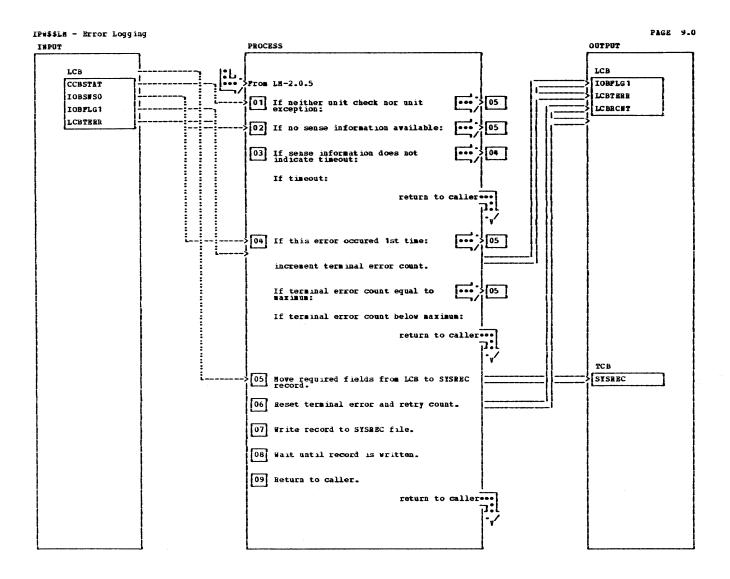
BOTES	MODULE LABEL REP	HOTES	MODULE LABEL	r ep
2 If TCB address in DCT-entry is zero, then there is no task to stop anymore. 3 If no line error, no PSTOP KILL or no task creattion-failed stopcode, the message task is not to be stopped in order to send the remote termination message		3 If a task is waiting for operator it must be set dispatchable. 3 If a task is not waiting for operator it is posted. 3 Point to next DCT by adding the output DCT length to the current address.	TSTOP40	



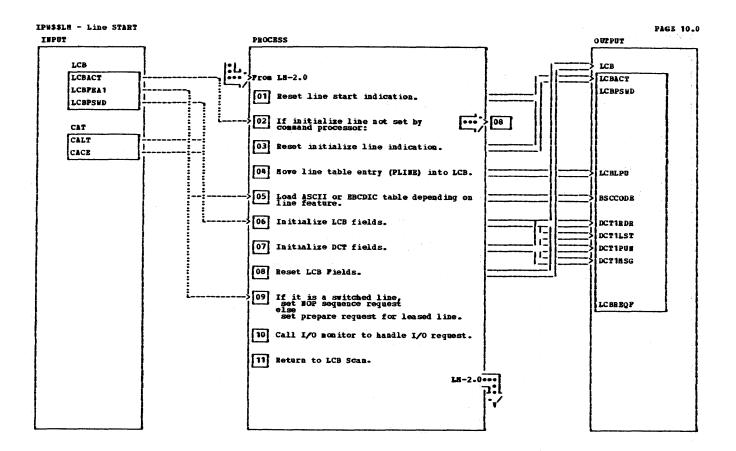
	NOTES	HODULE	LABEL	REF		NOTES	MODULE	LABEL	REP
1	If anything to send (list, punch or message) nothing is done till the next time entered.		SIGNOPP		5	The account record is written to the account file using IPWSPAR-macro.			SPAR
3	Messages 1804, 1807, 1809, 1816, 1817 are queued according to the stop-code, as well as msg 1818.			\$GAM	6	The message 1203I is queued for local display using the IPW\$GAM-macro.			SGAM
4	The communication region address in get via the CORRG-macro. The content of the communication of the communication of the communication of the communication of the courtent time is get using the IPW\$RDC-macro.			\$RDC	8	If messages are queued for this reacte in they are deleted by getting and deleting using IPWARM: macro. For a switched line the request for a disconnect sequence is set.	:	SGNOP 20	\$RMS



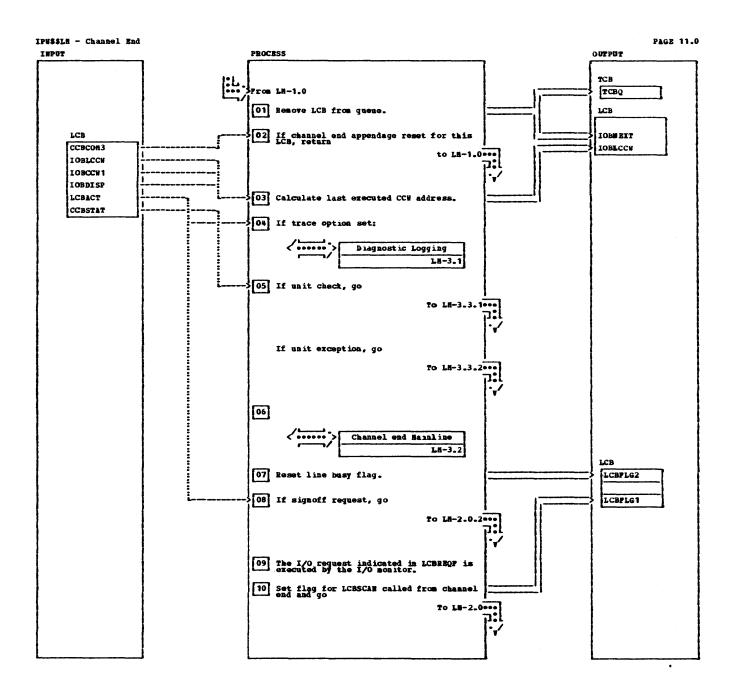
	HOTES	HODULE	LABEL	REP		MOTES	HODULE	LABEL	REP
2	The channel-end appendage routine is no longer used. The 1/0 request is handled in-line.	1	LCLOSE		8	Message 1R02I is queued for local display.		LC50	SGAM
3	If line busy flag is on a SVC 25 (HALT I/O) is issued as long as			SVC25	9	The logical unit is unassigned using the IPW\$ULP-macro.			SOLP
	the PUB indicates that an 170 is still queued.	}			10	The LCB work space is not yet released, but it is waited till all other components which might still use this LCB have finished			SSTB
4	If the line is operational a disable request is set, line busy flag and channel end appendage flag are reset, the I/O monitor is called to handle the disable request, and a wait is issued for request completion.			\$IOH	12	their work, let us hope, this is the case after 30 seconds. The LCB is released imn LM mainline after this time has elapsed.			
6	End-of-day is indicated in LCB and ERRORLOG is executed to write statistic record to system recorder file-		LC20	SHPC					
7	The LCB chain is scanned for that LCB to which the current LCB is chained to. The LCB which is chained to the current LCB is then chained to the LCB found. If the current LCB is the first in chain the next LCB is made to first in chain by storing its address in LCB chain anchor point (CALC).		LC30				عقيق فقري بيون عقاقية والمالية		



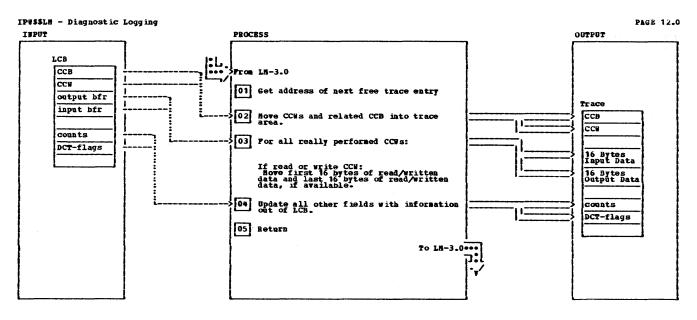
	HOTES	HODULE	LABEL REP		HOTES	HODOLB	LABEL	REP
1	Unit check and unit exception are indicated in CCB status byte.	1	ERRORLOG	_ -	5 The SYSEEC record is part of the TCB. The area is cleared and line and terminal specific information		EL50	GETFLD
2	If no sense information is available and it is UC or UE a disastrous error is occured for which a SYSREC record has to be		BL 10		is moved from LCB into the record In addition PBB information and counters are moved.	-		
3	written. Timeout is not handled as error.				6 Terminal error count and retry count are set to zero.		1	
4	If the same error condition more than once only the error count is		BL20		7 The record is written to the recorder file using SVC 44.		1	SVC44
	increased. If the error count has reached the maximum (250 continuous error of same type) the SYSREC record is written.				8 Wait for completion is done using IPW\$WFC-macro.			SUPC
	SYSERC record is written.	1		floor	9 Return is made via register 14		BL 100	



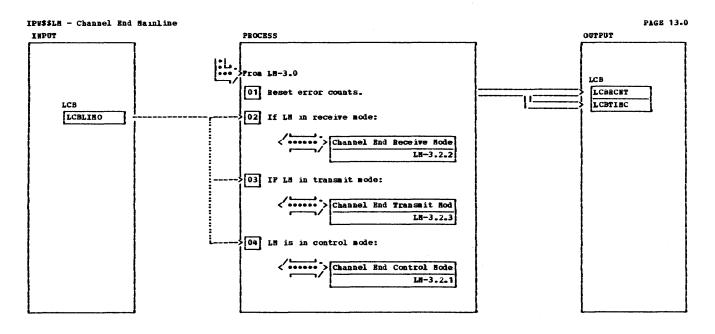
NOTES	MODULE LABEL	REF	FOTES	HODULE	LABEL	REF
1 The line start indication in LCBACT is set to zero.	LSTART	<u> </u>	6 LCB passowrd and I/O related fields are initialized.		LNEDONE	
2 The line initialization indicat is set by IPP\$\$CP (command processor) which research or conservations of the LCB when a PSTART line command was given long as no PSTOP line is given LCB is re-initialized only after signoff. 4 The line table is scanned for the set of the se	As The T		7 The DCTs are initialized with default values. 8 Various LCB fields which are set at signom time are set to zero now. 9 The 1st I/O request for leased lines is a prepare sequence, for switched likes it is a NOP		LSTART 10	:
entry for this line. The entry moved into the LCB.	is		sequence to allow timeout.			
5 The feature byte 1 indicates IS or EEGIC wanted the corresponding table is moved to LCB.	1 1					



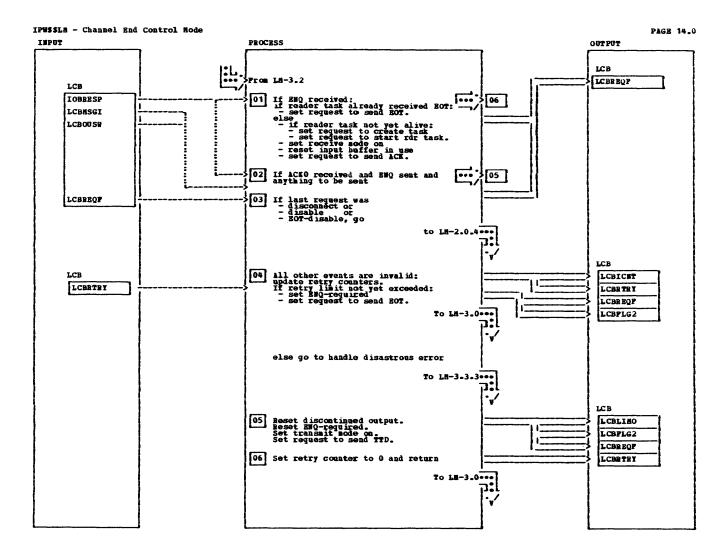
NOTES	HODULE LABEL	1 REP	HOTES	BODULE	LABEL	REP
1 The value from IOBMENT is move tCBQ and IOBMENT is set to zero	CHEND		7 Line busy flag is always reset after channel end.		1	ī
2 Return is to LHOO. 3 If IQHLCCM is zero the address	£ CH02		8 The branch is done directly int the signoff routine to avoid an unnecessary I/O.	•		
the first CCW in chain is store into IOBLCCW, Otherwise IOBLCCW points behind the last executed CCW and 8 bytes are subtracted from the value and stored in IOBLCCW.			9 All activities during normal channel end or error handling result in setting a new I/O request in LCBREOF. This reques is translated into the corresponding CCW chain by the	t ()	CH 10	\$10H
4 Trace option specified with PST command is set in LCBACT.	RT	1 1	BOS ITOT.	.,,		
5 Unit check and unit exception a indicated in CCBSTAT, disastron error in CCBSTAT+1	CR05		110 The flag for LCBSCAN is set to force that routine to test the current LCB only for new activities.			



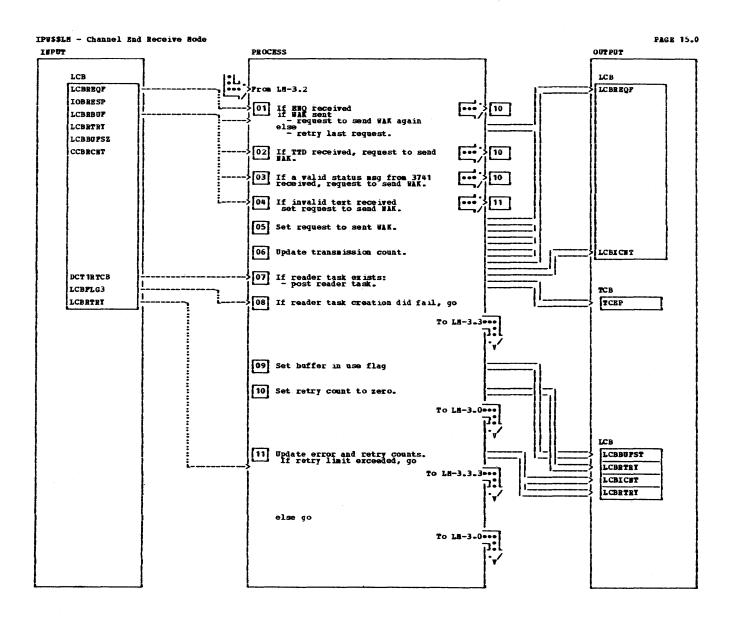
NOTES	MODULE LABEL	REF	NOTES	MODULE LABEL	RRP
1 Get address of trace entry to be filled via IPW\$GTE-macro. 2 Hove trace entry identifier, device address of line, related CCB and last executed request together with CCWs into trace entry.	BSCTRACE	\$GTB	3 Process executed CCW and test for read CCW. If yes, move data from read CCW into trace entry, the first 16 bytes and the last 16 bytes read. 3 If not all executed CCWs are processed for this trace entry get the next CCW within CCW chain and return to 3.	TRPU10	



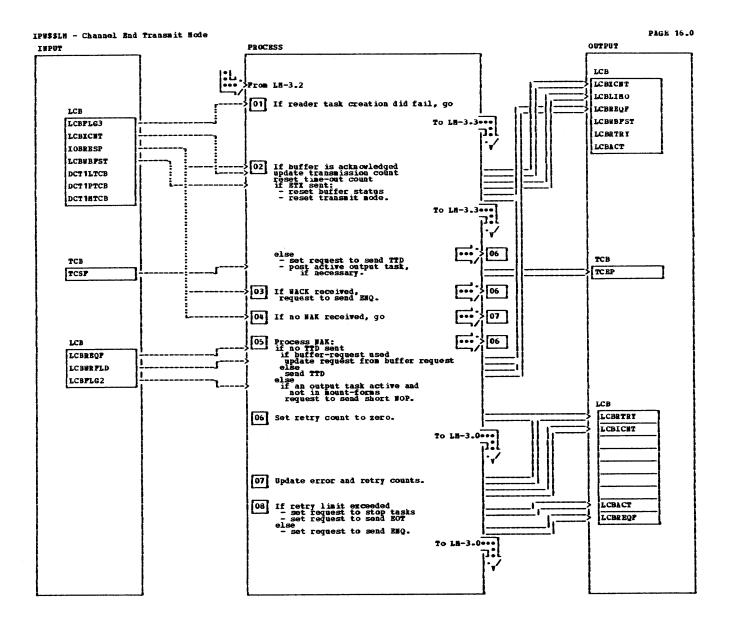
1 If transmission was correct the retry counters are re-initialized. 2 Receive mode is indicated in LCBLINO field. 4 If neither transmit nor receive it must be control mode.	HOTES	HODULE LABEL REF	HOTES	MODULE LABEL REF
2 Receive mode is indicated in LCSLING field. 4 If neither transmit nor receive it must be control mode.	1 If transmission was correct the retry counters are re-initialized.		3 Also Transmit mode is i LCBLIMO field.	ndicated in
	2 Receive mode is indicated in LCBLINO field.		4 If neither transmit nor must be control mode.	receive it



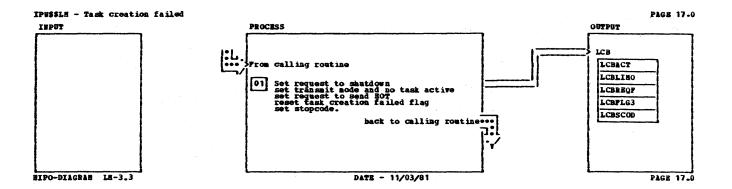
NOTES	HODULE LABEL	RBF	HOTES	BODULE	LABEL	REP
1 If an EMQ was received the terminal has input. If the reader task is not yet created task creation and task start is indicated. The mode is set to receive and the EMQ is answered with an ACKO. 4 If an invalid response was received the invalid response count and retry count are updated. If the upper retry limit is reached the error is treated as unrecoverable line error. If an EMQ has been sent and a NAK received, give the terminal a chance for an EMQ by sending a short MOP.	CHCERQ		5 The request to send TTD is set to keep the line busy. Normally it is overwritten by the request of the running task. If a task has been interrupted due to discontinued output and the buffer must be resent, the task is posted. If a task is waiting due to a "nount-forms" request, the task is set dispatchable. If nothing can be sent (no msg, no list- nor pun- output is available (purged in between)), an BOT is sent. Return is made to CH10 within the channel end routine to start the I/O.			

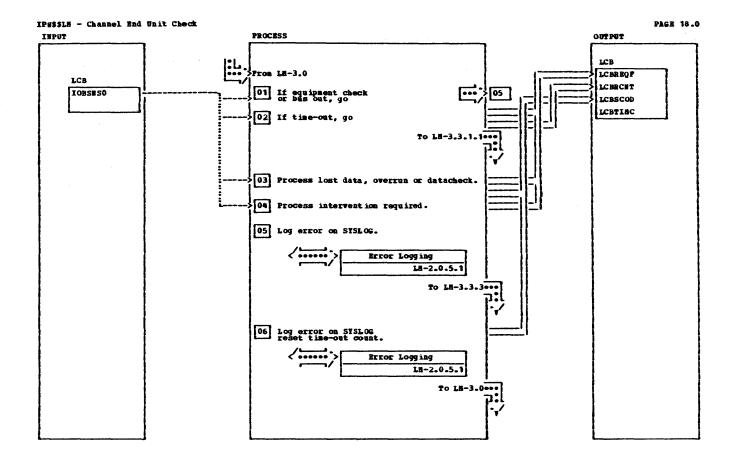


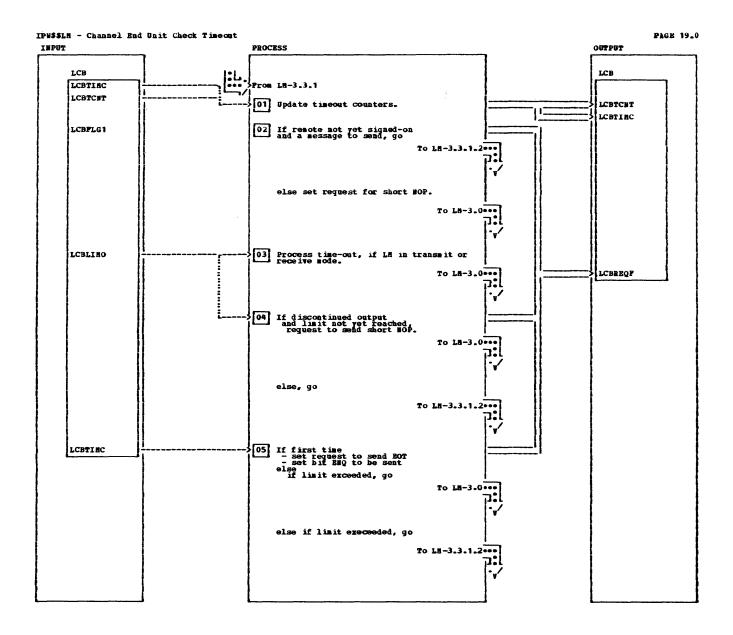
_	HOTES	HODULE	LABEL	BEP	NOTES HODULE	LABEL	REP
	1 If the last request sent was a MACK the terminal must respond with an BNO. If so the WACK is repeated (or changed to ACK by I/O moditor). If not BNO it is an invalid response. 3 The valid status message from 3741		CHRUCK		7 If the reader task is available the post bit is set. The reader can then process the buffer received. If the reader task has to be stopped due to a PSTOP, an EOT will be sent for a 3741 terminal and an RVI for all other terminal types.		
	are D = diskette overflow V = invalid line BID- All other status messages are treated as unrecoverable line errors. If a D or V message has already				8 If the reader task cannot be created because there is no space for the TCB an EOT is sent to abort transmission. If task creation is not yet finished the buffer in use flag is set.	CHRTXT40	
	If a D or V message has already once received, it will be converted to a Z message, in order to handle it as a disastrous error and bring the line down later on (in the unit check/time-out routine or the unit exception routine, i.e. when either an EOT has been sent or received).				that the I/O monitor has to send a WACK until the reader has processed the buffer and reset this flag. 10 If PSTOP has been entered, the	CHRTX T30	
	If neither WACK sent as last request nor status message received it must be text. Text starts either with STI or DLE-STI (transparent mode). If text does not start with these BSC characters it is an invalid		CHRIXI		count are updated. If the upper retry limit is not yet reached.	CHRBRB 10	
	response. The last byte received (buffer size aims residual count aims 1 blus buffer start address) must be BTB or BTI. If none of both received it is treated as invalid response.				the next 1/0 is started.	CHBBBB 20	



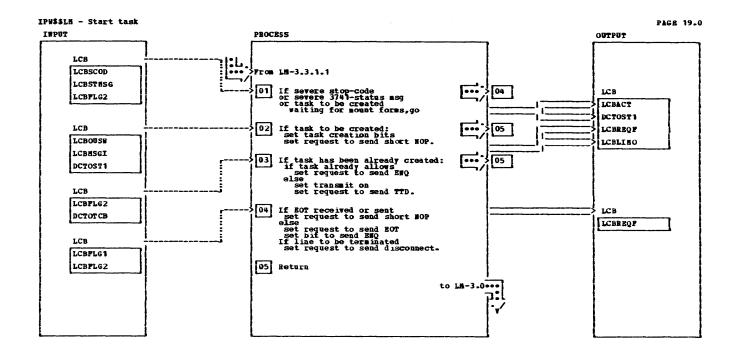
HOTES	MODULE LABEL	REP	DOTES	HODULE	LABEL	REP
2 The transmission counter is updated for statistic purposes. Besides ACK valid responses are WACK and WAK. WACK is responded with an EWQ. The acknowledgement alternates ACKO and ACKI, so each received ACK has to be checked to be the one expected.			If a task has still something to transmit, a TTD request is set, until the buffer is filled again. If the output task is waiting for operator (mount forms), it is not posted. 3 Set request for EBO which is overwritten when MAK was received.		CHX30 CHX50	



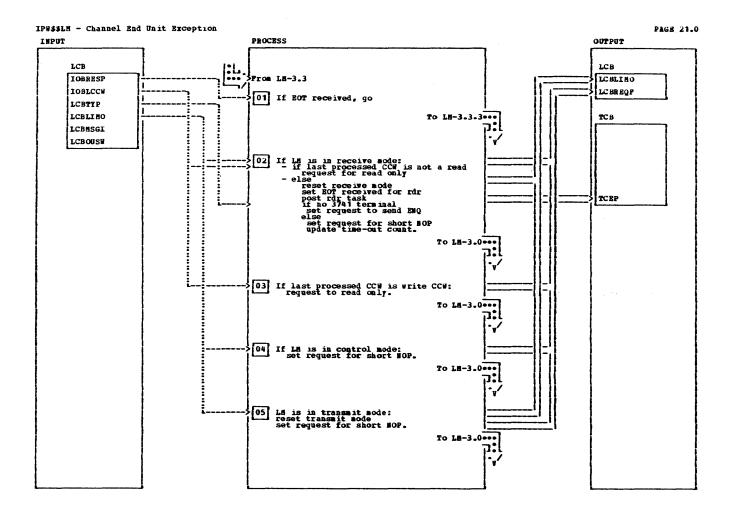




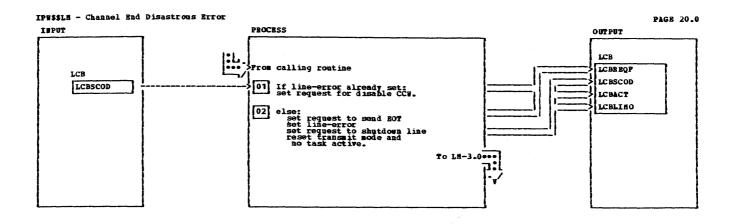
NOTES	MODULE LABEL RI	NOTES	HODULE LABEL	1 HBP
1 The timeout count is updated for statistic purposes. 2 Continuous unit checks are counted. If the limit before signon (20) is reached the line is stopped. 3 If not in control mode continuous unit checks are counted. If the limit after signon is reached (30) the line is stopped. Otherwise the sense information is checked. If timeout occurred in transmit or receive mode and the last executed CCV is neither a write nor a read, it is treated as disastrous error (hipo LH-3-3.3). If in receive mode and last processed CCV is a read: if is was a read response, a read only request is done, else a RMO is sent. In all other cases the request is retried.	CHECTOUT	4 If the last request has been an and a stop-code is set, the set of the set of the times and then the line will be stopped without trying further. 4 If task has been stoppped in the seantime, reset discontinued output. 5 If nothing can be sent and the timeout line is reached, the line is stopped.	CHECT 26 CHECT 40	



NOTES	MODULE LABEL REP	HOTES	MODULE LABEL REF
2 If the task has got a stop-code, the task is posted or made dispatchable, if the task is waiting for operator.	TASKPOST	4 The the kind of the disconnect sequence depends, whether it is a leased or switched line or an EOT has to be sent or not.	TASKNO

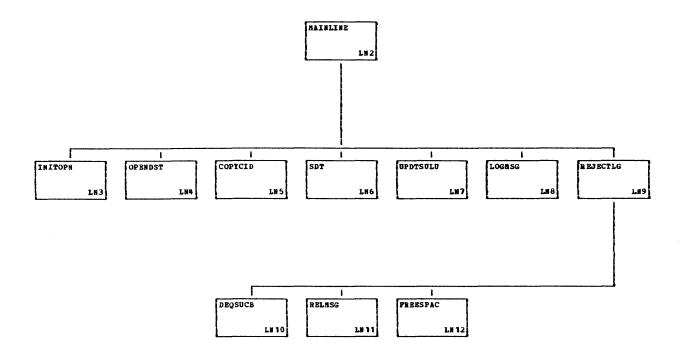


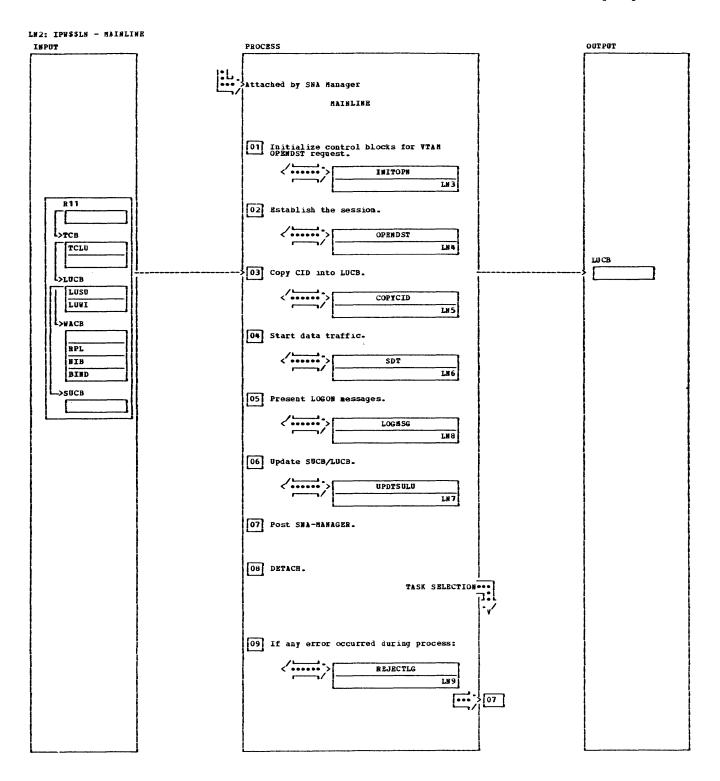
NOTES	MODULE LABEL REP	NOTES	MODULE LABEL REF
1 If EOT received, it is treated as a disastrous line error.	CHBRICPT	5 If it is not a 37%1 terminal and component select is in progress, the task select is in progress, the task of a 2780 the and for a 2780 the 2780 the first is a 3751 terminal or no component select is in progress, the buffer in use flag is reset.	



HOTES	MODULE	LABEL	REF	HOTES	MODULE LAB	EL REF
An error is occured which is unrecoverable. The request for a disconnect sequence is set to stop line traffic.		CHEDIST		2 The tasks will be stopped in t shutdown routine.	ae	

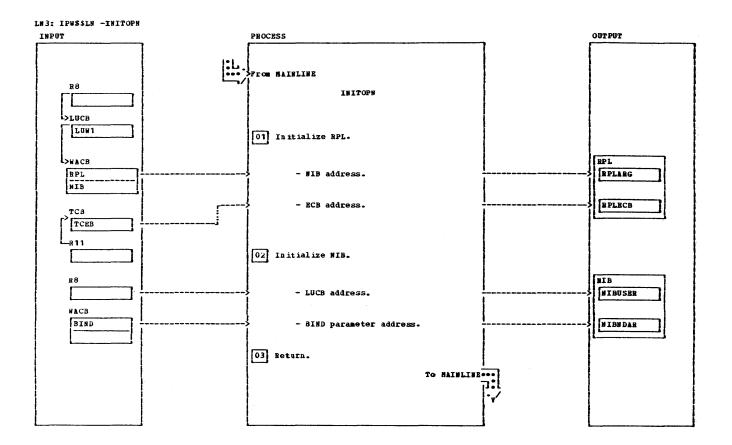
CHART LN: IPW\$\$LN - RJE, SNA LOGON PROCESSOR

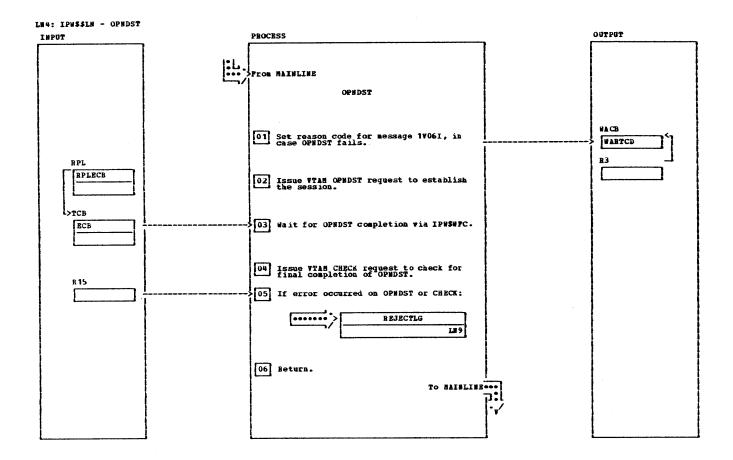




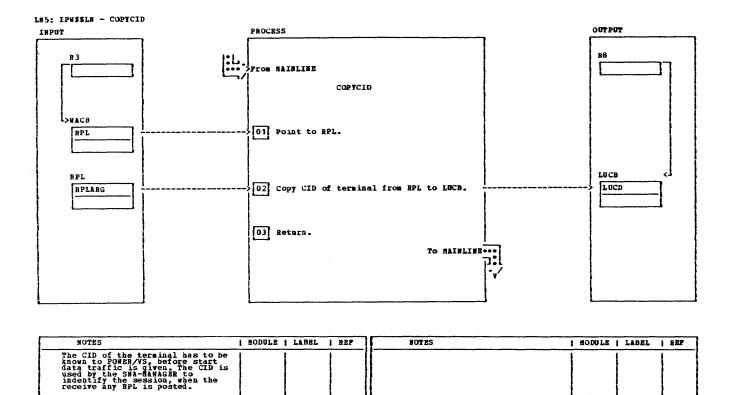
LN2: IPW\$\$LH - MAINLINE

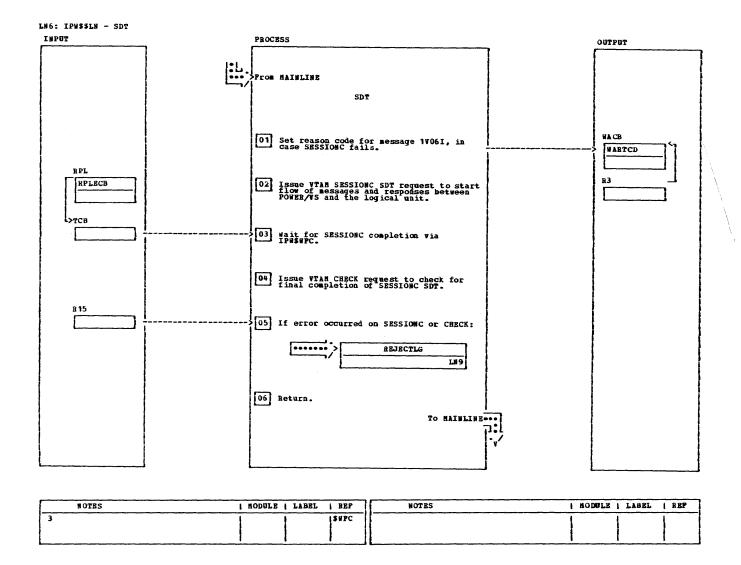
NOTES	MODULE	LABEL	REF		NOTES	MODULE	LABEL	REP
Each LOGON request is passed to the LOGON exit routine by WTAH. LOGON exit then allocates a LRCB, where it stores the LOGON request parameters. A request for IPW#\$LH is set up.					If it was a LOGON request from a single logical unit, or it was the first one from a multi-logical unit any messages already queued for this logical unit (1.e. proadcast messages) are deleted from the queue.			
SNA-MANAGER attaches IPW\$\$LH, which retrieves 1 LOGON request and builts 1 SUCB, 1 LUCB, and 1 WACB to process the request. A YTAM inquire is issued to obtain the session parameters. The user data and bind parameters are checked for validity, and a					The SUCB is unchained from the active SUCB-LUCB chain, and the space for the WACB, SUCB, and LUCB is released. Then IPW\$\$LM detaches itself.			
session SUCB, LUCBs, and WACBS are a obtained for the logical unit, which issued the LOGON request. A				1	Set up address for VTAB save area and RPL, initialize BCB in TCB, set LUCB address into NIB.			
request for LOGOM is set in the LUCB. SNA-HAMAGER attaches IPU\$\$LM, which processes stage 2 of the LOGOM. The session is established by using the OPNDST macro. Then messages to the central and remote operators are issued to inform of a sucessful				. 2	The OPWDST is processed asynchromously, the initial acceptance is checked, and a C-L- is issued. After final completion, the ECB is posted, and the RPL is checked.			
LOGON. The SUCB/LUCB are updated, and the LOGON complete is indicated in the LUCB. Finally, IPN\$\$1N detaches itself.				3	If no error occurred, the CID of the terminal is copied from the RPL to the LUCB.			
In case of any error on OPNDST or		ĺ		*	The SESSION SDT request is processed asymchronously.			
SESSIONC, a message is issued to the central operator. The RPL is then analyzed for the error code				5	Clear TCB address in LUCB to indicate LUCB is inactive, and set LUCG C.L. indicator.			
to check if the session has to be terminated via CLSDST.		ļ		6	Hessage 1V091 REMOTE XXX LOGGED ON TO POWER ON luname			
If an error occurs on the CLSDST, no check request will be issued. Brror testing on the check request is not relevant.		} !			is presented, both to the central and remote operator to inform them about successful LOGOM.			
If it was a LOGON request from a multi-logical unit, and it was not				8	A IPW\$DET is issued to detach IPW\$\$LW and to pass control to the task selection in IPW\$\$WU.			\$ DET
<pre>multi-logical unit, and it was not the first request from it, IPW\$\$LN takes no further action, and detaches itself.</pre>				9	Reject the LOGON request via a CLSDST request, free space, delete queued message.			

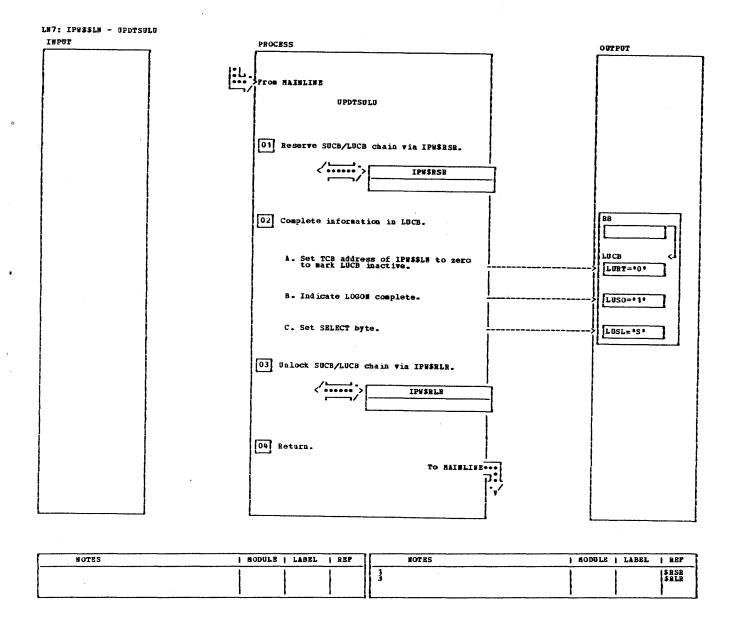


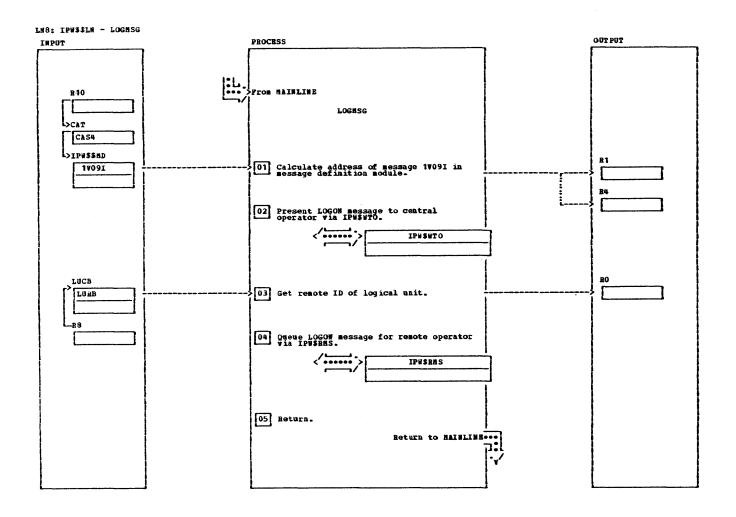


NOTES	MODULE LABEL	RBF	HOTES	I WODGIE I	LABBL	REP
The OPHDST is processed asynchronously in ECB will be posted, when YTAM completes the OPHDST request.			3 A POWER/VS wait is issued to wait on the ECB to be posted.			SWPC

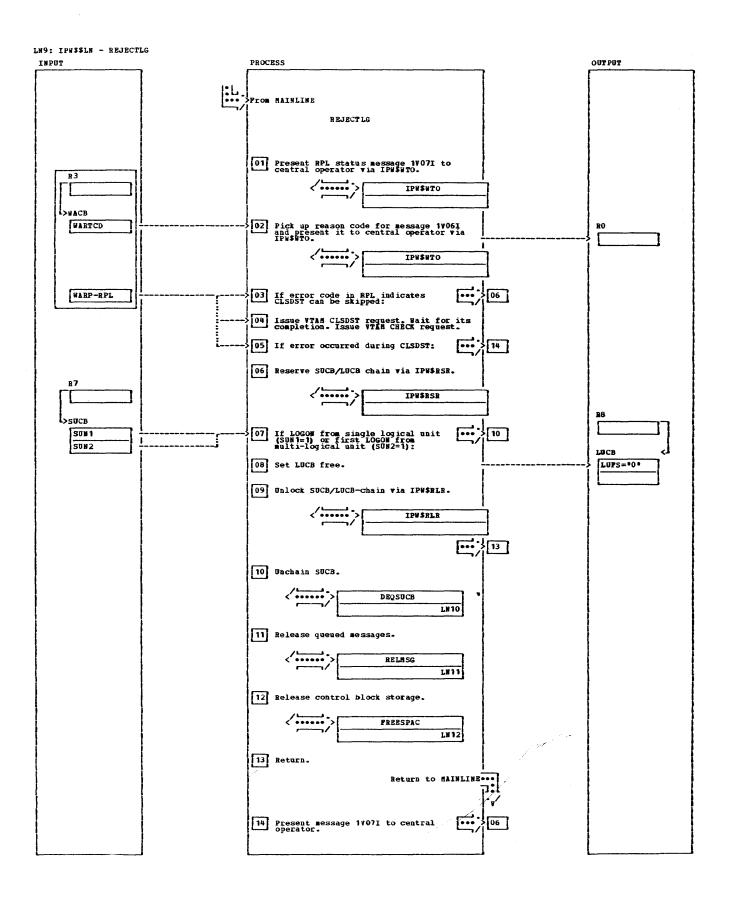






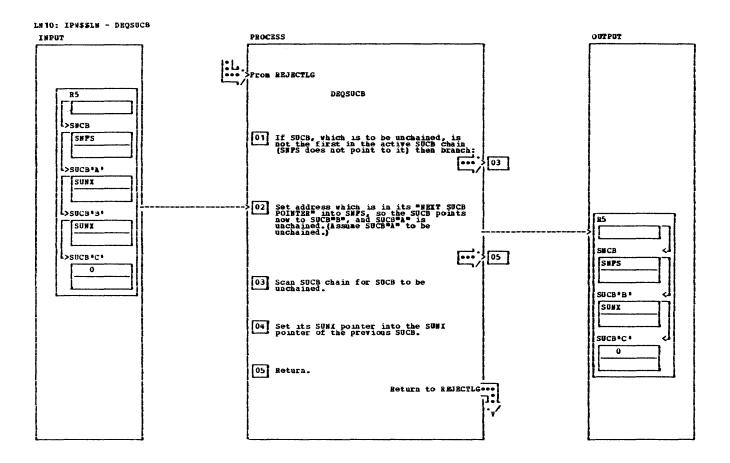


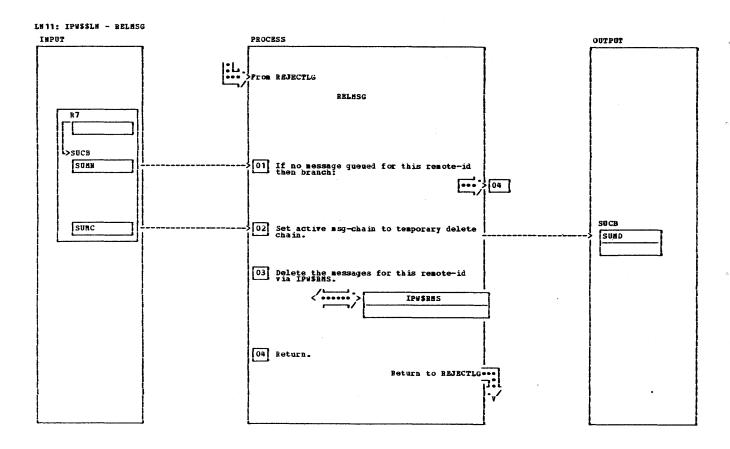
HOTES	HODULE LABEL	REP	NOTES NODELE	LABEL	REP
1 Message 1909I REMOTE XXX LOGGED ON TO POWER ON luname.			2 4 SNA-MANAGER will find a message queued for the REMOTE-ID and attach a message processor to transmit the LOGOM message.		SHTO SRES



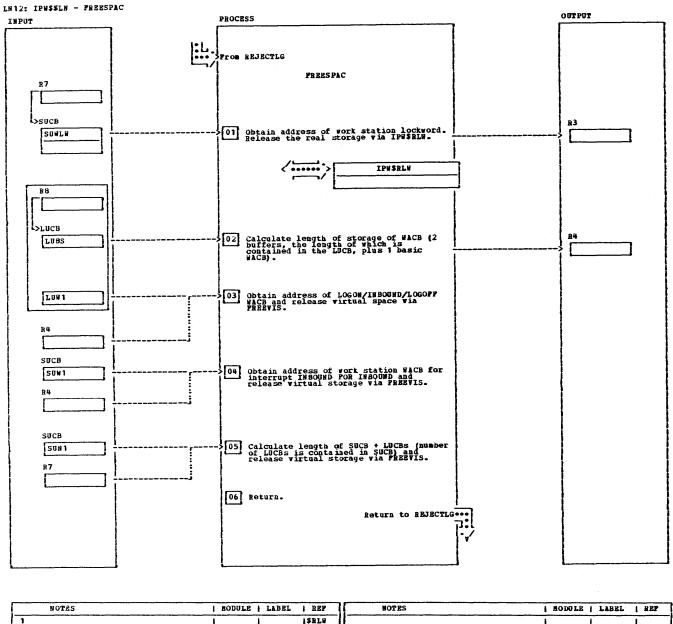
LN9: IPW\$\$LN - REJECTLG

NOTES	HODULE LABEL	REP	NOTES	HODULE	LABEL	REP
1 Message for OPENDST OR SESSIONC ettOFT ERROR ON REQUEST, RINCD, 11071 ERROR ON REQUEST, RINCD, 11071 ERROR ON REQUEST, RINCD, 2 Message 11061 UNNABLE TO LOGON luname RC-XXX. 3 If (RPLRTNCD=16 & RPLFDBR2=10) or (RPLRTNCD=20 & RPLFDBR2=18) no CLSDST request can be issued. 4 The CLSDST request is processed asynchronously the initial acceptance by VIRM is checked and if no error occurred, a IPWS RC macro is issued to wait for final completion, and a CHECK is issued after it. If an error occurred on initial acceptance, no WAIT and no CHECK will be issued.		\$HTO	7 If not first LOGON from multi-logical unit, space for the control blocks for the work station cannot be released, because it is in use by other sessions on same work station. 8 In this case only the LUCB for the session in error is set inactive. 9 Hessage: 10071 ERROR ON REQUEST, RINCD, FDB2=xxxx, SENSE=xxx ON luname.		and the state of t	\$RSR



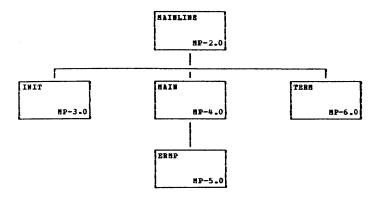


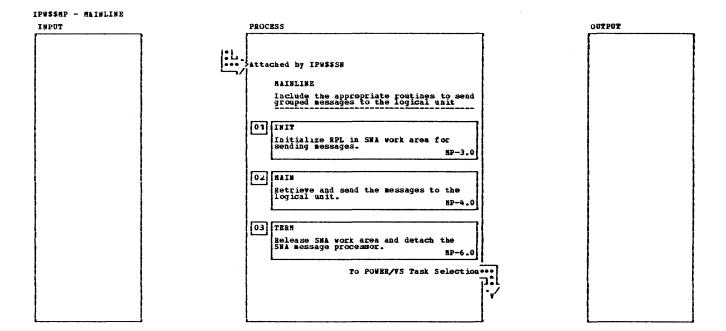
NOTES	HODULE	LABEL	i rep	NOTES	HODULE	LABEL	REP
1 Messages (i.e. from broadcasts) can be queued for a remote-id, as soon as its SUCB is chained to the active SUCB-chain. As the SUCB was taken out off the chain in routine DEQSUCB, no message can be queued any more.				2 These messages have to be deleted from the message queue. 3			\$RMS

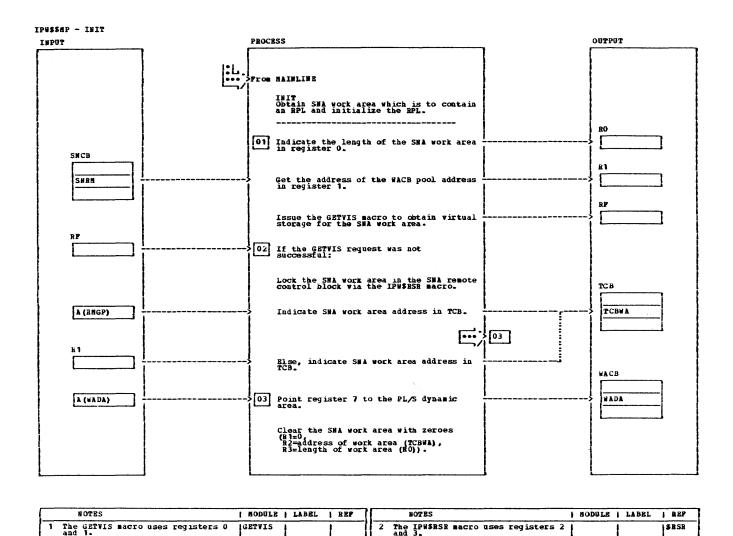


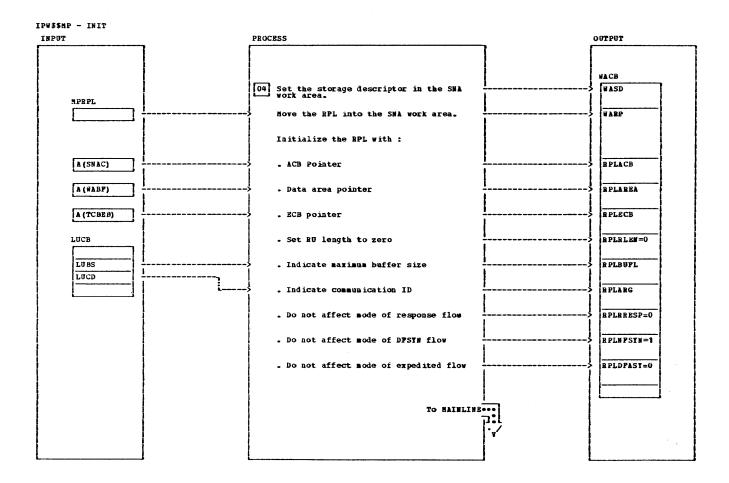
NO	TES	HODULE	LABEL	REP	NOTES	MODULE LABEL RE
1			i	SRLW		1 1
			1	1		

CHART MP: IPW\$\$MP - RJE,SNA MESSAGE PROCESSOR

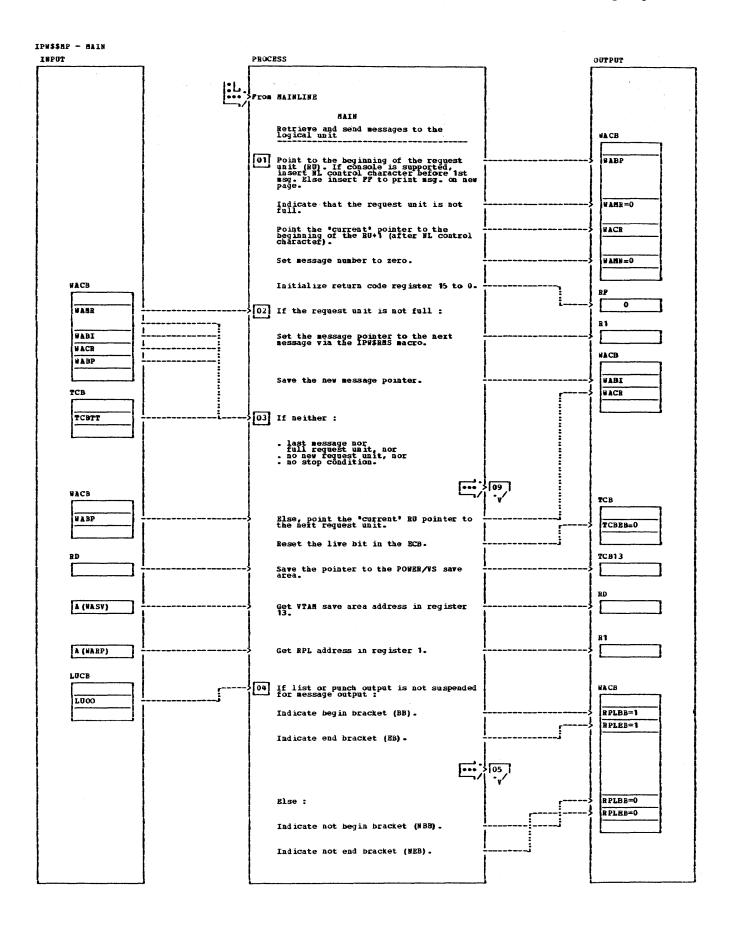






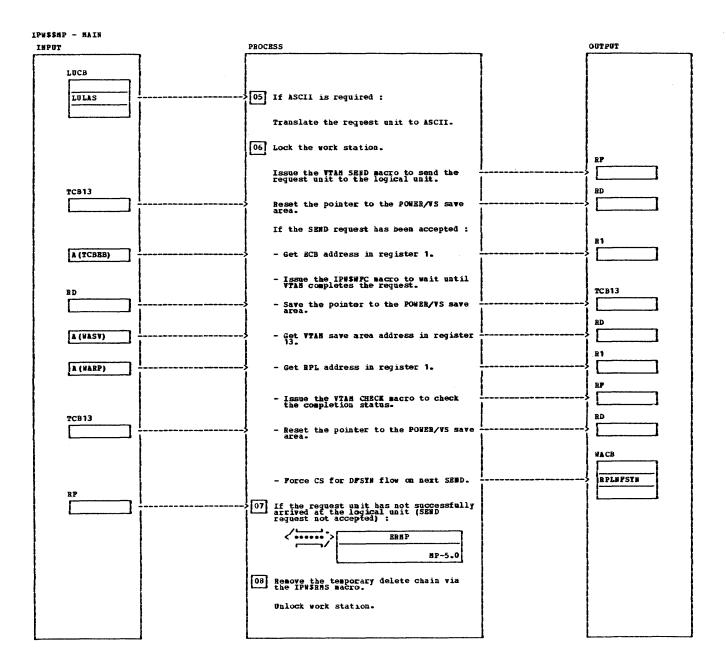


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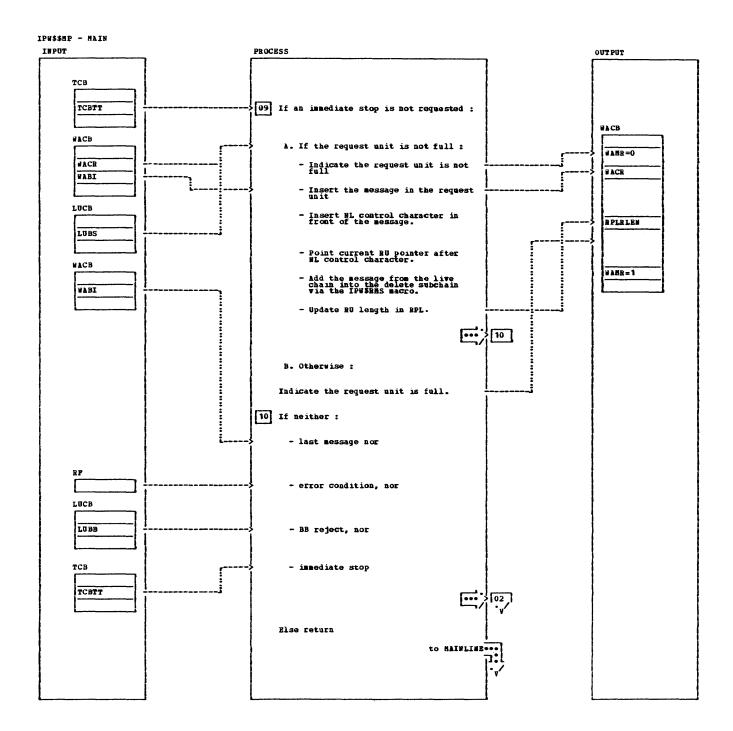


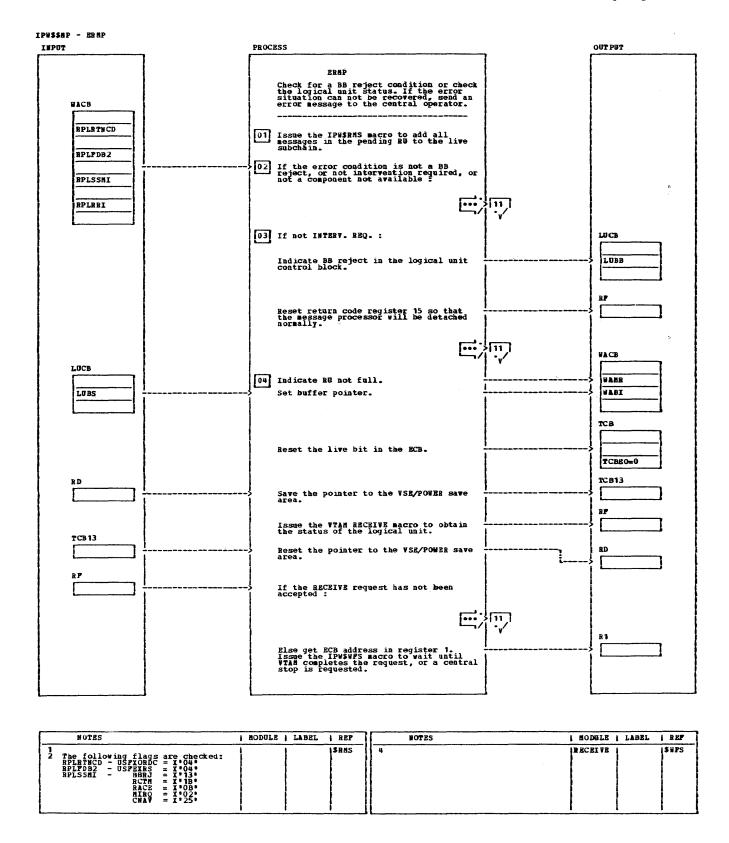
IPHSSMP - MAIN

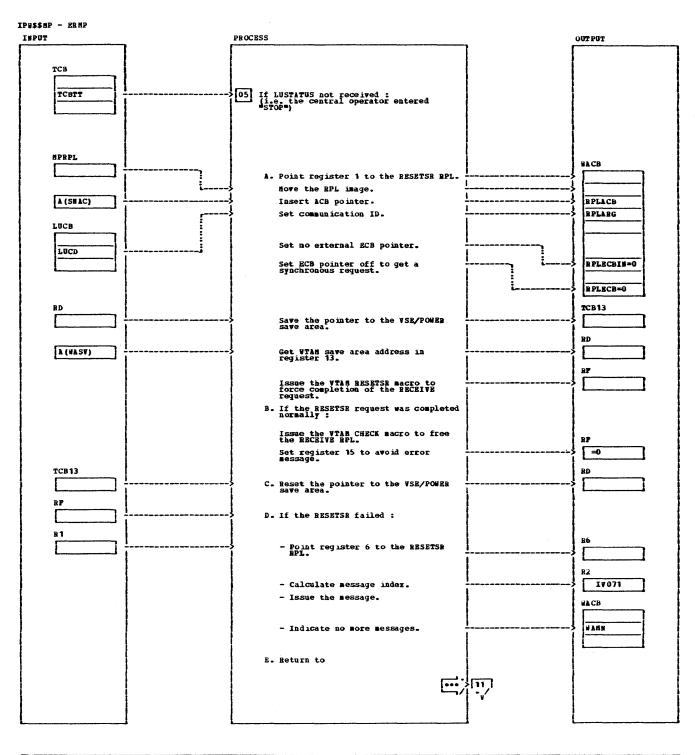
HOTES	ī	HODULE	1	LABEL	1	REP	ļΓ	NOTES	ı	RODULE	LABEL	REP
1 WABP always points to the beginning of the request unit (RO). WABI always points to the last message retrieved. WABI indicates whether the request unit is full or not (Denot full). WACM indicates the current position in the request unit.								2 The IPHSENS macro uses register 0,1,2 and 3.				SBBS



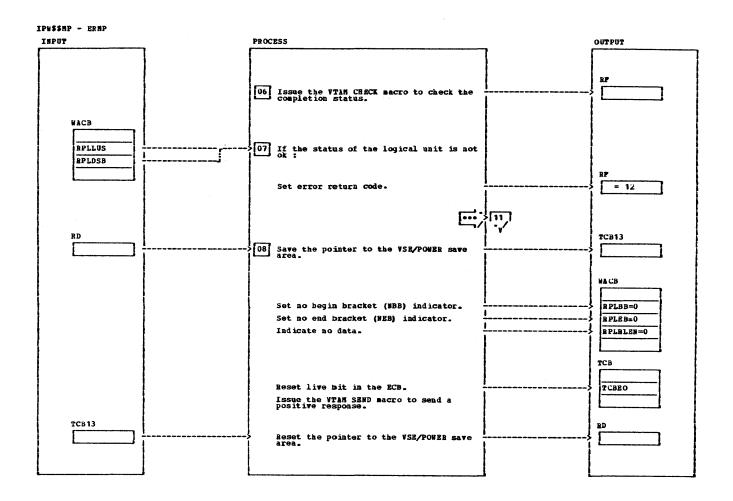
NOTES	MODULE	LABEL	REP	NOTES	MODULE LABEL REP
7 ERMP				8	SEND SRMS SRLR SEND SRSR CHECK SRMS SRMS



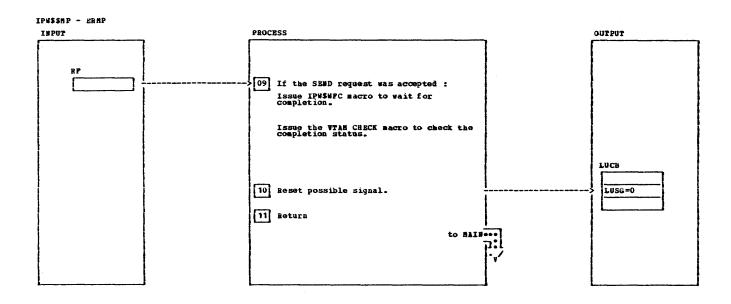




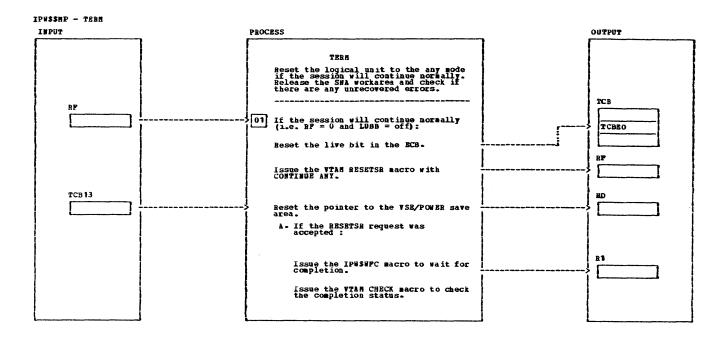
NOTES	HODULI	LABEL	1 REP	NOTES	HODGLE LABEI	, Rep
	1	1	1	5 Central Operator entered stop.	RESETSR	SWTO
				1	CHECK	1
		<u> </u>	<u>'</u>	L		



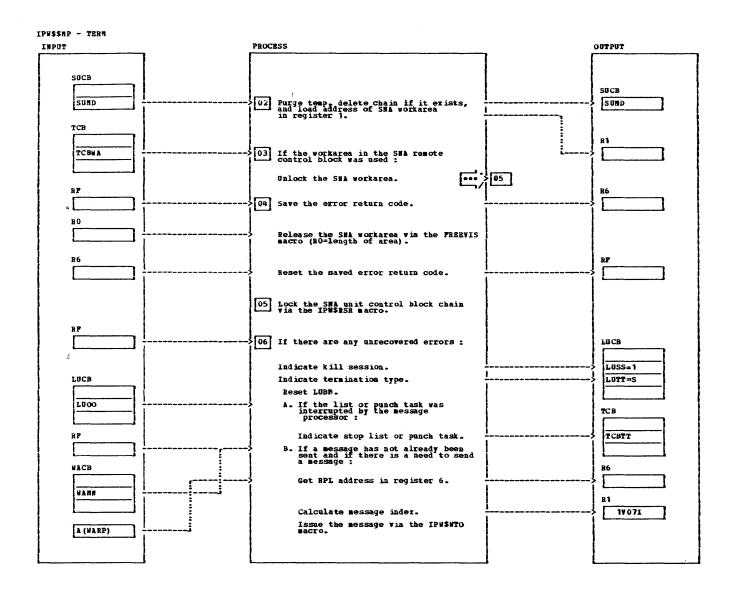
NOTES	MODULE LABE	L REF	NOTES	MODGLE LABEL	REP
6 ISSUE message: 19071 ERROR ON request RTMCD, PDBK 2 = xx,yy SENSE = xxxx ON luname	CHBCK		7	SEND CHECK	\$#PC



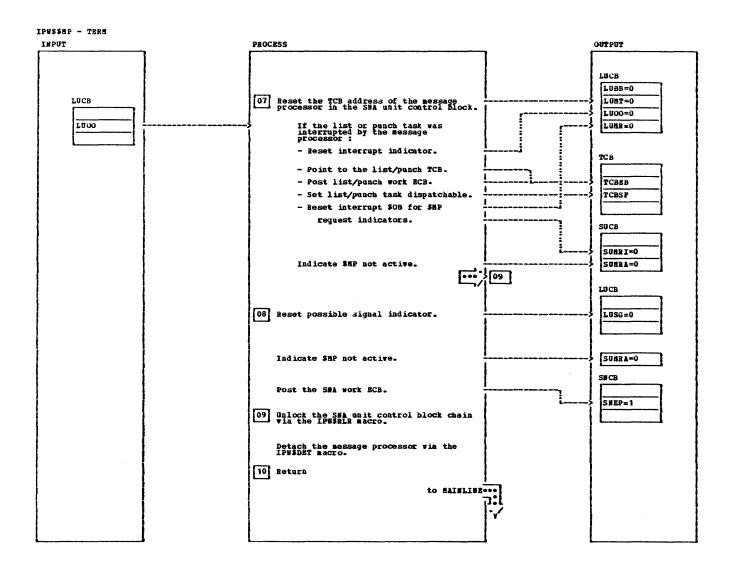
NOTES	HODULE LABR	LIREP	HOTES	RODULE LABEL REP
9	CHECK	SWPC		
· I		1 1		
			· L	



NOTES	MODULE	LABEL	REP	NOTES	MODULE LABEL	REP
		1		1	RESETSR CHECK	SUPC
		1	l			İ



NUTES	MODULE LABEL	REP	NOTES	MODULE LABEL	REF
2 If an error during send occured, the msys should not be removed from the msy queue. The temporary delete msy chain still exists during termination and must be purged to prevent deleting msys from the msy queue.		\$RHS	4 5 6 19071 ERROR OB *request* RTHCD, FDBK2=xx,yy SEMSE=xxxx *luname;	PREEVIS	SRLR SESR SUTO

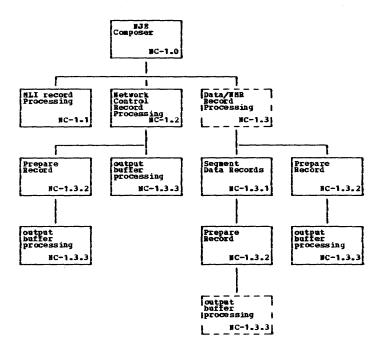


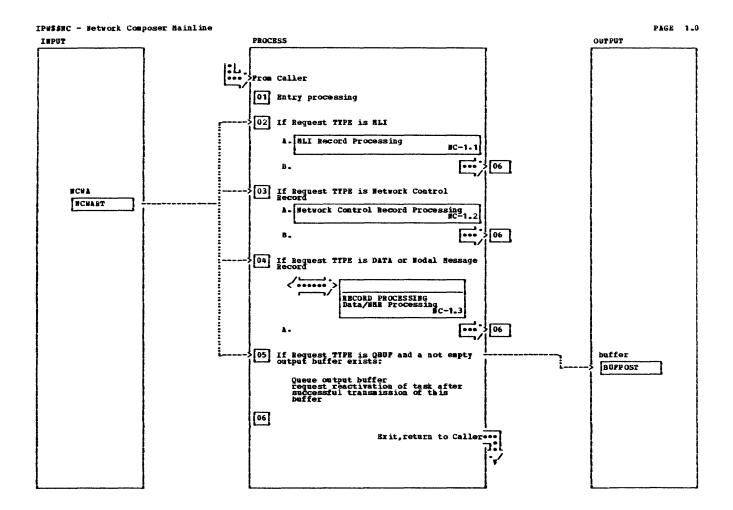
				 REP
1	1		3	SHLR SDET
1	ı			

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CHART NC: IPW\$\$NC - PNET COMPOSER

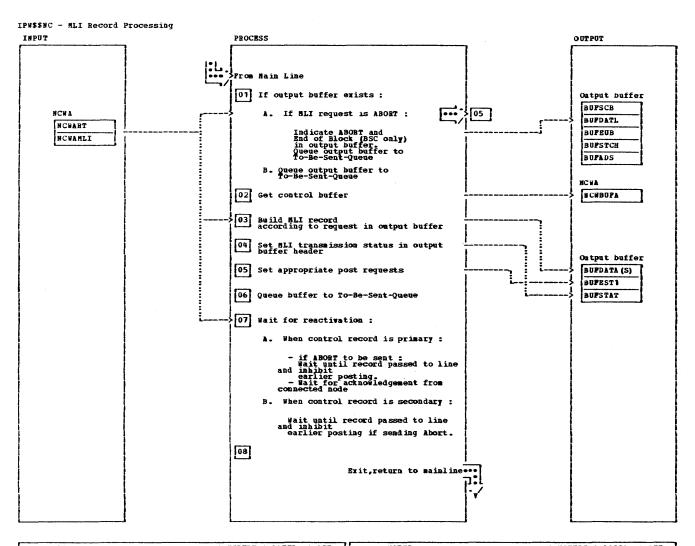




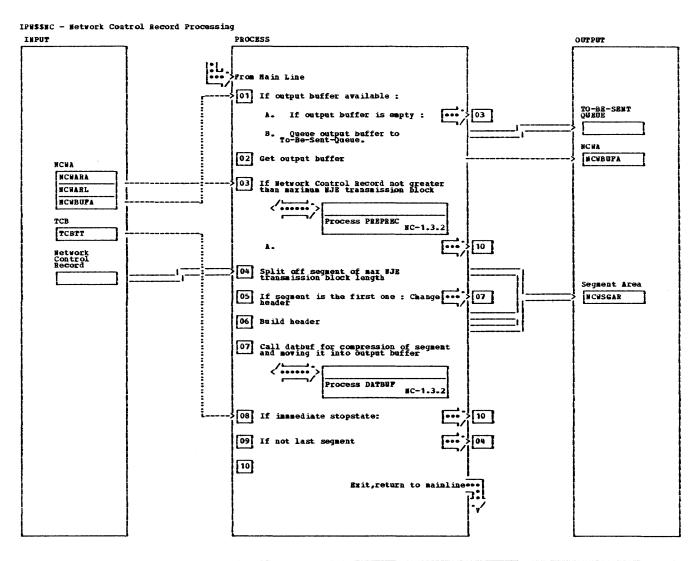
T7000000		w 4		
TPMZZNC	_	Metwork	Composer	maini ine

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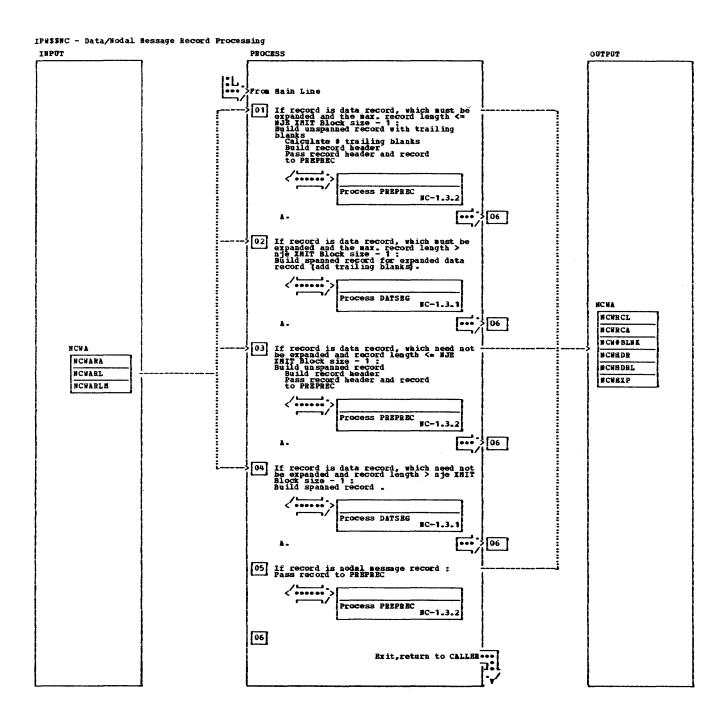
NOTES	HODULE	LABEL	REF	NOTES HODULE LABEL	REP
The NJE composer is called by the NJE transmitter and the NJE record colors is reentrant. The caller aust provide the composer worksrea. The composer input from the caller are requests for MLI record generation and records. A MLI record generation and records. A MLI record and its sending to the receiving node. Data records, network control records and hold almost and records and hold and records and hold and records and hold and records and hold and records and hold and receiving node. The composer is called via the PUT macro. The composer is called via the PUT macro. The format of this macro is: PUT RITPR(MLI/MCR/DATA/MBR/QBUP) HITPR (MLI/MCR/DATA/MBR/QBUP) HIT requests the composer to generate an MLI record as coded in MLIREQ. HIL record as coded in MCR = Network Job Header Record Network Job Trailer			request type RTYPE (QBUP) the current output buffer, it there is any is to be queued to the TO BE SEM T QUBBE. Since the composer must not return to the caller prior to having passed this buffer to the transmission line, the BUPPOST bit in the buffer header (BUPPOBP) of this buffer is set on to request the line driver for an appropriate posting. The current output buffer is queued and the IPW\$WPB macro issued.	SWPB	



NOTES	MODULE LABEL	REP	NOTES	HODULE	LABEL	REP
These MLI control records are passed by the transmitter: Request To Initiate a Function (RIF), End of File (ROF) and ABRIT STATE THE PROPERTY OF THE PROPERTY	MODULE LABEL	\$BUP	5 The data transmission status is set in the output buffer header field BUFEST1 according to the HLI record sent to the receiving node. The values set are identical to those of the TCBEST1 field. The line driver reads BUFEST1 and writes its current value into the field TCBEST1 after the output has been sent to the other node. 4 The control buffer is queued like any normal output buffer by issueing the macro \$BUF RODE=OUT TIPE=OUBUE. 7 In case of all primary control records (RIF, EDF, ABORT and Receiver ancel), the composer much control to acknowledgement is expected and vaited for for all secondaries. Thus the composer must not wait for a secondary after having sent a secondary after having sent a secondary. But to ensure proper synchromisation between our node and the connected	* HODULE	LABEL	\$ BUP
1B A none empty output buffer exists and no ABORT must be sent. The output buffer is completed with an EOB RCB (BSC-Hode only) and then queued to the To Be Sent Queue by \$BUP MODE=OUT TYPE=QUEUE.		3801	has been passed to the transmission line (SVCO). This is done by setting the DATPOST bit. In order to avoid hanging receivers, a primary abort must be			
2 A control buffer is obtained.control buffers are small output buffers of fixed size capable of housing any HLI record. They are obtained by \$BUF HODE=OUT TYPE=CONTROL and immediately released to VSE/POWER after being sent. The address of the buffer is indicated in r1. The data length field (BUFDATI) and depending on SNL or BSC-Mode		\$ BOP	receivers a primary abort must be passed to the line under all circumstances as long as the session is up. If an ABORT is going to be sent and still in the To-Be-Sent-Queue and assume that at this point in time a primary Receiver Cancel is received from the other node, this receipt must not post the ABORT wait as long as the ABORT has not yet been passed to the line. Otherwise the ABORT may be lost by the subsequent			e de la companya del la companya del la companya de
and depending on SNA- or BSC-Mode additional buffer data fields are initialized. For SNA-mode the RIDLength field is always set to zero. 3 The HLI record is generated in the control buffer: RCB,SRCB,SCB,RCB.			purging and freeing of the queues. This is done by waiting twice, the first time until the ABORT has been passed to the line (posting not allowed prior to this event), the second time until receipt of the Receiver Cancel.			

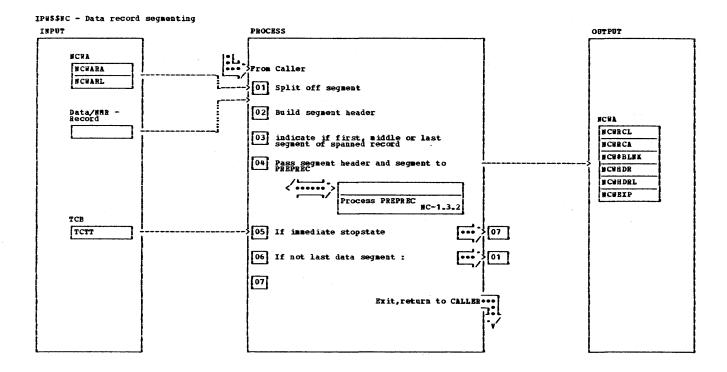


HOTES	MODULE LABEL	REF	MOTES MODULE LABRL REP
Network Control Records (NCE) are: Job header record, dataset header record, job trailer record. 1 An Network Control Record must always be the first record in an output buffer. Thus if an none empty output buffer exists, this must be queued to the fo Be Sent Queue. Before queueing an End Of Block RCB is provided. 2 A new buffer is obtained by issueing the macro \$BUF MODE=OUT TIPE=GET 3 Each MJE transmission block is limited to 256 bytes in maximum, including 4 bytes for the length/ flags/sequence field at the start of the block. Thus if the overall length of the NCE is more than 256 it must be transmitted in segments otherwise the LCR is more than 256 it must be transmitted in segments. Otherwise the LCR is more than 256 it must be the CCR and the complete sequents must have a length of 256 bytes in maximum. Thus the first segment must have a length of 256 bytes in maximum. Thus the first segment must have a length of 256 bytes in maximum. Thus the first segment must have a length of 250 bytes since it comprises the header already. All hiddle segments must be added. The ending segment is shorter or equal than 252 bytes. all segments are invalid with a preceeding RECORD Identifier (RID), which is 3 bytes long. Those three bytes are not regarded part of the segment size.	HODULE LABEL	SBUP	The first segment contains the original header. In this header the length field is changed to the actual length field is changed to the actual length of the segment. The segment is build for middle and ending segments. The first half byte is *8 for middle segments and *0° for the ending segment. The right half byte contains the count starting with zero. 7 The segment is transferred to the procedure DATBUF by calling this procedure DATBUF by compresses the segment, completes it with RCB and SRCB information (BSC-mode) and moves it into the current output buffer. 8 If an immedite stopstate S\{\B\F\}\F\ occurred exit to mainline is
regarded part of the segment size, i.e. they do not reduce the segment length.			

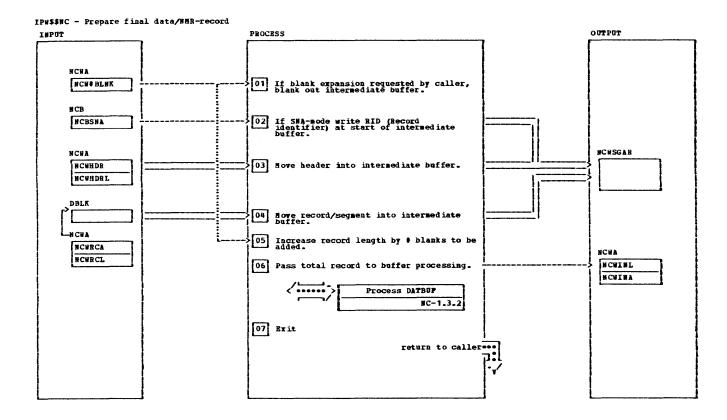


IPW\$\$#C - Data/Hodal Hessage Record Processing

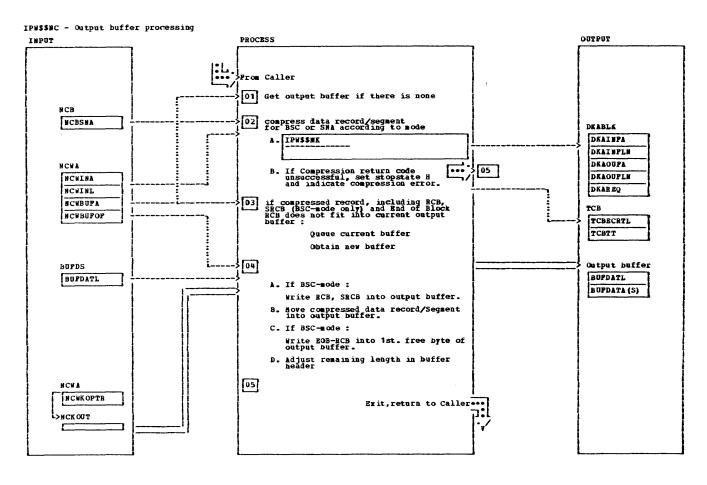
NOTES	HODULE	LABEL	RBP	MOTES MODULE LABEL	REP
The function of this hypo is essentially to work as a selector, which passes a given input either to data record segmentation or to the PREPREC routifie. The selection criteria are — must the record be spanned (segmented in pieces)?—must the record he spanded with blanks? A record must be segmented if it a secessary, because of compatibility reason to further IBH network products, pnet can communicate with. A record must be expanded with trailing blanks, when its record formant is function of the formant is functionally to the control of the second formant is function to the formant is function to the formant is function to the second formant is function to the second formant is function to the second formant is function to the second formant is function to the second formant is function to the second formant is function to the second formant is function to the second formant is function to the second formant is function to the second formal second formal is function to the second formal second formal is function to the second formal second formal is function to the second formal second formal is function to the second formal seco				Data records which must be spanned are passed to the DHTSEG subroutine for spanning. Data records which need not be spanned, and nodal message records are passed to the PREPERC subroutine. The PREPERC routine builds a complete record, existing of the RECDED Identifier (SMA-mode only), the header, data and, if requested, of trailing blanks. For all records except nodal messsage records passed to PREPERC a header containing the length of the record is built. In case of output records the command code byte, immediately proceeding the data is also part of the header. The header is passed together with its record to the PREPERC resp. Databut routine.	



HOTES	HODULE LABEL	REF	NOTES	HODULE	LABEL	REP
1 The maximum size of a data record segment is the Transmission Block size -1. If the record must be expanded with trailing blanks up to the maximum cord length (passed by the caller, the segmentation must reflect the total record including all blanks to be expanded. 2 The header of the first segment of a spanned record contains: Total data length of the spanned record, data length within this segment plus one byte for the command code. The header of subsequent segments contain the segment data	1 1		The current segment including its header is passed to the PREPERC PROCESSES of the PREPERC PROCESSES of the PREPERC PROCESSES of the PREPERCE PROCESSES OF THE			

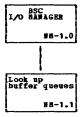


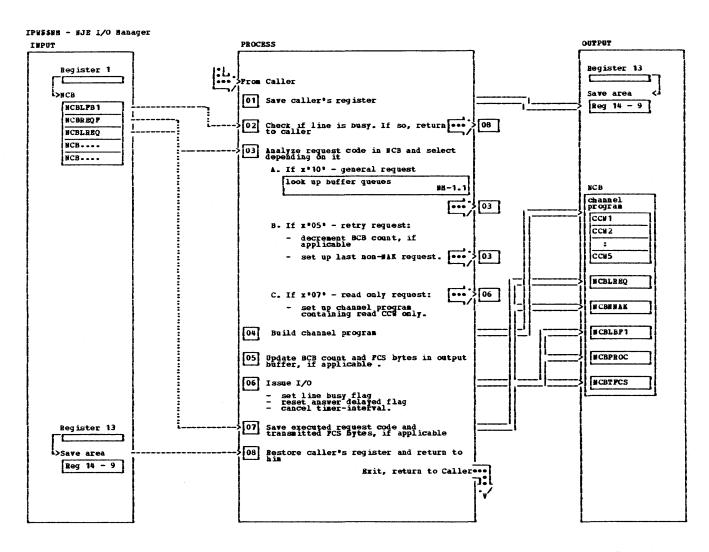
NOTES	MODULE L	ABEL REP	HOTES	I MODULE	LABEL	KEP
Input to this procedure are seperate items, which are put together to a single data record: Record header and data record/sequent. In case of SNA the new record must be preceded by a SNA-Record Identifier. 1 If blanks are to be added, the intermediate buffer which is to contain the record to be build, is blanked out. 2 In case of SNA-Mode, a record identifier is written at the start point of the intermediate buffer.			3 The header, passed by the caller, is sweed into the intermediate buffer. In case of a nodal message record there is no header. 4 The record/segment, as passed by the caller, is moved into the intermediate buffer. 5 If blanks must be appended to the record, the intermediate buffer has been blanked out in the first seen that he called the called the record in the intermediate buffer. 6 The record is passed to the DATBUF procedure.			



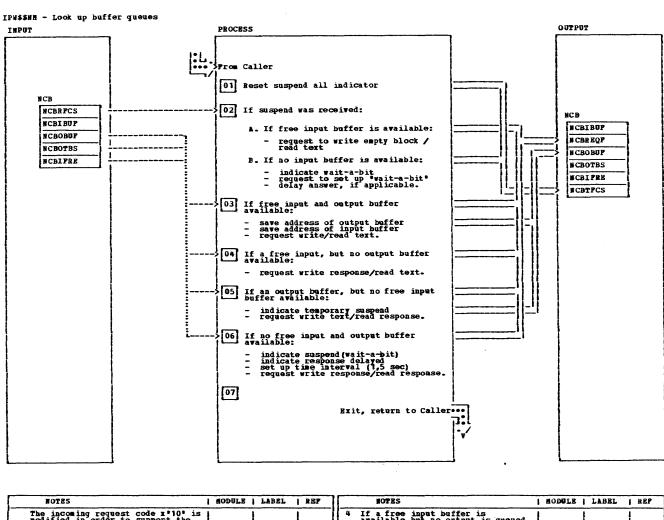
NOTES	MODULE LABEL	REP	NOTES	HODULE	LABEL	REP
Note that SNA-NJE will not span normal records/seqments does not have an END-of-Request-Unit RCB/SCB. A RU produced by this procedure consists of one or more units: RID, data, each unit starting with an SC Units state last byte of the request unit. The compression function is a VSE/POWER function. It transforms according to its compression algorithm an input string into an output string. It places of ference output to place of the recompression string into an output SC Compressed string lawsys stops BSC: with an EOR -SCB SNA: with the last data byte.			28 If the compression return code is not zero the stopstate H is set and compression error indicated in the field TGBEGRTL. A return is made to the caller. 3 The total length of the compressed record/segment is calculated: If BSC: Three bytes are added to the compression output for the CG and the BGB-RCB which will be of an another BGB-RCB which will be overwritten, if this is not the last record. If SWA: Total length is equal to the compression output length. 4 In case of BSC-mode the compressed data record is followed by an End of Block CDB Titles have been the buffer is queued. In SWA-mode no End of Record RCB/SCB is written. The last byte of the last record.			

CHART NM: IPW\$\$NM - PNET I/O MANAGER



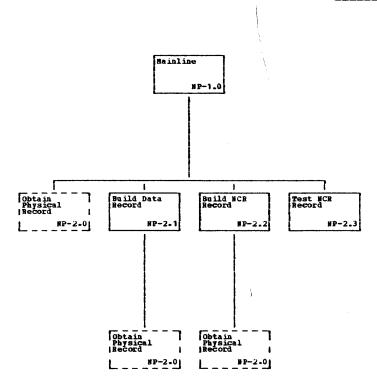


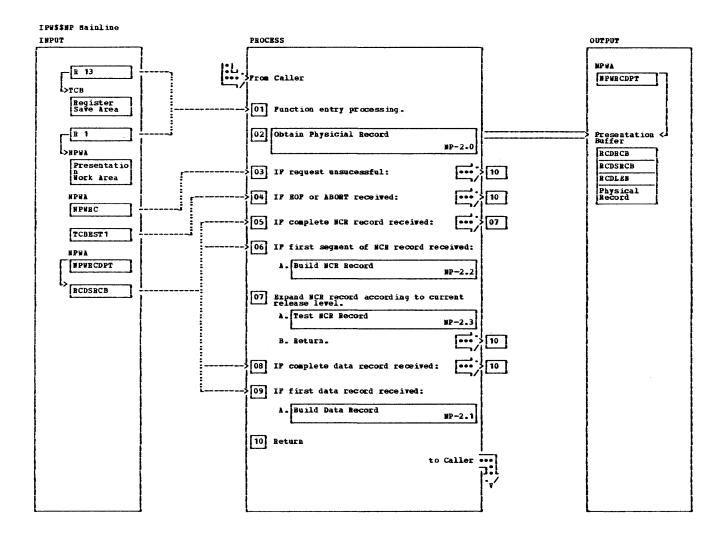
NOTES	HODULE ;	LABEL	REP	NOTES MODULE LABBL	REP
The I/O manager is responsible for all I/O's requested by the SC-line driver of the Sc-line driver of the Sc-l				1 The Caller's register are saved in its own task save area addressed by register 13. 2 The line status flag is examined to see whether the line is still busy (I/O completion still outstanding) or not. If it is busy, immediate return is made to the caller. 3 The request code is analyzed by dividing it into main and subrequest resulting from a left request resulting from the main and subrequest resulting from the subrequest is used to address the routine within that branch table and the subrequest is used to address the routine within that branch table. 3B If retry is requested, the request field of the NCB is moved into the actual request field. Additionally the BCB count is decreased when the last sequence was a write/read to exceed when the last sequence was a write/read to request was a NAK the last non-nak executed channel program is scanned to locate the read CCW, which is then moved to the first CCW of the channel program. 6 A SVC 0 is issued and the line is set busy 8 the caller's registers 14 - 9 are reloaded and control is given back to him.	\$SAV



NOTES	MODULE LABEL	REF	NOTES MODULE LABEL E	REP
The incoming request code x*10° is modified in order to support the various multi-leaving line sequences. The sequences are based on the input/output buffers (input buffers which are in the free input buffers queue and output buffers which are in the to be sent queue). 2 The other side of the line has sent a suspend all (wait-a-bit), therefore ho output buffer, regardless if one is available, can be sent. An empty block, containing BCB and FCS bytes is sent in order to acknowledge the received input buffer or to do just hand-shaking. 2A If no immediate response is delayed by 1,5 seconds if not already done once. 2B No input buffer jis available, therefore the wait-a-bit's sedding of this sequence is delayed by approximatly 1,5 seconds, if not already done once. 3 If output is queued and a free input buffer is available the multi-leaving write/read sequence is performed.			available but no output is queued, the nutli-leaving read sequence is performed, which acknowledges the last received input buffer with an empty block, containing BCB and FCS characters. 5 If output is queued but no free input buffer is available a multi-leaving write sequence is performed. 6 If neither catput buffer queued nor a free input buffer available, the handshaking sequence is performed, resulting in the exchange of positive responses. However the request is initiated but will be request is initiated but will be request in the request of 15 seconds is requested by issuing the IPWSTE macro. The network line driver is posted when the time interval is expired. The line driver then invokes immediately the I/O manager to do the I/O. 6 However if no suspend all has been sent yet, a request is set up to send a suspend all (wait-a-bit)	STB

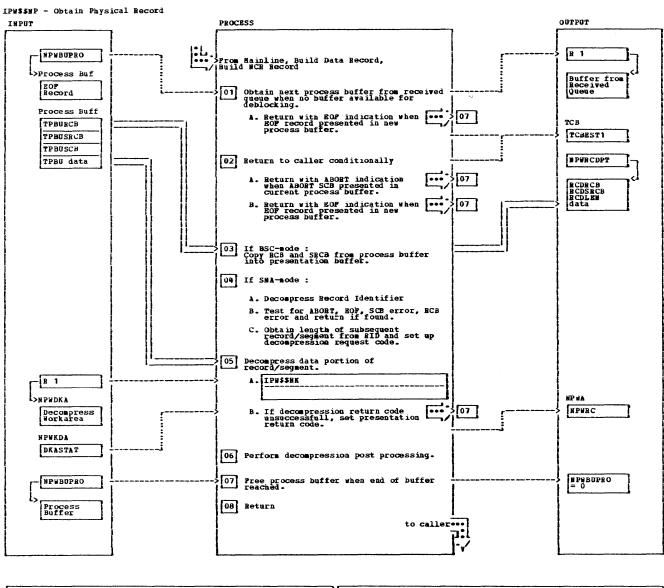
CHART NP: IPW\$\$NP - PNET PRESENTATION SERVICES



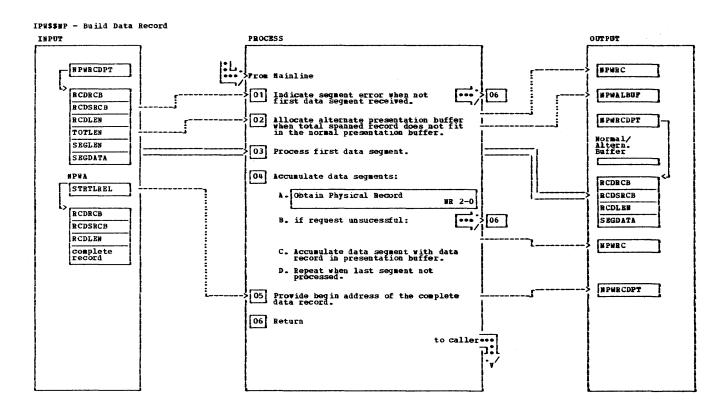


IPW\$\$NP Mainline

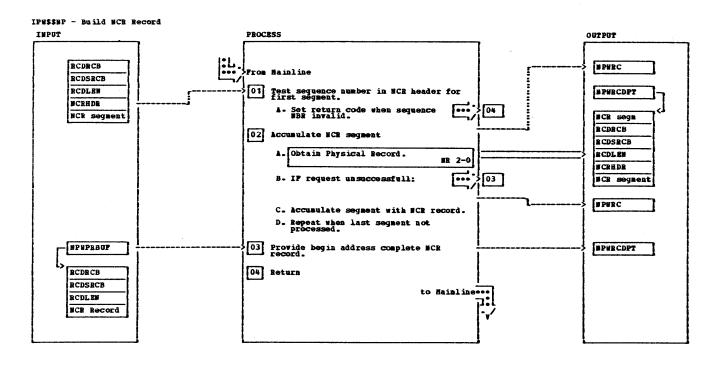
NOTES	1 1	MODULE LABR	LIREP	HOTES	MODULE	LABEL	RRP
The record presentati deblocks a LLI TP-buf builds a logical reco record presentation b Communication between	fer and rd in the affer.	яРС5		3 Process termination or presentation errors associated with the TP data stream which reflected in the record presentation return code.	ed h are		
presentation function receiver module is ef means of the VSE/POWE linkage.	fected by			An MLI End of File or Abort transmission record is indic in the MLI status byte when encountered.	ated		
Entry registers:		l		6 The Network Control Records received from the network ma	v be		Ì
R 1 address worka for record pr R 13 address funct R 15 address modul	esentation ion save area			spanned over several NCR seg which have to be accumulated complete a NCR record.	ients, to		
1 Upon entry callers re saved in the function addressed by register Addressability for a save area, located in	save area		\$5AV	7 The length of the general se of the ECR record may be san than the current length of t general section of the actual release.	ller he l		
save area. located in presentation workarea established. The addr preceeding function s saved in the new func area.	ave area is			Expansion of the general sec is performed whenever the le of the received general sect appears to be too small to continue processing.	tion ngth ion		
Release alternate pre buffer when allocated function call.	sentation by preceding			9 Data Records received from t network may be spanned over several data segments, which to be accumulated to complet	have		
2 Deblock/decompress the physical MLI record f process buffer.	e next rom the TP		\$RL¥	data record length. 10 Return to the calling routin performed by restoring the			\$RET
The physicial record addressed by the fiel which initially addre start of the presenta	d MPWRCDPT,			registers from the proceeding function save area.			
Record format: - RCDECB 1 byte - RCDSECB 1 byte - RCDLEN 2 bytes - data n bytes							



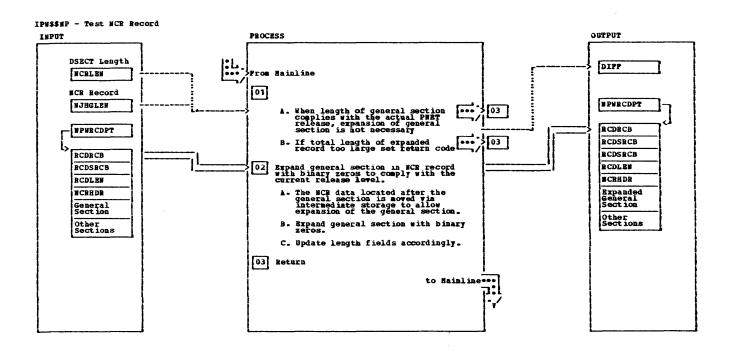
NOTES	MODULE ! LABEL	REP	NOTES MODULE LABEL R	REF
1 If a buffer is currently in process, indicated through a honzero value in the "NPHBUPRO" pointer maintained in the NPMA the next record can be made available. Otherwise puffer management is invoked to get the next buffer from the received chain. Using the buffer management macro request: IPMYBUP MODE=IN.TYPE=GET, WAIT=YES When buffer management has been invoked with the WAIT=YES option, and no buffer in the "RECEIVED CHAIN" is available, the task is put in wait state, waiting until a buffer becomes available. In this case, the task is posted from the line driver on receipt of an input buffer which contains data for the waiting task. 1A Register R1 contains the address of the next TP process buffer. Whenever the value in register one equal zero, the terminated due to STOP process must have been terminated due to STOP propagation of the line driver, or due to a PDNAIN command issued by the operator for the receiver task. In case a TP process buffer has been obtained it is tested for an end-of-file record.	GETREC	\$Buf	4 Each record/segment received from the Sending node is preceeded by a record identifier [RID] Decompression of a unit (RID + record/segment) is performed in two steps: In the first step the RID [RCB_SRCB_Length of subsequent data) is decompressed. If no ABORT-, end- or error indication is found, the subsequent data as indicated in the RID-length field is decompressed in the second steps. This two steps method enables two steps method enables constructed in the TP-input-buffer, even if the sending node does not provide each RID with a preceeding SCB byte. In the latter case decompression generates this SCB. 5A The BSC decompress routine decompresses one record in the presentation buffer. The output area is passed by the calling routine. A pointer is set to the next input string in the TP-buffer: SRL-mode: to the SCB_D pSC-mode: to the next RCB 7 Buffer management is invoked by issuing: IPW#\$BUF HODE=IM_TYPE=PREE to return the current process buffer to the free input queue.	



	NOTES	MODULE	LABEL	REF	NOTES NODULE LABRL	RRP
2	The SRCB of the first segment received is tested for a valid segment identification. In case the SRCB does not indicate first segment, a return code is set and the process is terminated. Data format of the first Segment: Total Record Length: 2 bytes Length First Segment: < 255 bytes VSE/POWER does not impose any restriction on the total length of the record to be spooled. The size of the normal presentation buffer matches with the size of the VSE/POWER logical data buffer. When the total record length erceeds the length of the normal presentation buffer, an alternate presentation buffer, an alternate segments. VSE/POWER data management is responsible to represent the record in multiple DBLK records.	HODULE	LABEL BUILDECD		## A The next data segments are accumulated into the normal or accumulated from the normal or accumulated from the normal or authors are read into the presentation buffer and shifted adjacent to the data record. ### The segment accumulation process is terminated when the hext request for a physical record indicates: a record presentation error	RRP
3	Copy first segment data to the begin of the Resentation buffer normal or alternate). The segment length bytes are deleted. The total length is mapped into the RCDLEW field of the logical record.					

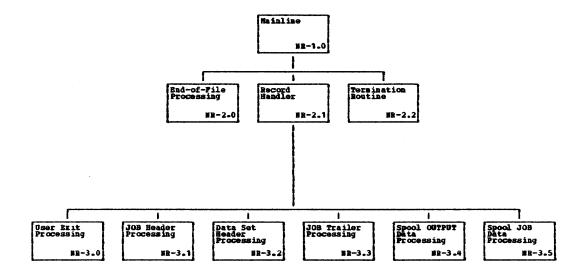


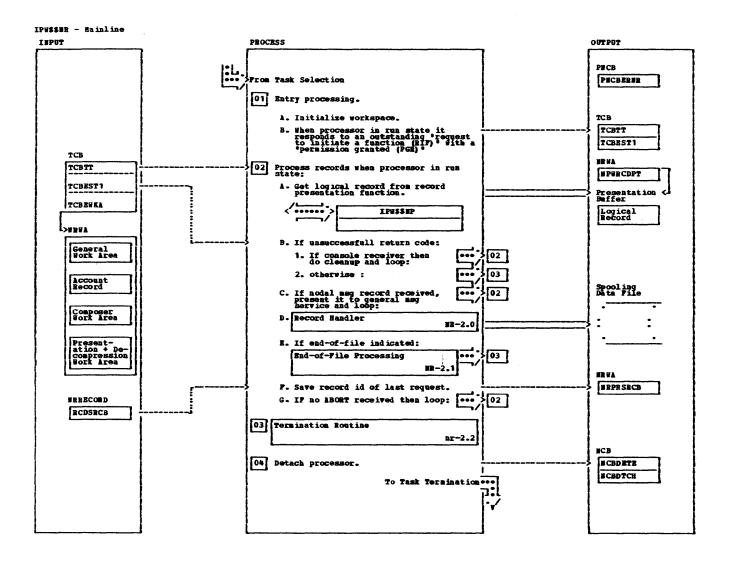
1 The ECO header obtained in the			 LABEL	REP
1 The MCR header, obtained in the first sequent, is tested for a valid sequence number. In case the sequence number is incorrect, a return code is set and the process is terminated. 2 The next MCB data sequents are accumulated into the normal record Presentation buffer. Subsequent RCR sequents are read into the presentation buffer and shifted adjacent to the MCR record. 2B The MCR segment accumulation in terminated when the next request for a physical record indicates: a) A record presentation error.	ACCURSEG	2C The segment header bytes of the current segment are deleted, the segment are deleted, the segment data is copied adjacent to the MCR record. The total record length and the length seintained in the MCR header field are updated. 2D The process is continued until the last segment has been processed. 3 During the accumulation process the record pointer has been dynamically changed. The record pointer sust he adjusted to address the complete MCR record.		
b) unexpected end-of-file received. c) ABORT transmission received. d) incorrect sequent sequence number received.				



WOTES	HODULE	LABEL	REP	NOTES HODULE LABEL	REP
NCR records may be upgraded due to further development effort. There is no full vulcantee that the local PNET swystem comunicates with a NJE System that has the same NCR record release level. Therefore the necessity erists to expand the general section of a NCR record with binary zeros to comply with the actual length of the general section within the local PNET system. Note that with a new NJE release the length of the general section never decreases. 1A The difference between the current release length and the received length of the general section is calculated. No action must be performed for zero difference.		TESTHOR		2 The calculated length difference indicates the number of binary zeros to be inserted. The process must be terminated whenever the expanded MCR record can not fit within the normal presentation buffer. 2C Following length fields have to be updated: - general section length. - total length in MCR header record. - total length in record presentation header.	

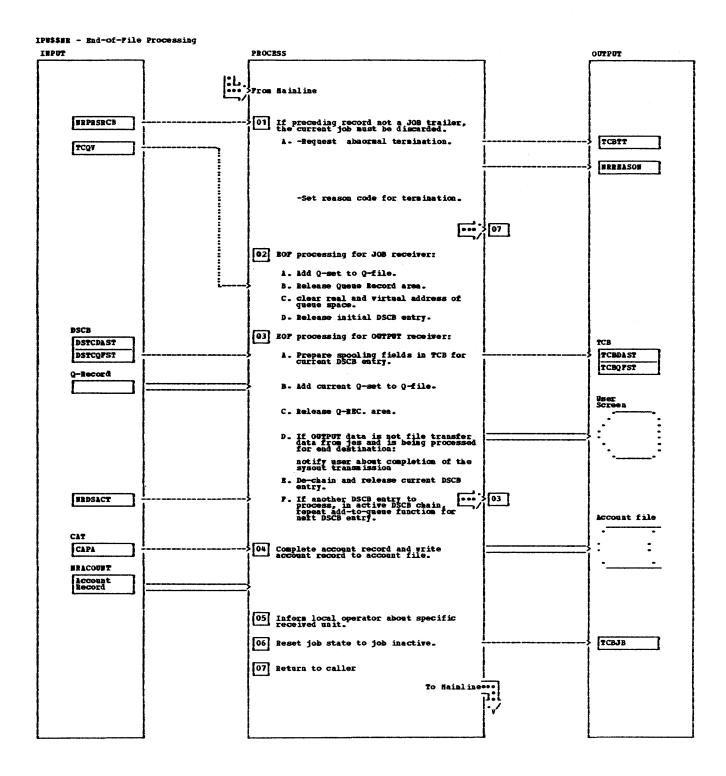
CHART NR: IPW\$\$NR - PNET RECEIVER





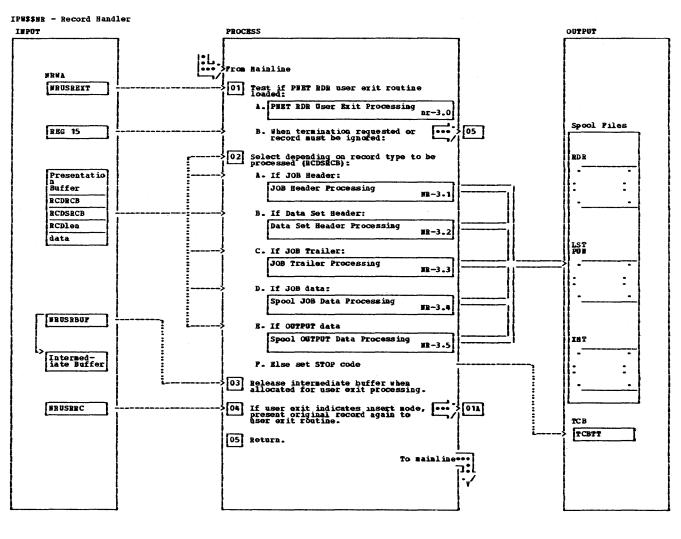
IPW\$\$NR - Mainline

Hultiple receiver processors may be active to allow logical function returns with a lastream multiplexing accross the stream multiplexing accross the function returns with a lastream multiplexing accross the return code when the date data link. A receiver has been attached by the receiver has been attached by the line driver as JOBs or OUTPUT days are days to a forced terminat.		· · · · · · · · · · · · · · · · · · ·
A receiver has been attached by the court of	care of continued continue	\$GB



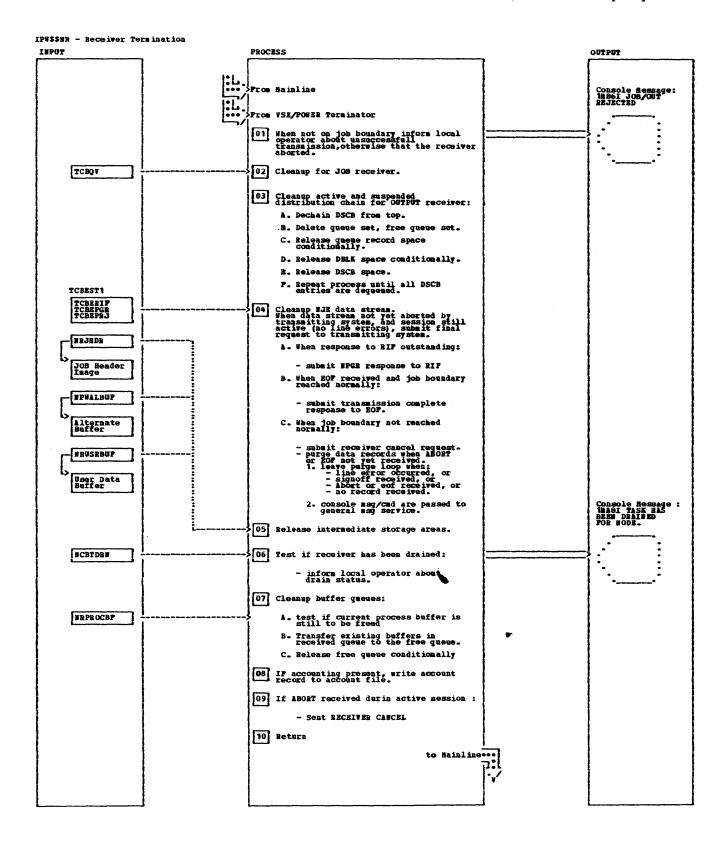
IPW\$\$WR - End-of-File Processing

	BOTES	HODULE	LABEL	REP	HOTES	HODGLE	LABEL	REP
1	A job trailer record must be followed by an BOF control record according to HLI protocol.				3D On completion of OSTPUT data with destination for the receiving system (local, or			SHTI
	On receipt of the BOF record the receiver takes over responsibility for the received unit of work.				local RJE wiser), the user is notified win message TRBSI JOB/ONTPUT jobname jobnbr RECEIVED FROM nodeid FOR user			
2	The number of cards transmitted has been counted in the account record. The card count is copied into the Queue Record.			\$AQS	Hote that output, to be stored for forwarding to another node, will not cause a notify asg to be queued.			
	The JOB is added to the queue file, using the queue management function.				4 The account record is updated and completed with: - transmission end time.			SRDC
3	For output processing data may have been spooled for multiple Queue Sets. The active distribution chain (DSCB(s)) must be processed to add each queue set onto the output queue.				The Put-Account function of account management is invoked to write the just completed account record onto the account file.			\$PAR
31	The actual data file control words are copied from the current DSCB entry to prepare for the add to queue request.				5 The local operator will be informed about the received job data unit with: 1RB51 JOB/CUTPUT jobname jobnbr RECRIVED PROW node if FOR user			SGAM
38	The queue management function Add-to-Queue is used to chain the Q set according to its identifier, class and priority to the Q file.			\$AQS	RECEIVED FROM RODE OF THE USET			

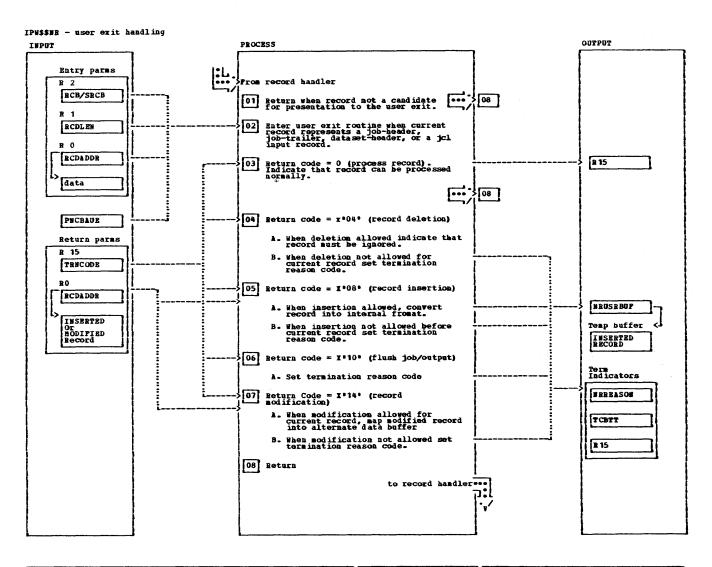


HOTES	HODULE	LABEL	REP	NOTES HODGLE LA	ABEL	REP
1 The PMET RDR user exit routine is called if available and specified in the POWER macro. Return to the mainline routine is made whenever the PMET RDR user exit routine has indicated that the current record should not be processed due to: Record must be deleted Job must be flushed Kroneous action performed by the erit routine. Record processing continues whenever either the record is not of a type to be passed to the RDR exit routine, or the RDR exit has indicated: A record has been inserted. A record has been modified Record has been modified Record has been mormally returned. 2 JOB or OUTPUT data received from the network must be delimited by a JOB Header and a JOB Trailer record.		USREXIT		The data stream received is scanned for: JOB Trailer record, JOB Trailer record, Data Set Header record, Data Set Header record, Data Set Header record, Data Set Header record, Data records. Record type selection is based on the record header provided in the record control word: The SRCB indicates for: data record JOB Header record JOB Trailer record An intermediate data buffer has been allocated upon return from the exit routine whenever the user has requested record modification or record insertion. Whenever the current record is inserted by the user exit routine, the record handler must pass the original record again to the user exit routine.		\$RLV

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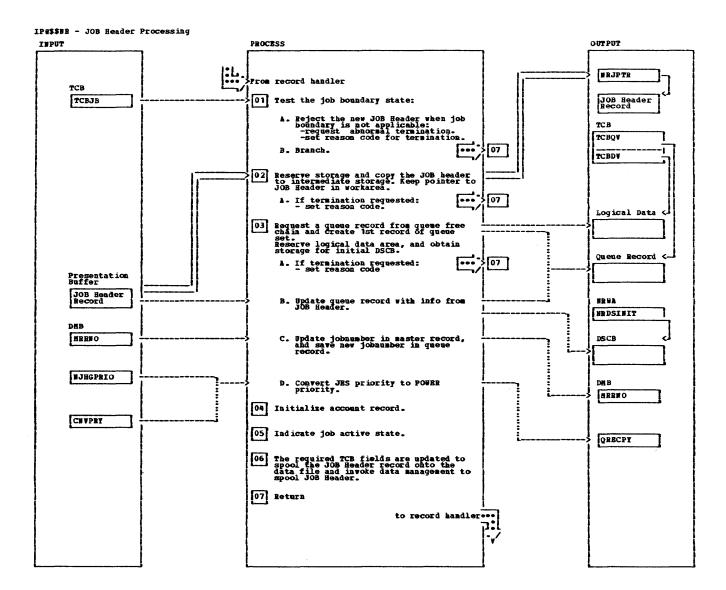


NOTES	MODULE (LABEL	REP	NOTES MODULE LABI	L REP
Entered by mainline with a reason code indicating the specific termination cause.				Cleanup of the MJE data stream is dependent upon the data stream state.	
Termination reasons: - EOF or ABORT received from transmitting system - job state error detected by				4A A permission-not-granted control request is returned to the transmitting system to avoid a hanging transmitter.	\$PUT
feceiver. NCR record out of sequence. - external STOP by operator. PDRAIN for receiver issued - STOP propagation by line mgr. - presentation error detected by the record presentation				4B This is the normal termination case. AE ROF request is returned to the transmiting system as a response on its ROF request.	\$ PUT
function. Entered via POWER terminator routine. Task selection may have passed control to the local POWER terminator which performs queue file recovery for the current job. The local terminator after				4C Parging implies that logical records are obtained from presentation service until BOP or ABORT or SIGNOFF is detected.	\$GHS
file recovery for the current job. The local terminator after performing local cleanup reloads registers (from the TCB linkage save area) and returns control to the receiver termination entry point.				Data records and control records are ignored. Hessages or commands are passed to general message Service, which initiates further processing when applicable.	
1 Inform the local operator with msg 1RB6I when the transmission has not normally ended.				5 Release following intermediate storage areas conditionally: - storage for Job-header image - alternate presentation buffer - alternate presentation	SRLV
1RB6I JOB/OUT DATA 3 Johname 3 Johnbr FROM nodeid REJECTED, RC = returncode				storage for inserted/modified user exit record. 7 Note that the receiver does not may release the To-Be-Sent-Queue	
If a stopstate occurred prior to receiving the job header record, the message reads that receiver for node nnn aborted.				under any circumstance. 7A If a process buffer is still cutstanding, it must be returned to the free queue by	\$BUP
2 JOB cleanup is required when the queue record has not yet been released.				using: ipu\$buf mode=in,type=free	
Cleanup is performed by using queue management to delete and free the current queue set from the Queue file.		İ	\$PQS	7B The receiver transfers the buffers from the received queue to the free queue by using:	SBUP
Storage cleanup requires a release of the queue record and logical buffer space.			SRLW	ipw\$buf mode=in,type=get,wait=no ipw\$buf mode=in,type=free	
3 Test if DSCB chain has been dechained by JOB Trailer processing routine.				7C When the free buffer pool is not empty the buffer pool will be released using:	\$ BUP
When the DSCB chain has not been dechained, the associated queue set must be deleted from the queue				ipu\$buf mode=in,type=release 8 Write account record to the	\$RDC SPAR
file. For the active DSCB entry this action must be done conditionally. The queue file cleanup may have been done by the POWER termination routine.				8 Write account record to the account file to indicate that abnormal termination of the current job or output entry has occured.	
3B Queue cleanup is performed using the POPER queue management to delete and free the queue set from the queue file.		· •	\$PQS	9 If a primary ABORT (i.e. this ABORT is no acknowledgement) has been received, it has to be acknowledged by a receiver cancel record.	



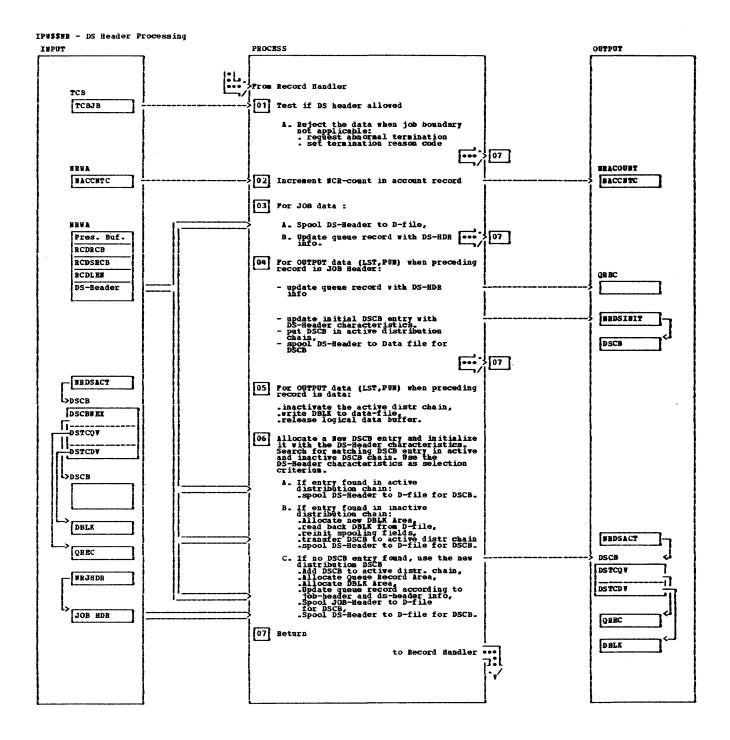
	NOTES	HODULE	LABEL	REP		NOTES	I MODULE	LABEL	REP
1	The data type is tested in the SRCB of current record. Pollowing records are candidate for user exit presentation:		USRRIT		4	deletion is not allowed for: - job-header - data set header - job-trailer			
	- job header record - data set header record		ļ		5	insertion is not allowed when: - job-header is processed.			
	- job trailer record - jec! statement of job input file transfer from jes starting with:					The Receiver allocates a temporary data buffer in which the inserted user record is converted into internal format.		CHVTURCD	\$G V S
	c'//' , or	!	1			The inserted record will be spooled as a data record.	}	}	
	Color or				6	The user is allowed to flush the current input Job or output data set.			j
	Other type of input records and all output records are not passed to the user exit routine.				7	Record modification is only allowed for a JOB header, Data set Reader or JOb Trailer.			
2	Entry registers for user exit: - R0: record address - R1: record length - R14: return address - R15: entry point user exit - R2: byte 0 -1 x 00001	IPW\$\$UB				The Receiver allocates a temporary data buffer in which the modified record is converted into internal format.		CHALABCD	\$GVS
	return registers: - R0: record address - R1: record length - R15: return code								

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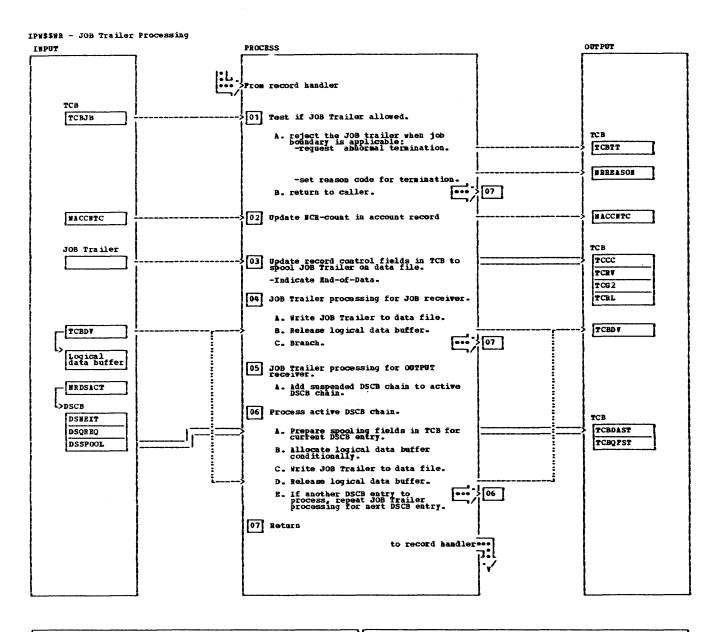
IPW\$\$NR - JOB Header Processing

NOTES	MODULE LABEL	REP	BOTES	HODULE	LABEL	REP
1 The JOB header precludes job data to be coming. The receiver must guarentee that it has reached job boundary state during preceding data transmission within the data stream currently handled. The JOB state is maintained in "TCJB": job active state job inactive state 2 Virtual storage must be reserved to keep a copy of the JOB header in storage. The JOB header is copied from the presentation buffer into the JOB header storage The address of this area is put in the receiver workarea MRNHPTh because the JOB header is held in storage until a JOB trailer record is received. 3 The reserve queue function is used to obtain queue record and the 1st trackgroup. The reserve queue function is used to obtain real reserve queue function is used to obtain the list trackgroup. The reserve queue function is used to obtain real storage for the liquodat active function at the view of	JOSHDE JOSHDE ALLOC	\$RSV \$RQS	31 IF allocation unsuccessfull due to lack on resources and external stop, terminate the processor. 3B The 1st g-record is initialized with Powes defaults and with information derived from the JOB header record. 3C Reserve the disk management block DMB and obtain the current job number from the master record. The job number in the master record is updated. The number is reset to one in case the current job number is the maximum job number supported (32767). Belease the disk management block after the master record has been updated. 4 The account record is initialised with: .system date, time .jobname, jobnumber .originator, destination node name .originator, destination user name .priority, class .lob type (job,output) .original job number 6 The command code for JOB header record, the record length and the		INITQRBC	
The buffer control words in the TCB are initialized with: - real and virtual address of the logical data area indication for empty data			record, the record length and the address of the JOB header to be spooled are put into the TCB record control area. The data management function *Put		SPOOLJER	SPOR
block. The DSCB is used to provide spooling information applicable for the data set defined by a DS-hoader.		\$RSV	Data Record' is invoked to spool the JOB header on intermediate storage device.			

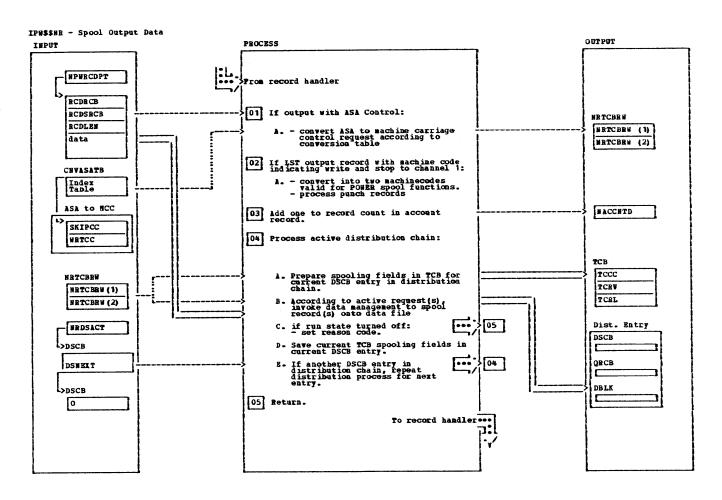


IPW\$\$NR - DS Header Processing

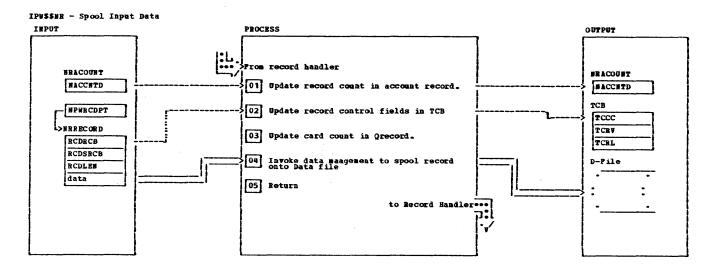
	HODULE	LABEL	REP	NOTES MODULE LABEL	REP
A DS-Header contains information for routing control and specifies data set characteristics for the data records which follow the DS-Header(s).		DSHDR		3 For JOB input all DS-headers are spooled for same queue set. Hultiple destination is not applicable for job input.	\$PDR
The Routing info indicates if the data following has local or external destination.	-			Sample for job input: JOB-Header	
For sysout data the characteristics define the output attributes necessary to print or punch the data.				DS-Hdr (optional) data records sysin mode	
When receiving output data it may be possible to receive multiple data sets which have to be split into different VSE/POWER queue sets. It may also be possible that a data set must be distributed towards various destinations. VSE/POWER splits the data stream in multiple queue sets for the data set to be distributed.	·	man epinama adalam and and and and and and and and and and		DS-Hdr (diskette) data records 3540 data mode ds-hdr (cards) data records sysin mode JOB-Trailer For DS-Header containing a general change section the maximum record length must be updated in the Queue record only in case the new record length increases.	
Because of the possibility to create multiple queue sets the receiver maintains two DSCB chains: Active DSCB distribution chain: Bach DSCB contains all required spooling info for queue file and data file Suspended DSCB chain: Contains				For DS-Header containing a VSE/POURE section, which specifies transfer of 3540 data mode records, the 3540 device type code must be copied into the queue record and the general purpose byte must be set accordingly for power spooling purposes	
Suspended DSCB chain: Contains the dscb's which define the queue sets for which data spooling temporarily has been suspended. The receipt of a data set header				For DS-Header specifying 3540 data mode records the general purpose byte must be set accordingly for VSE/POWER spooling purposes 6 In case the receiver processes OUTPOT data, containing multiple data set headers the data set	
Generation of the first active DSCB entry, when the first DSCB entry, when the first DSCB entry when the first DSCB entry is the first DSCB entry is the first DSCB entry is the first DSCB entry In the active is tribution chain, becomes applicable istribution DBCCB entry DBCCB entry In the active distribution chain, whenever a new data set must be generated. The data set header Characteristics are tested and Compared with the queue record characteristics of the existing queue sets.				characteristics are tested to determine if the data following requires spooling for a new queue set. Following critical attributes are compared with the critical attributes from general section: - target concern di, - disposition, - forms-id - output class, - copy count, - output (LST,PUN).	
Suspension of the active distribution entries whenever the first DS-Header has been encountered following a preceding				Critical attributes from VSE/POWER section: - priority, - disposition, - compaction table name.	
data recorn. Resumption of a suspended DSCB entry, whenever the DS-Header precludes a data set which can be combinated with an already existing queue set.				Critical attributes from 3800 section: - 3800 printer setup info as - (flash id, copy group, acde identification)-	
WOTE: Process of DS-Header record is split into following subroutines.				The record control fields of the TCB (TCCC, TCRV, TCRL) are updated for spooling purposes.	
				The data management is invoked via Put-Data-Function to spool the DS Header outo the D-file.	\$ PDR
For JOB input: . DSHINPUT: for any DS-Header received.				The Q-record is updated according to Job-Reader and DS-header info.	
Por JOB output: DSHPIRST: first DS-Header Freeived. DSHDATA: first DS-Header Freeived after data. DSCBSCAM: scan for equivalent DSCB entry. DSCBMEW: allocate new DSCB				In case a data set has been preceded with maltiple DS-Headers, defining various Target bs-Headers, bestimations, the Receipt generates separate DSCB entries in the active distribution chain for each target destimation.	
DSCBNEW: allocate new DSCB entry. DSCBACT: allocate to active DSCB entry. DSCBSUSP: allocate to suspended DSCB entry.				A DSCB entry contains the Queue SUSPSCAN Set characteristics obtained from the DS-Header and contained allow specifies and Queue File info to allow specifing for the queue set.	
-]		Bach target destination results in spooling for a new Queue Set.	



NOTES	BODULE	LABEL	RBP		NOTES	HODULE	LABEL	REP
The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active	-	JOBTRL		6A	The actual data file control words and queue file control words are copied from the current DSCB entry to prepare			
TCB are updated to spool the JOB Trailer record onto the D-file. The ROD Flag in the General				6B	Allocation for a new logical data buffer is necessary when		ALLOC	
The data management function put-data-record is invoked.			\$RLW		been released previously. This is applicable for the DSCB entries currently transferred from the suspended DSCB queue.			
The logical data buffer is released for the current queue set.				6C	The data management function put-data-record is invoked.			RLW
Whenever a transmitting system has submitted multiple data sets within one output stream, the receiver may have queued DSCB entries temporarily into the DSCB suspend queue.		ACTSUSP		6D	The current logical data buffer is released. The TCB data file control words are saved into the current active DSCB entry.			
	The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active The record control fields in the TCB are updated to spool the JOB Trailer record onto the D-file. The BOD Flag in the General Purpose Byte of the TCB is set. The data management function put-data-record is invoked. The logical data buffer is released for the current queue set. Whenever a transmitting system has submitted multiple data sets within one output stream, the receiver may have queued DSCB entries temporarily into the DSCB	The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active The record control fields in the TCB are updated to spool the JOB Trailer record onto the D-file. The BOD Flag in the General Purpose Byte of the TCB is set. The data management function put-data-record is invoked. The logical data buffer is released for the current queue set. Whenever a transmitting system has submitted multiple data sets within one output stream, the receiver may have queued DSCB entries temporarily into the DSCB	The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active The record control fields in the TCB are updated to spool the JOB Trailer record onto the D-file. The BOD Flag in the General Purpose Byte of the TCB is set. The data management function put-data-record is invoked. The logical data buffer is released for the current queue set. Whenever a transmitting system has submitted multiple data sets within one output stream, the receiver may have queued DSCB entries temporarily into the DSCB	The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active The record control fields in the TCB are updated to spool the JOB Trailer record onto the D-file. The BOD Flag in the General Purpose Byte of the TCB is set. The data management function put-data-record is invoked. The logical data buffer is released for the current queue set. Whenever a transmitting system has submitted multiple data sets within one output stream, the receiver may have queued DSCB entries temporarily into the DSCB entries temporarily into the DSCB	The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active The record control fields in the TCB are updated to spool the JOB Trailer record onto the D-file. The BOD Flag in the General Purpose Byte of the TCB is set. The data management function put-data-record is invoked. The logical data buffer is released for the current queue set. Whenever a transmitting system has submitted multiple data sets within one output stream, the receiver may have queued DSCB entries temporarily into the DSCB	The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active The record control fields in the TCB are updated to spool the JOB Trailer record onto the D-file. The BOD Flag in the General Purpose Byte of the TCB is set. The data management function put-data-record is invoked. The logical data buffer is set is applicable for the DCB troater when the logical data buffer has been released previously. This is applicable for the DCC mentage of the TCB is set. The logical data buffer is set is applicable for the DCC mentage of the TCB that management function put-data-record is invoked. The logical data buffer has been released previously. This is applicable for the DCC mentage of the TCB that management function put-data-record is invoked. Whenever a transmitting system has submitted multiple data sets within one output stream, the receiver may have gueued DSCB entry.	The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active The record control fields in the TCB are updated to spool the JOB Trailer record onto the D-file. The BOD Flag in the General Purpose Byte of the TCB is set. The data management function put-data-record is invoked. The logical data buffer is released for the USCB purpose of the TCB is set. The logical data buffer is necessary when the logical data buffer has been released previously. This is applicable for the DSCB entries currently transferred from the suspended DSCB queue. The logical data buffer is from the SSCB queue. The logical data buffer is from the SSCB queue. Strike is applicable for the DSCB queue. The data management function put-data-record is invoked. Whenever a transmitting system has subhitted multiple data sets within one output stream, the receiver may have queued DSCB entry.	The JOB Trailer is out of sequence when the TCBJB field indicates that no job is active The record control fields in the TCB are updated to spool the JOB Trailer record onto the D-file. The BOD Flag in the General Purpose Byte of the TCB is set. The data management function put-data-record is invoked. The logical data buffer is released for the DSCB put-data sets within one output stream, the within one output stream, the within one output stream, the within one output stream, the creciver may have queued DSCB entry to prepare spooling to current queue set. 6B Allocation for a new logical data buffer is necessary when the logical data buffer has been released previously. This is applicable for the DSCB entry is applicable for the DSCB entry is released. 6C The data management function put-data-record is invoked. 6D The current logical data buffer is released. The TCB data file control words are copied from the current active DSCB entry.

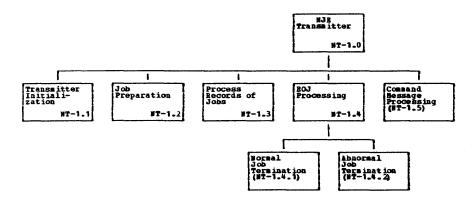


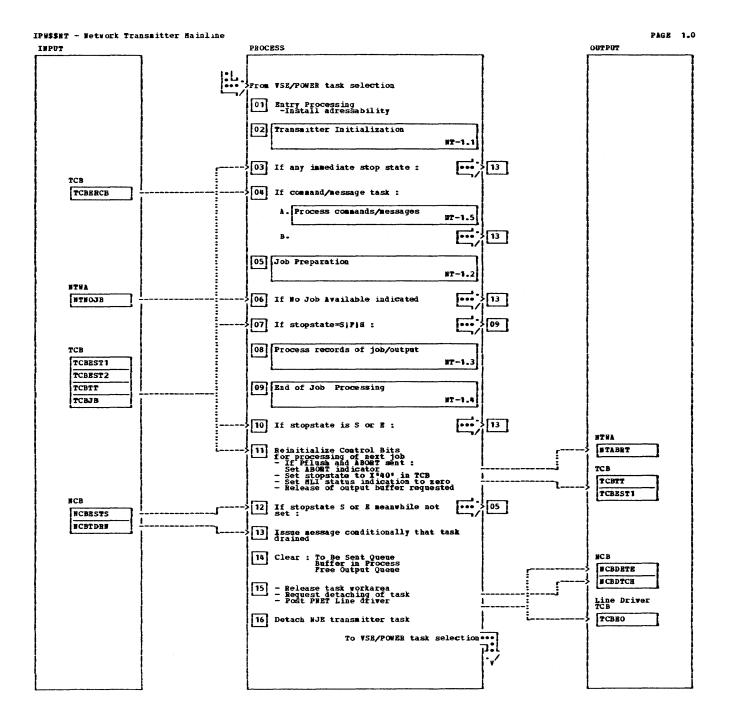
	NOTES	MODULE	LABEL	BBP	HOTES	RODULE	LABEL	REP
1	ASA carriage control characters will be converted to machine command codes. Two spooling requests are prepared for LST records to satisfy correct spooling (refer to ASA conversion table). An ASA character for punch cards is converted to the punch command write-feet-select stacker.		OUTRCD		The distribution chain comtains at least one dscb entry. 4A The actual spooling fields are copied from the DSCB into the TCB (data file control words and queue file control words). 4B Process the spool request(s) prepared in the spool request words contained in the receiver worksrea.			\$ PDR
2	The machine carriage control request, indicating write and skip to channel 1 (X'89) may be received from other MJE systems. Because YSE/POWER internal printer restart logic does not support this specific command code, the receiver must generate two spool requests: . first request: write without spacing second request: skip to channel 1.			\$PDR	The page count maintained in the queue record is updated whenever the current command code indicates page movement. [skip to channel to the POWER internal new page command code). The line/card count maintained in the queue record is updated whenever the current command code indictes line/card movement. Data management is invoked to			
4	The output request(s) are prepared in the receiver request words contained in the receiver workarea (MRTCBRW). The output request have to be spooled for the queue sets which are addressed by the DSCB's contained in the active DSCB chain.				spool the current data record onto the VSE/POWER data file. 4C The reason code indicates that the receiver has been terminated during spooling time due to an external termination condition. 4D The TCB data file control words			
***************************************	Multiple entries in the active DSCB chain are applicable whenever the receiver obtains multiple DS-Headers indicating multiple data distribution through the network. Because MSB/POBEM data anangement does not support an experience of the state of the second of the sec				and the TCB queue file control words are saved in the current active DSCB entry to allow spooling for other active queue Sat. The DSCB next pointer indicates if the distribution process must be repeated.			
	A DSCB entry contains all required spool control information and points to a specific queue record and DBLK buffer.							



NOTES	I HODU	LB	1	LABEL	- 1	R	EF	Π		DOTES	ī	MODULE	ī	LABEL	ı	REF
The routine handles spooling for JOB data Records. The JOB data records are spooled into one queue set.			I	NPRCD					4	The TCB record word is initialised with the length and the address of the JOB input record. The data Record is written onto the VSE/POWER data file using the data management function.					-	PDR

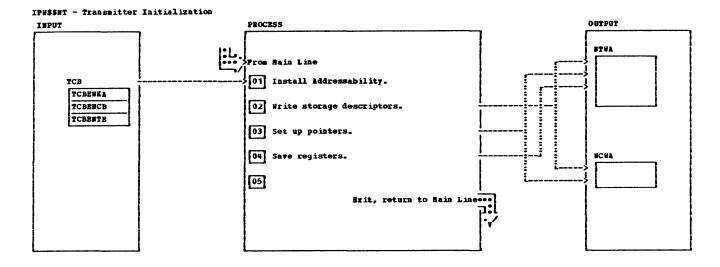
CHART NT: IPW\$\$NT - PNET TRANSMITTER



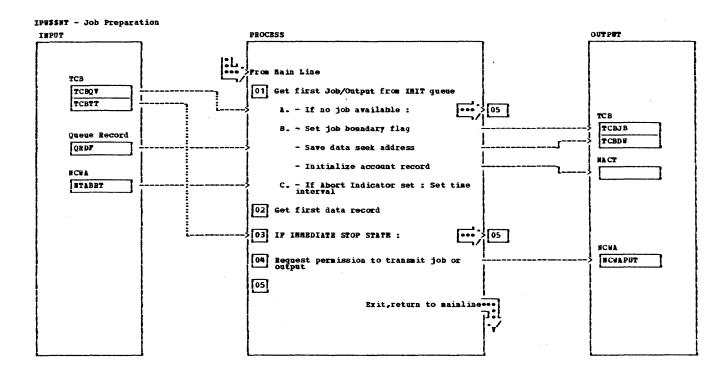


IPW\$\$NT - Network Transmitter Mainline

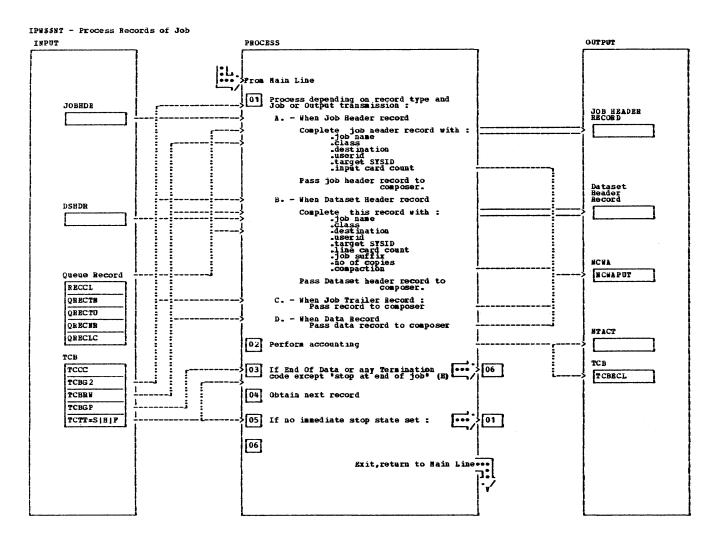
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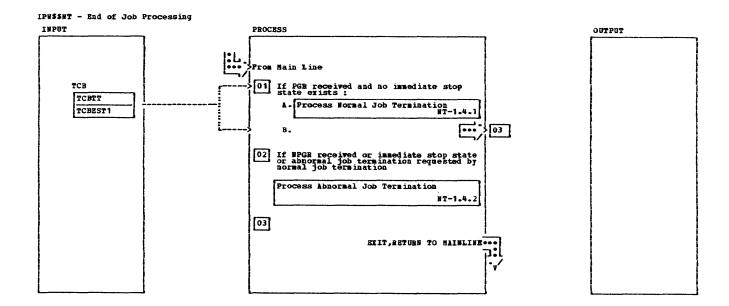
HOTES	HODULE LABEL	REP	BOTES	HODULE	LABEL	REP
1 The transmitter work area, the wode Control Block (MCB) and the Wode Control Block Task Entry (MCBLE) are made addressable. 2 The storage descriptors for the transmitter work area (MTWA) and composer work area are written.			3 The address of benormal Termination is written into PMCRERET for use by IPMS\$TE. Pointers are set up for : Composer Fork Area Composer Fork Area Composer Segment Area + length Compression Output Area + length 4 To ensure proper registers on return from IPM\$TE, if entered, all registers are saved.			SSAV



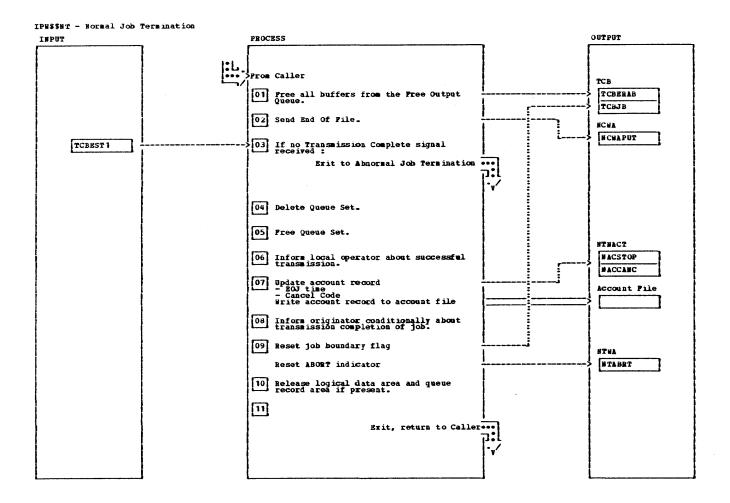
NOTES	MODULE LABEL	RBP	BOTES	HODGLE	LABEL	REP
1 To start processing of a new job/output a new queue record is obtained (the Get Nert Queue Set function is called to obtain the job/output eligible for transmission.) . If no job is eligible for transmission the address of the queue record is zero. The job boundary flag is set. The seek address of the first data block associated with the queue record is stored in the TCB. 1B The job boundary flag is set. The account record (AACT) in the transmitter workerea is initialized with transmission related information from the queue record and with appropriate additional data. 1C The abort indicator indicates that the preceding job has aborted. In this case a timer interval is set up which is long enough that the corresponding receiver in the receiving node can complete its termination before the next Request to Initiate a Function arrives in the receiving node. Note that for each job/output a new receiver is created.	ACTIMIT	\$GQS	2 First data record is always a Job Header Becord. The first data record is obtained, which implies that a data buffer is made available by data management. 3 This test for immediate stop code is made because during Queue management activities an I/O error might have happened which starts the routine IPW\$\$TR and which returns to the next instruction after the \$GDR macro with S stop state indication. 4 The composer is called to generate and send a RIF to the addressed having received a response *IPGR* or *RPGR* from the receiving node the task is posted by the line driver and the composer returns to the transmitter. After having received a Permission Granted (PFGR) or Permission Mot Granted (PFGR) the composer returns to the transmitter. 5 Exit to mainline is taken.			\$GDR



NOTES	MODULE LABEL	i rep	NOTES	I MODULE	LABBL	REF
The command op-code associated to the data record is examined if it is a network record (e-g. job header ,job trailer or data set header record). (Wetwork records have a dummy op-code of I'FP'). The Job Header is updated with info from the queue record. Info from the queue record. Info (NCR in the grave record of the composer of the control record) NCR is coded for Job Header record, Dataset Header Record and Job Trailer record.	MTPRCJ.	POT	3 If a stopstate S or H or F or a Beceiver Cancel condition is recognized record processing is stopped in Order to terminate if End of Data is indicated by TCBGP all records of the job have been sent including the job trailer record, erit is taken. 4 The next record is requested from the data file.			\$ GDR
1D A PHT RTYPE (DATA) macro is issued.		PUT				
2 The count for control records resp. data records (in case of job transmitter) is incremented by one. In case of output transmitter the data record count is only incremented in case of line print/card move thus eliminating additional control records (eg. skip etc.). The current data record count is moved into the field TCBECL for easier reference by different VSE/POWER-PNET modules.						

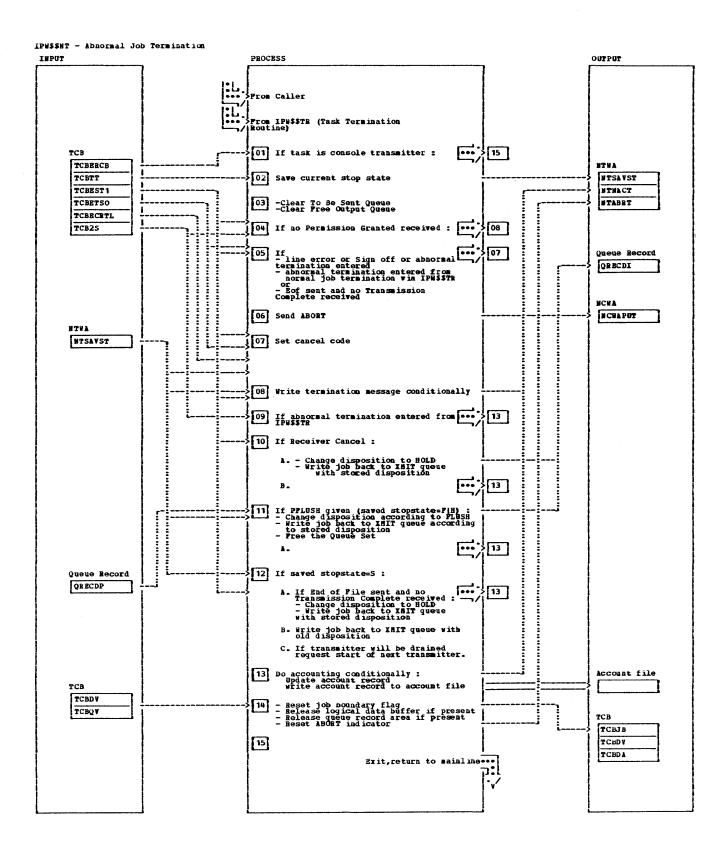


NOTES	MODULE LABEL	REF	NOTES	HODULE	LABEL	REP
Since a job is defined to be the HLI unit of transmission End of Job Processing completes the HLI processing completes the HLI processing completes the HLI processing completes the HLI processing completes the HLI processing completes the HLI processing completes the HLI processing completes the HLI processing the H	EOJ		1 Mornal job termination is performed when a PEGR IS received and there is no immediate stop state (PGR-GA-FA-Wi). 2 If a MFGR has been received or an immediate stopstate S,H,F exists, abnormal job termination is started. If due to an error situation during normal end of job processing abnormal job termination must be started, this is done wim label MTEOJ1.		ABTRH	



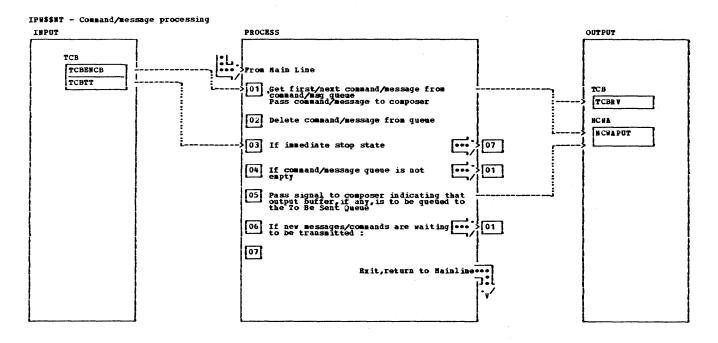
	NOTES	BODULE	LABEL	RBP	NOTES	HODULE	LABBL	LEP
2	The Free Output Queue is cleared by \$BUP HODE-OUT TIPE-RRIGHSE to avoid an increasing storage consumption of the VSE/POWER storage pool, which might otherwise lead to a VSE/POWER quiesce due to lag of storage. The macro PUT RTYPE(BLI) BLIREQ(EOF) is issued.				5 The \$PQS macro is issued. 6 The \$PAR macro is issued. 7 Cancel codes used: 8 Ormal EOJ 100 stopstate s 1000 stopstate FH 10400 Receiver Cancel X 500			\$PQS \$PAR
3	If on return from the WAIT state as entered after EOP no XMISSION Complete signal has been received annormal job termination is started (label NTEO1). If on return from the Wait state, which follows EOP- transmission, an immediate stopstate exists, there is nothing known about the state of the corresponding receiver (TC sent, RC sent). Thus abnormal termination is requested not to send an ABORT to the receiver.				8 If the jobheader record contains a userid the message IRAOI will be sent to the originating node by issueing the \$MIT macro.The originating node can also be the own system. 9 The transmission is at job boundary. 10 The logical data area and the Queue Secord area are released.Since the account work area is part of the task work area this will be released at detach			SHTY
4	The \$DOS macro is issued to write the job back according to its old disposition. Thus in case of disposition it will be deleted and when the disp. is KEEP it will be rewritten with LBVE in case of deletion all queue records which are allocated to the processed job are deleted from the queue record chain. The queue fecord pointers in the fCB are set to zero.			\$DQS	time-			

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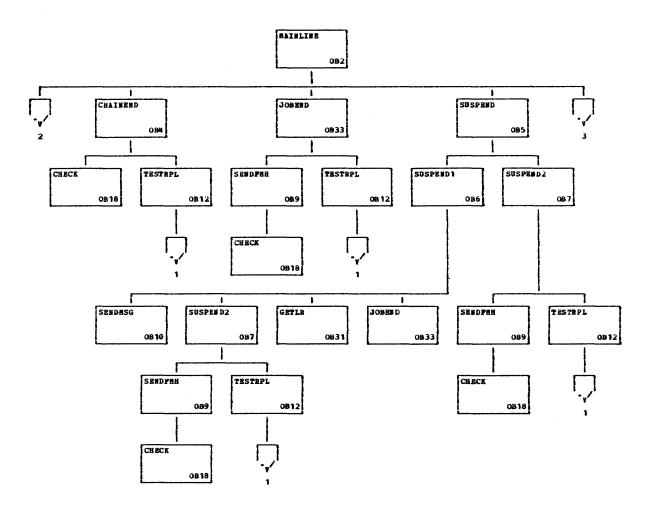
IPW\$\$MT - Abnormal Job Termination

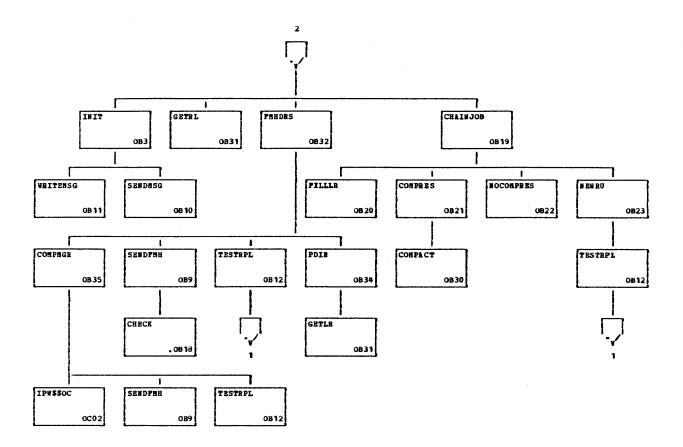
	HODULE		REF	1-		MODULE	LABEL	REP
Abreviations used: PGR = Permission Granted NPGR = Permission Not Granted		ABTRE		6	A PUT RTYPE (ABORT) macro is issued which causes the composer to generate and send an ABORT to the receiving node.			PUT
TBSQ = To Be Send Queue IMIT Queue = Transmission Queue BOF = End Of File				7	The cancel code is stored in the account record. Cancel codes used:		ABTRE7	
Any abnormal condition which is detected by VSE/POWER, results in setting a stopstate in the task TCB .This can be: -"S" for immediate stop -"F" for FLUSH job/output -"H" for FLUSH BOLD job/output -"B" for stop at end of job.					Hormal ROJ X*10* stopstate S X*30* stopstate P H X*40* Receiver Cancel X*50*.			
- "F" for FLUSH job/output - "H" for FLUSH HOLD job/output - "B" for stop at end of job.				8	An appropriate termination message is sent to the operator (message IRASI) in case that a queue set		ABTRE 11	\$GAH
The stopstate S is caused by the following events: NPGR,I/O error ,catastrophic line error , sign off, PDRAIN,immediate and PSTOP immediate.					An appropriate termination message is sent to the operator (message IMA91) in case that a quee set has been found at the set of the			
An NPGR causes in addition to setting the stopstate 5 the draining of the task.					- If Receiver Cancel that job /output transmission is cancelled by the receiving node - If compression error is indicated in TCBCRTL field, that job/output-transmission has been			
The stopstate H may also be caused by a Receiver Cancel condition. When the line driver					cancelled due to a compression error - If saved stopstate is FIH that job is flushed.			
The stopstate H may also be caused by a Receiver Cancel. Condition. When the line driver receives a Receiver Cancel from the receiving node, it indicates this condition in TCEST1 and sets the stopstate H will also be set by the stopstate H will also be set by the stopstate H will also be set by the stopstate H will also be set by the stopstate H will also be set by the stopstate H will also be set by the stopstate H will also be set by the stopstate H will also be set by the session function indicates a compressed string which is longer than a transmission buffer In parallel this Record Too large indication is indicated in the TCB field TCBCRTL.					There will always be only one termination message following this priority: Stopstate S.Receiver Cancel, Record Too Large, stopstate PIB.			
				9	If abnormal termination has been entered wis the IPWSSTR routine all WSE/PONES spooling related clean up has been already done by this routine. It must not be done once again here.			
The stop states F,H,E can be overwritten by S. The stop state S cannot be overwritten by any other stopstate overwritten by any other stopstate overwritten by any other stopstate stopstate (S,H,F) results into an ABORT transmission.Exception: If Emergency term ination (catastriphic line error or sign off) is indicated, no ABORT must be sent-the stopstates F or H abort the current job.The stop state S detaches the task.The				10	If a Receiver Cancel has been detected, the job/output must be written back with ROLD disposition (since the reason or intent of the receiving node to cancel is not known). This is performed by first changing the disposition in QRECDI to the property of the receiver of the property of			\$DQS
stop state E has the current job completed and then detaches the task. In case of stopstate F H the job/output is written back to the IMIT queue according to PFLUSH, in case of S with its Original disposition, in case of Receiver cancel and *Record Too Large indication with Hoerror IPW\$\$TR VESE/POWEE related clean up, which in this case must not be done by the abnormal termination of the transmitter.IPW\$\$TR returns to the abnormal termination routine of the transmitter.IPW\$\$TR returns to the abnormal termination routine of the transmitter.IPW\$\$TR returns to the abnormal termination routine of the trans—mitter, using the entry point address stored in PMCBERNT.				31	The disposition required by PFLUSH is stored in the queue record field QRDI.If the stopstate is F and the job has the disposition KEEP, HOLD will be put into QRDI.In case of stopstate H, a disposition of HOLD will be written into QRDI.			\$DQS
indication with HOLD- In case of an I/O error IPW\$\$TR gets control. This routine does all YSE/POWER related clean up, which in this case must not be done by the abnormal termination of the				.,	the job back according to the stored disposition. The queue set is freed.			\$ P QS
transmitter. IPWSTH returns to the abnormal termination routine of the trans- mitter, using the entry point address stored in PMCBERNT.				12	If the stopstate S occured during a WAIT for RSC event after having sent an End of File without having received a Transmission Complete or Receiver Cancel signal afterwards, it is not sure what the situation at the receiving node is I.In order to enable a retrans-mission of the job/output at a later point intime, it has to be written back to MAIT queue with HOLD disposition. If abnormal termination has been entered			\$DQS
in task is a console transmitter this abnormal termination must not be performed					afterwards, it is not sure what the situation at the receiving node is I-In order to enable a retrans-mission of the job/output			
In order to perform a proper End Of Job processing the indicated stopstate must not change during this activity-The current stopstate is saved and is the only used stopstate until the exit to mainline.					without having sent an End of File before, the job must be written back with its old disposition. The			
The TBSC will be cleared under all circumstances of abnormal termination. This is also true for cases where no output buffers of the task exist in the TBSQ.1 \$BUP HODE=OUT TIPE=PURMT macro is issued to purge all output buffers which are still in the TBSQ. Req.1 must contain the address of the				12 C	SDOS HOLD macro is issued. Since the disposition may be DELETE, its queue set must not be freed. If this transmitter is going to be drained the line driver is requested to start another not drained transmitter in order to transmit the aborted job/output			
must contain the address of the TCB. In order to avoid shortage of buffers in the PNET system the Free Output Queue is released (\$BUF HODE=OUT TYPE= RELEASE).					and the first is essential, if the receiver of a transmitter-receiver-pair is drained and the transmitter gets an NPCP. This NPCP drains			
An Abort will only be sent, if the session has been active, i.e. a Permission Granted has been received from the connected node.					the transmitter, too. But the job/output, which has aborted due to this draining, should be sent, whenever a non-drained transmitter exists.			
If a line error occurred or a sign off is indicated (TCBETSO in TCBETTC) no ABORT must be sent. The same holds for the case, that during normal job termination a disk I/O error occurred which caused \$TR to be entered. It is part of the MLI-protocol standards, that ho Abort will be sent, in case et al. A BOR was sent the control of the MLI-protocol standards, that ho Abort will be sent, in case et al. A BOR was sent afterwards a Receiver Cancel has been received (or any MLI record but Transmission Complete).				13	Accounting will be performed only if at least one data record has been transmitted. The account record in the transmitter work area is updated with EOJ time. The account record is written to the account file on disk by means of the \$PAR macro.		ABTR# 13	\$PAR
printer that housers will be sent in case that an EOF was sent to the connected node and afterwards a Receiver Cancel has been received (or any MLI record but Transmission Complete).				14	The job/output transmission is on job boundary .The job boundary flag is reset ,the logical data area and queue record areas are released. The ABORT indicator may still be			\$RLW

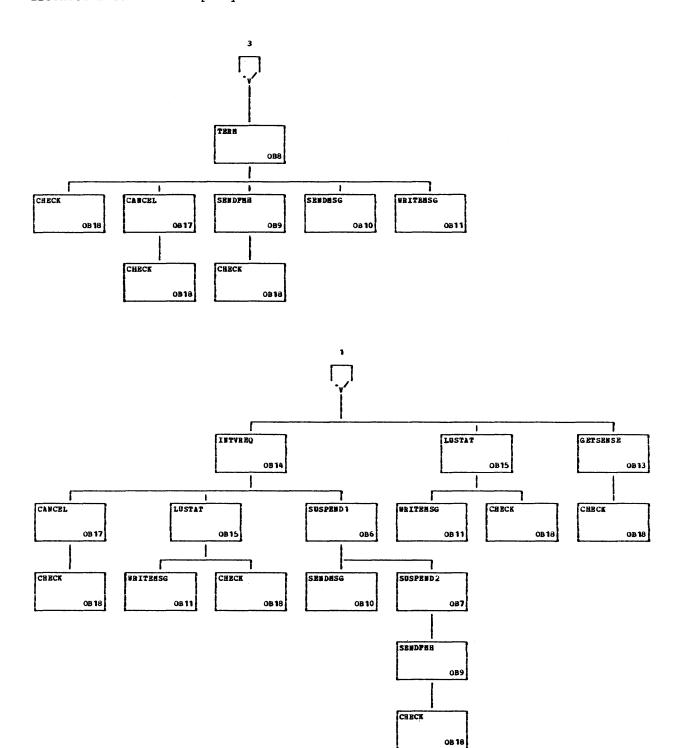


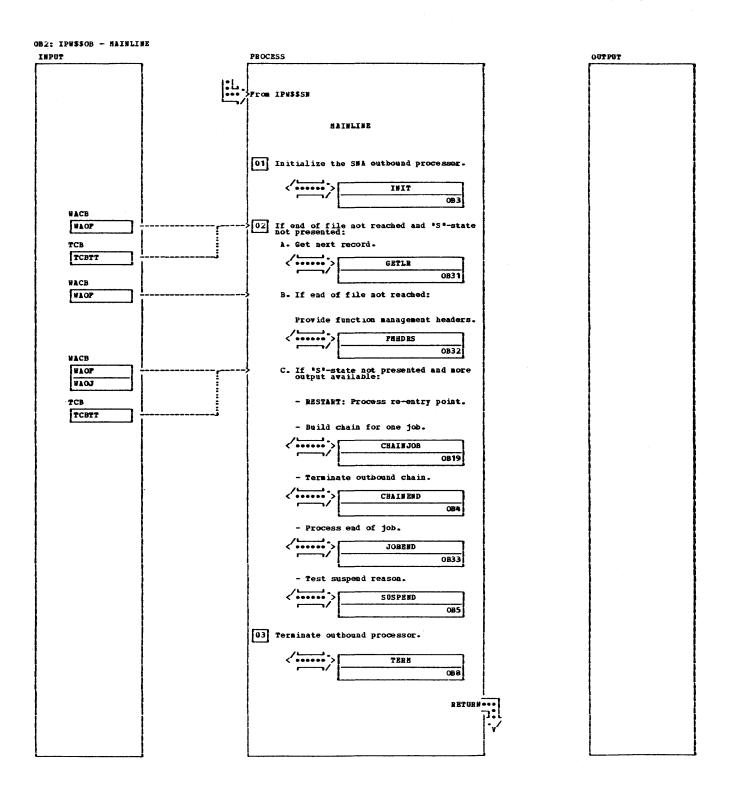
NOTES	HODULE LA	BL REF	NOTES MODULE LAN	BL REF
1 The IPUSICS REGEGET sacro is issued to obtain the first/next command/essage from the from the command/essage from the from the command/essage queue. The service returns the data address in register 1 and the length of the command/message in register 0. If the command/message queue is empty,register 1 contains zero. The command/message is passed to the composer by the PDT RTTPE(MBR) macro. 2 The IPUSICS REQEDEL is issued to delete the command/message queue and to release the virtual storage used by the Nodal Command Record.R1 addresses the nodal command to be deleted from the command/message queue.	I NER	\$ICS	3 If an immedite stopstate (S,B.F) has occurred the transmission of commands/messages is stopped and termination of message/command transmission is started. 4 If the command/message queue is not yet empty the next command/message is obtained. 5 If no more command/messages are found in the command/message queue an end of command/message signal is sent to the command/message signal is sent to the composer by PUT BTYPE(QBUF). 6 After having passed a QBUF (no more msgs/commands to be sent) on return from the Composer new messages/ commands may be waiting for transmission. A check is made again for new messages and if there are any the transmission restarted.	PUT

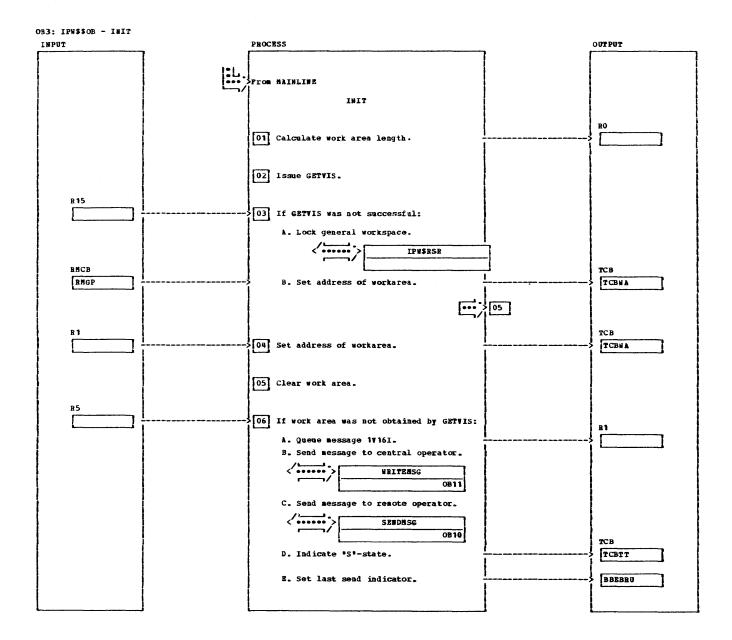
CHART OB: IPW\$\$OB - RJE, SNA OUTBOUND PROCESSOR

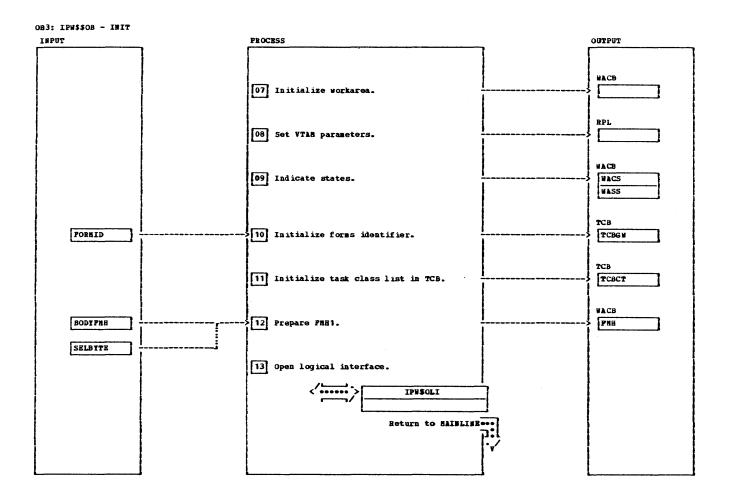


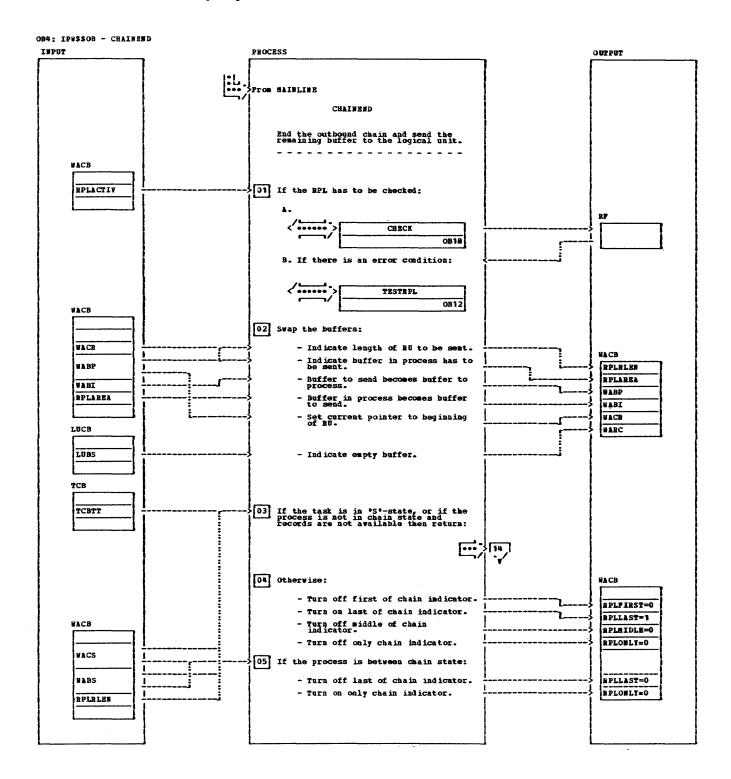


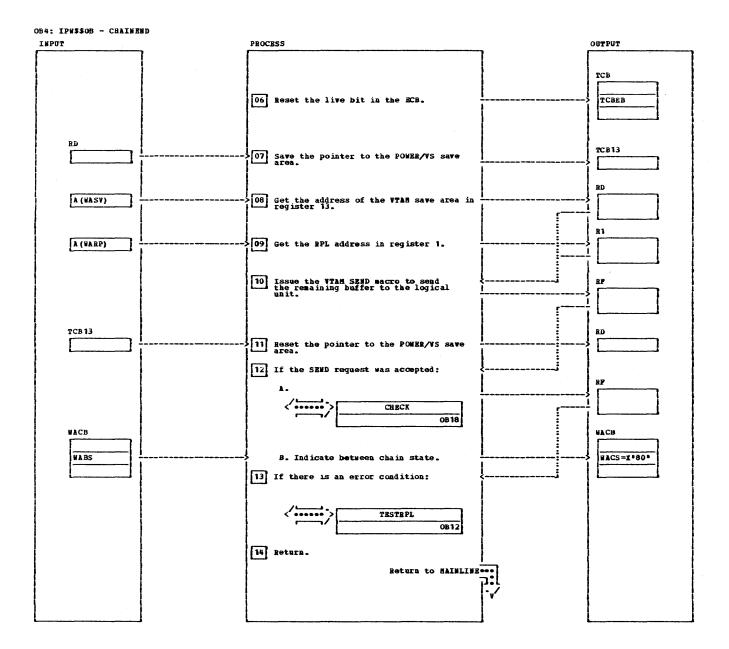


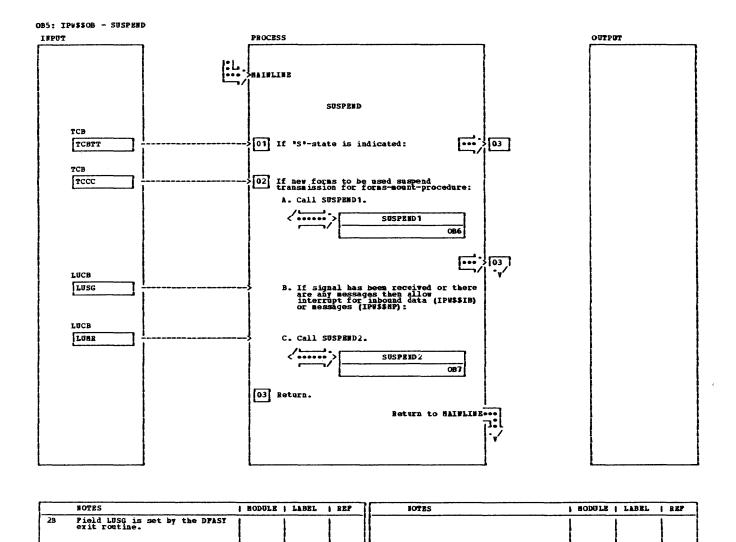


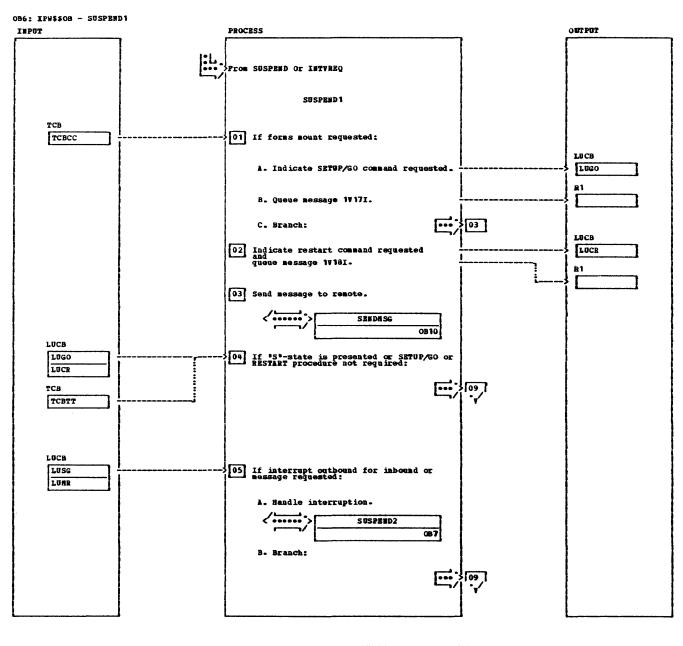




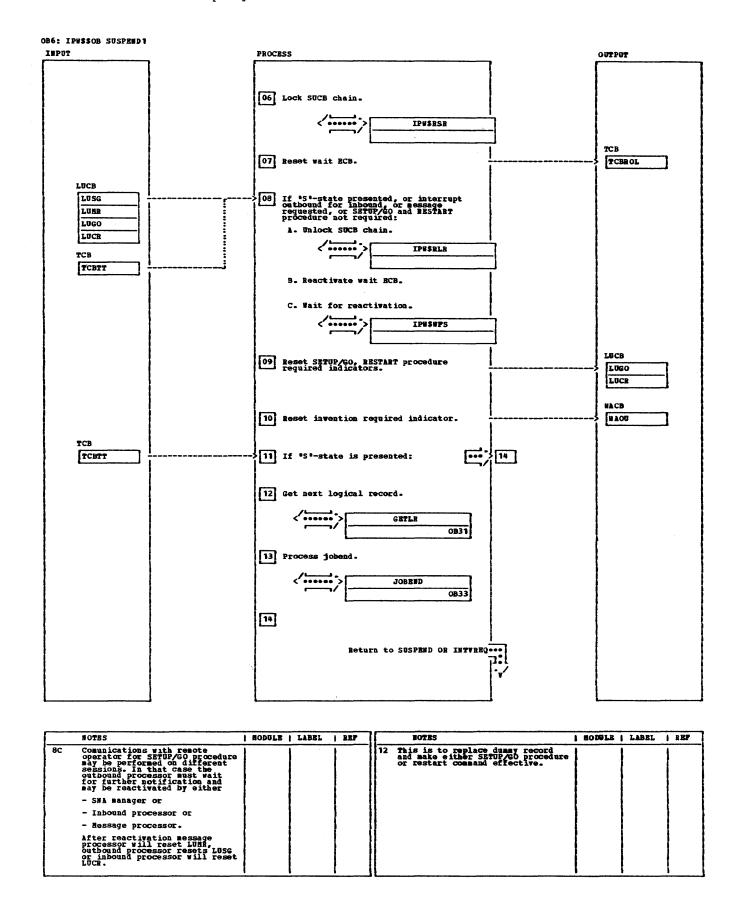


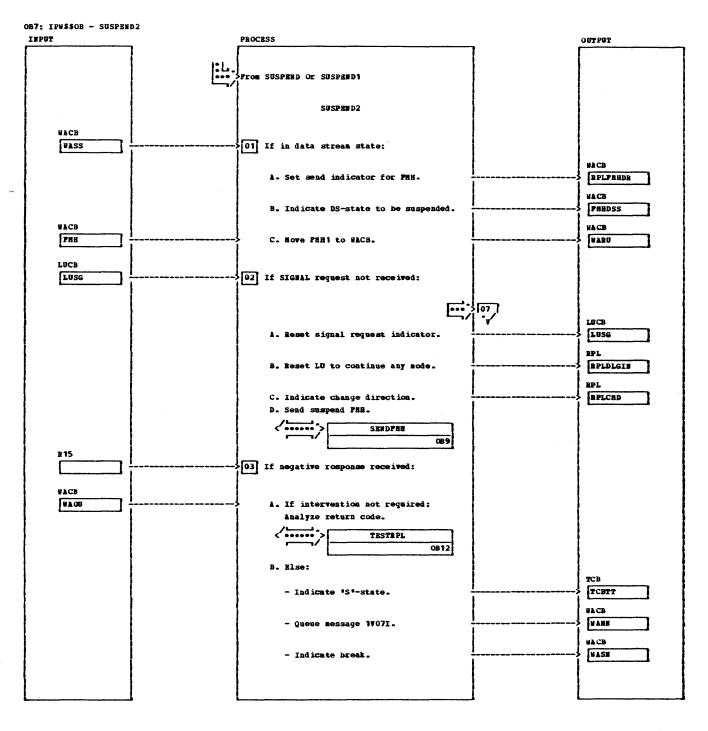




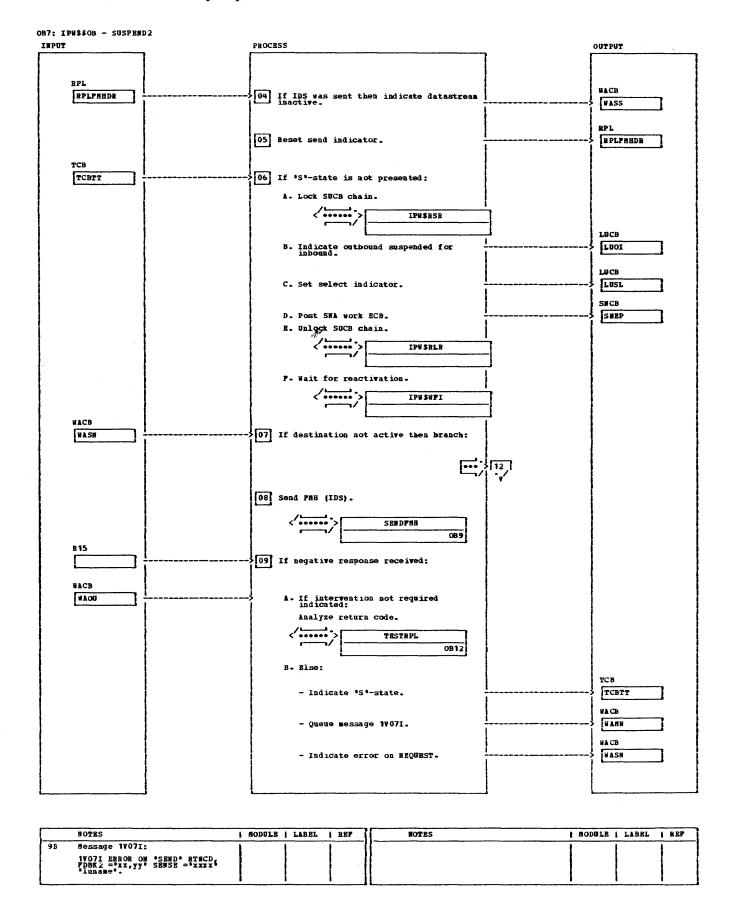


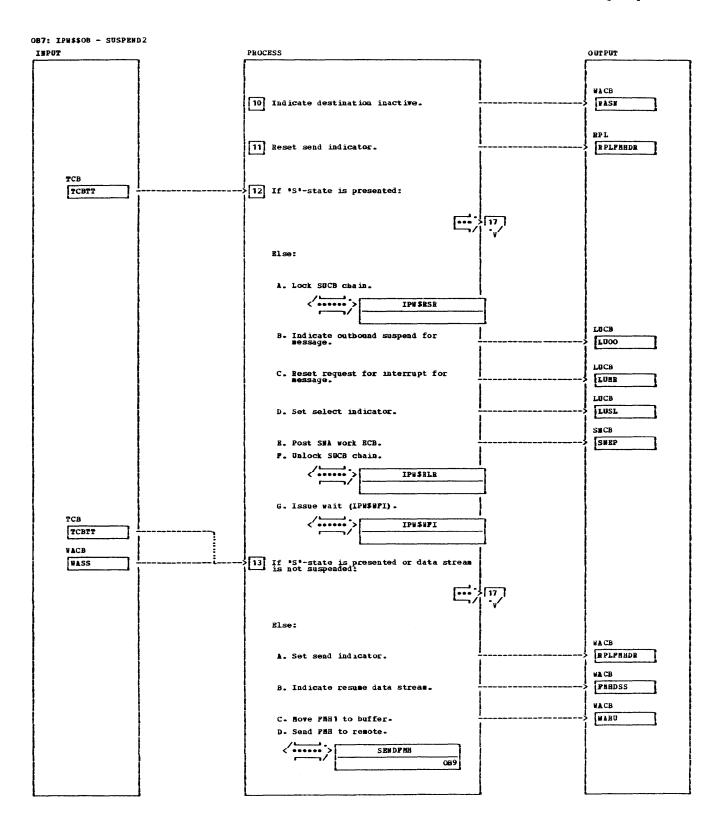
HOTES	HODULE	LABEL	REP	HOTES	HODULE	LABEL	REP
SUSPENDI may be entered because of: A. Activation of SETUP/GO procedure. B. Interrupt outbound destination for pending message(s) to be send by message processor on this session. C. Interrupt outbound destination and set secondary logical unit lead to the session. C. Interrupt outbound destination and set secondary logical unit lead to the session. Initiation of SETUP/GO procedure is signaled by the logical writer by setting the command request word to blanks, when: a. The logical writer detects a new new setting the command request word to blanks, when: b. The end of the setup stream is reached.				18 Bessage 1V171: 1V171 "TTT"SUSPENDED FOR FORMS HOUSE. 2 Bessage 1V181: 1V181 "TTT" REPLY WITH RESTART ON INTERVENTION REQUIRED. 5B SUSPEND 2 may return with TCBTT set to STOP, PLUSH, HOLD.			

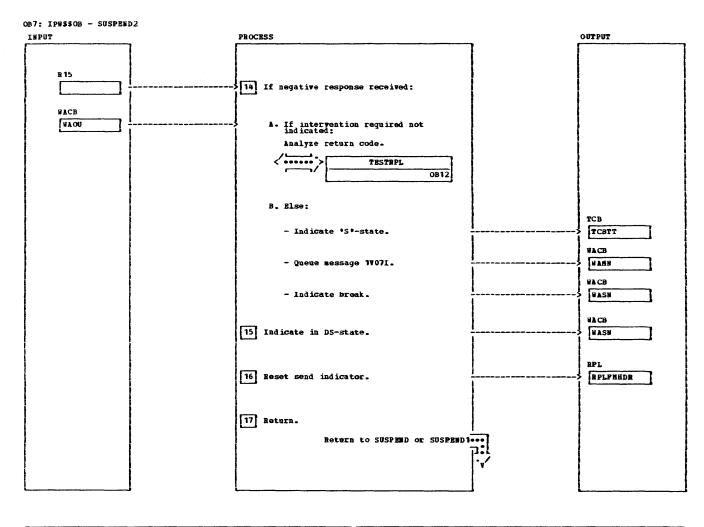




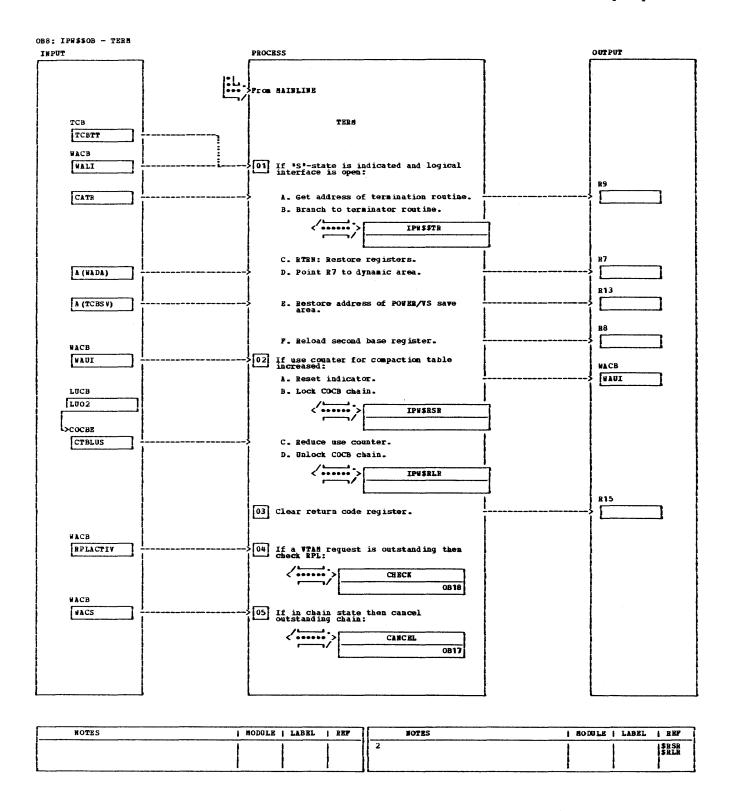
Г	HOTES	HODULE	LABEL	į Ri	EP		NOTES	1 WODULE	1	LABEL	1	REF
1	When SUSPEND2 is entered the data stream state may be	1	ł	1		3B	Hessage 1V07I:	1	ī		T	
1	-	i	1	1	i	ĭ	1VO71 ERROR ON "SEND" RINCD,	ì	ı		1	
	A. IWDS-state (interruption while processing a job).	ļ		1		1	PDBK2 = *xx, yy * SEESE = *xxxx *	1	1		1	
	B. BETDS-state (interruption between job boundaries).		I						İ		l	
	PMH1 (SDS) is only sent in case of INDS-state.					}					I	
1	PMH1 (RDS) is only sent in case of SUSPEND DS.								l		1	
		<u> </u>	<u>. </u>	<u> </u>		L	·					

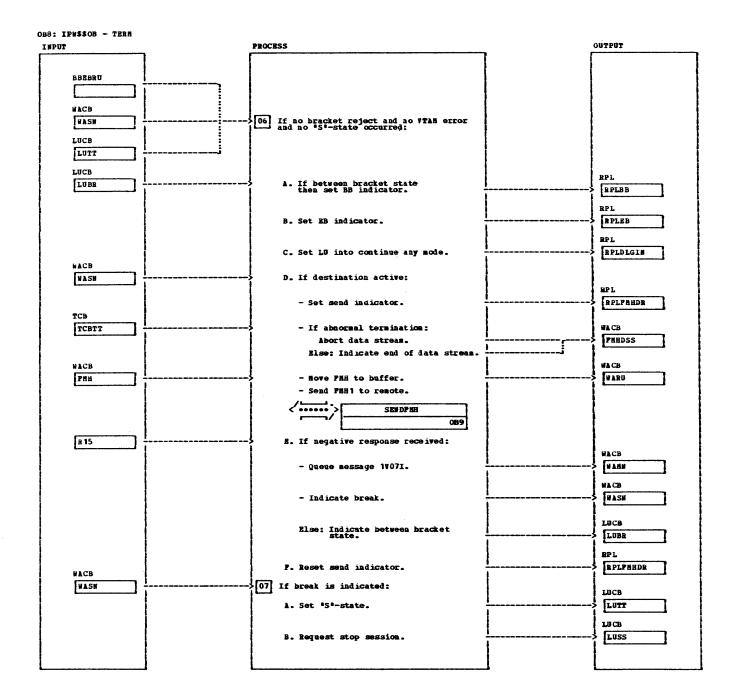


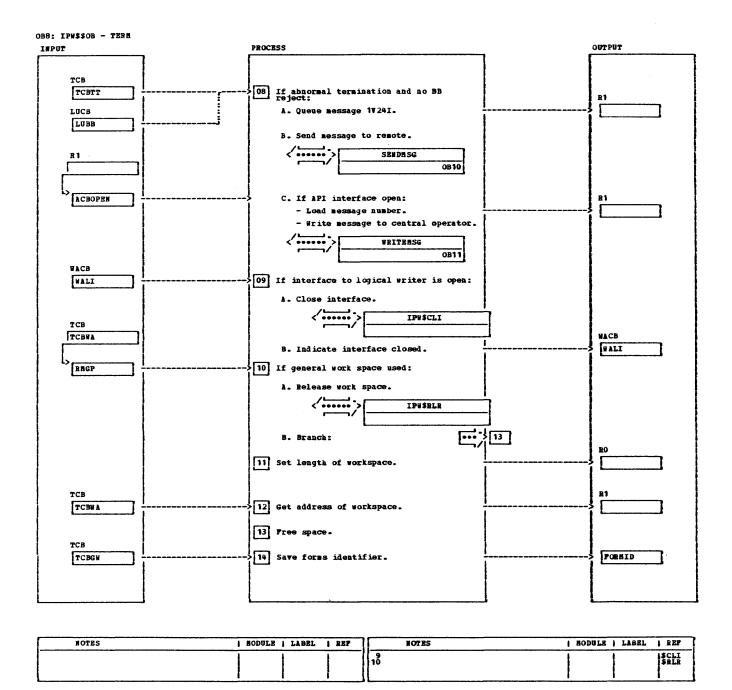


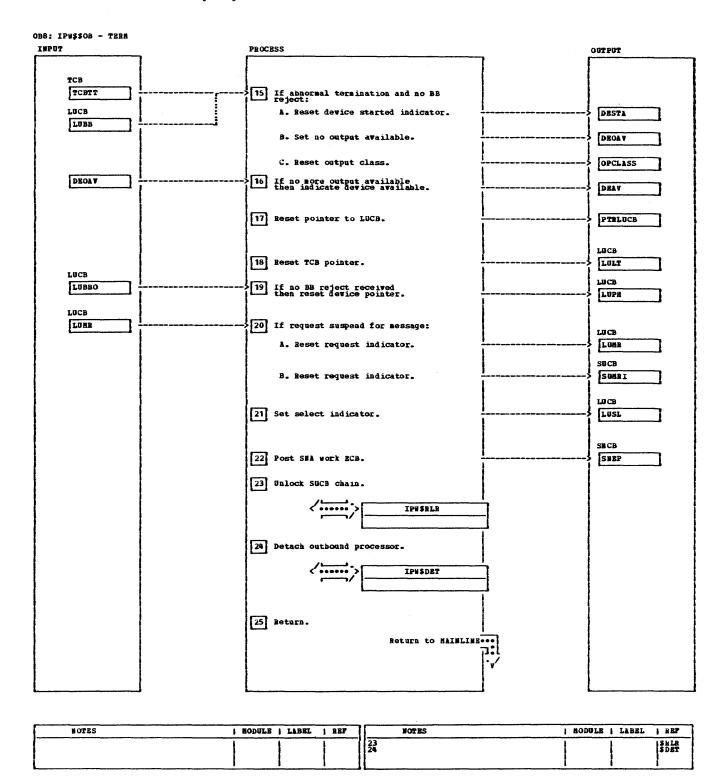


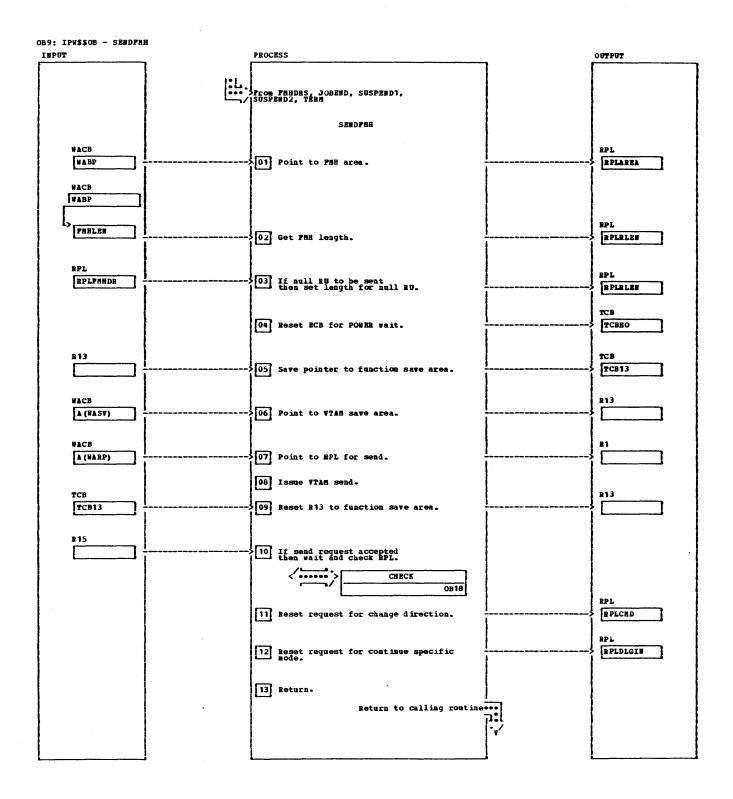
NOTE	is I	HODULE	LABEL	REF	NOTES	HODGLE	LABEL	REP
14B Hess	sage 1V07I:	1		1		1	1	1
1V07: PDBK •lun:	I ERROR ON "SEND" RINCD, 2 = "xx, yy" SENSE = "xxxx" ame".							

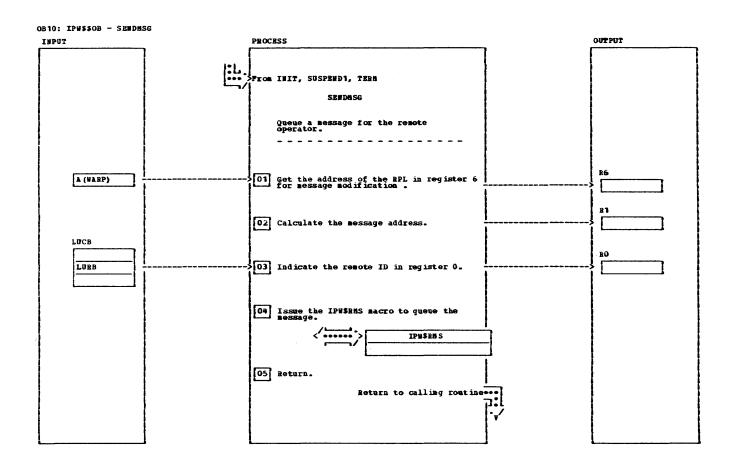




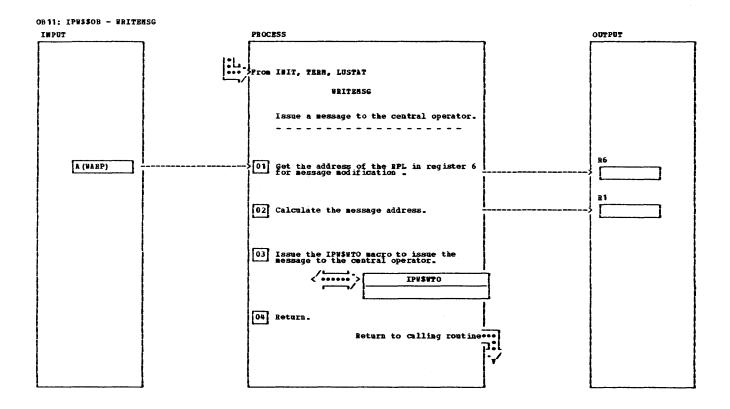


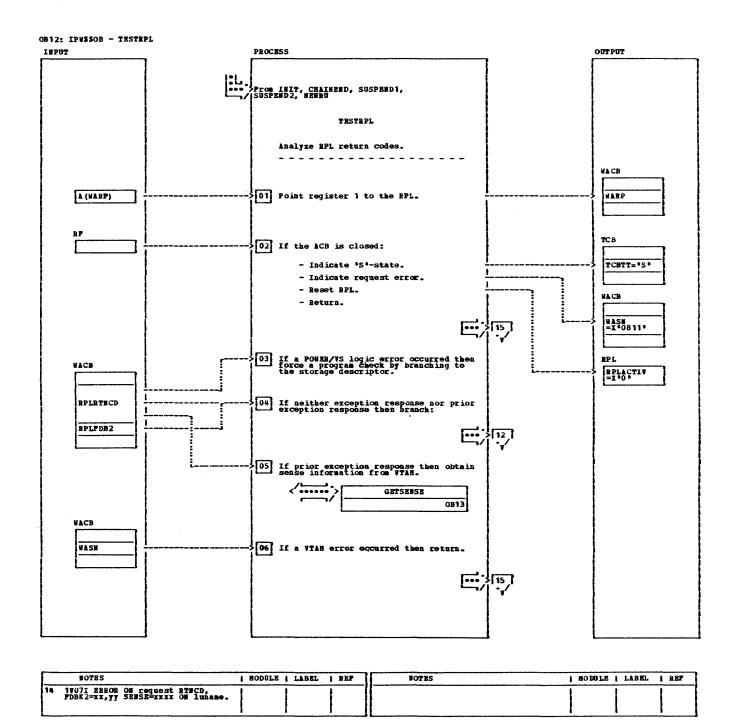


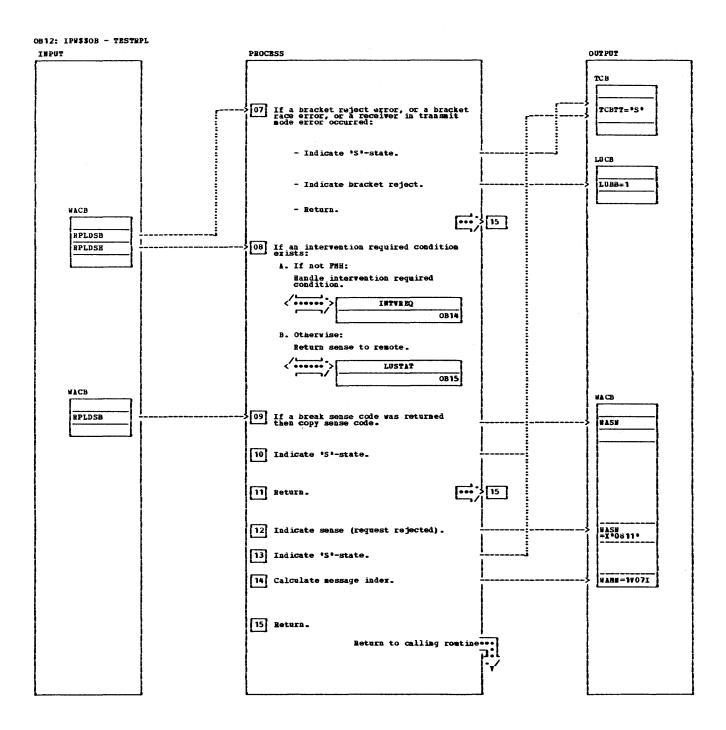


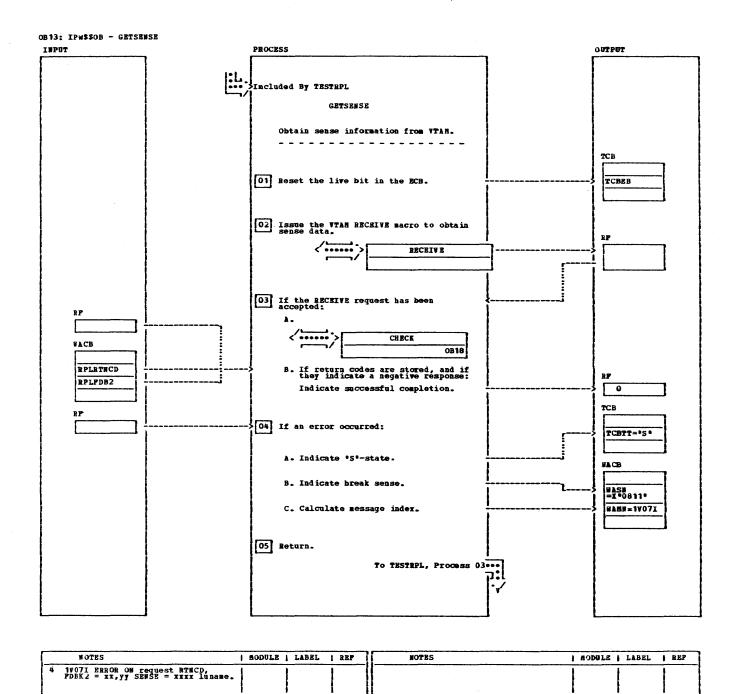


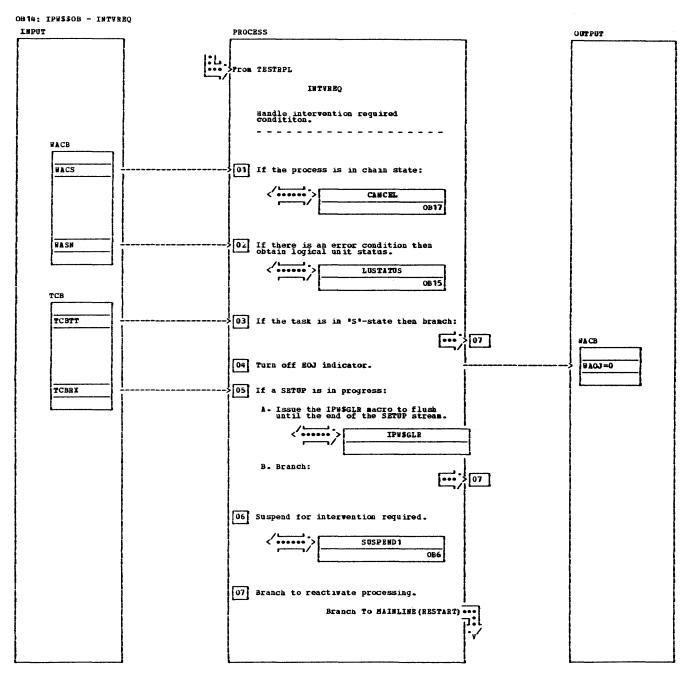
NOTES	MODULE	LABEL	REP	HOTES) HODGLI	LABEL	REP
4 The IPW\$RMS macro uses registers 0, 1, 2 and 3.			SRMS				



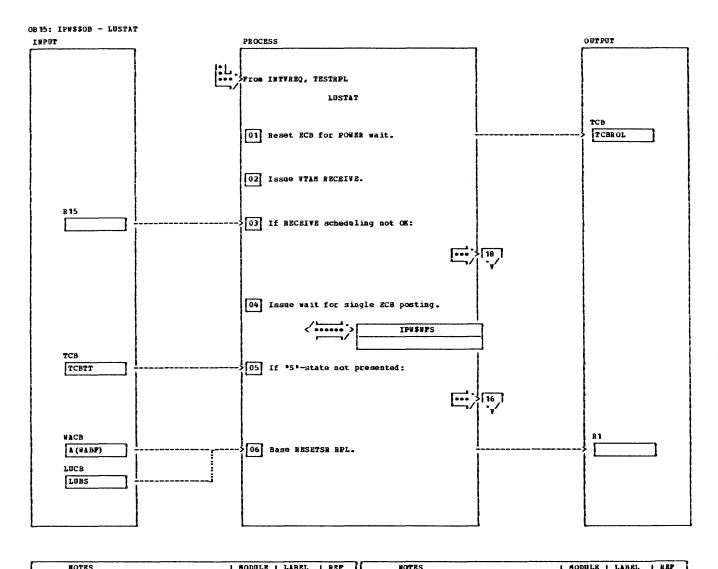




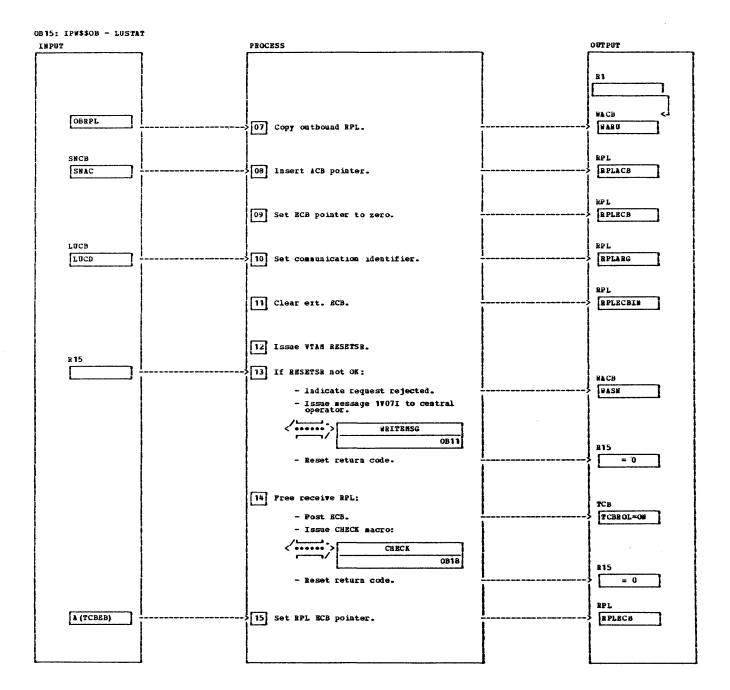


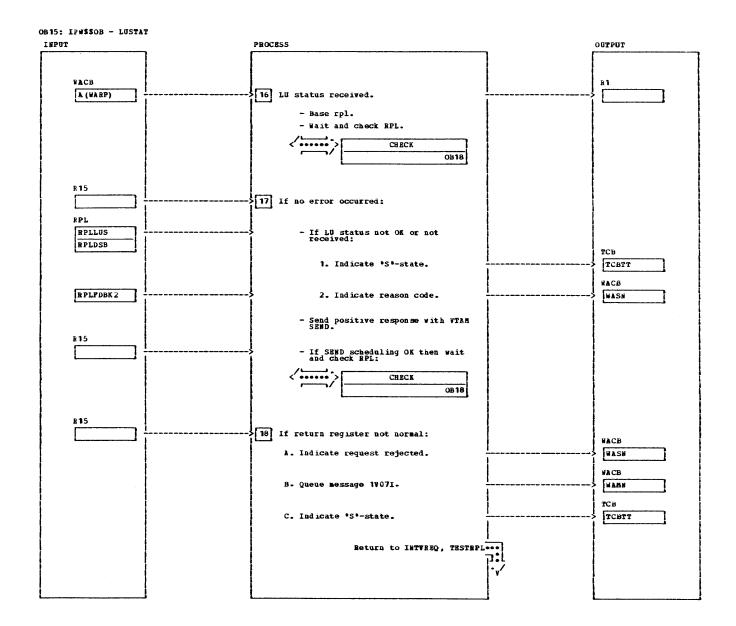


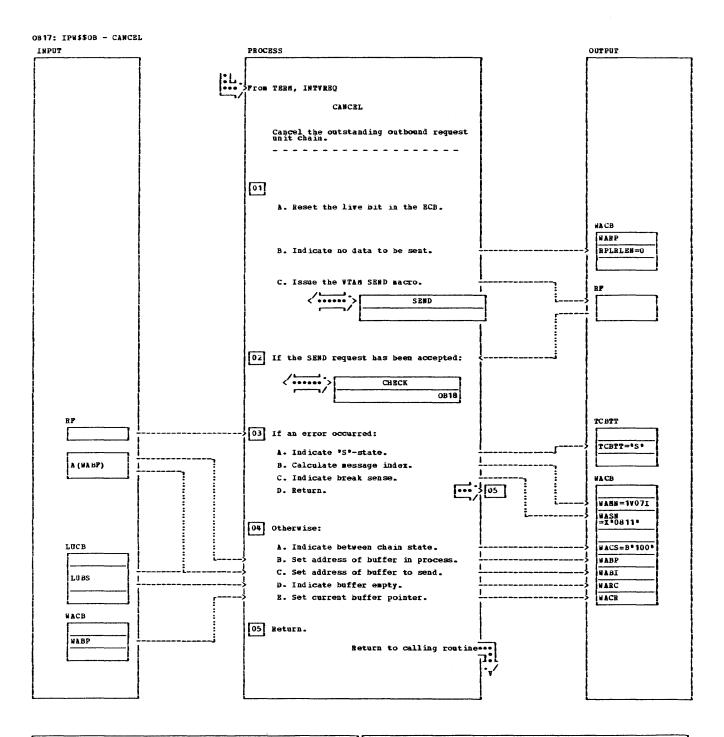
NOTES	WODULE	LABRL	REP	NOTES	 HODGLE	LABEL	HBP
5		1	\$GLR				1
		İ		į		·	



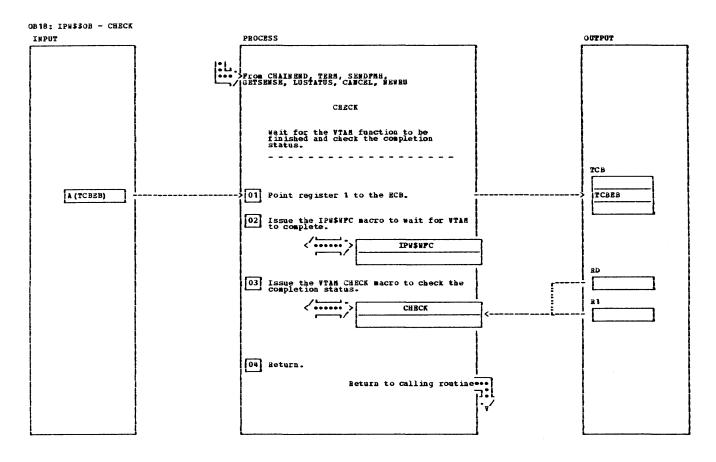
	MOTES	I HODOFE ! PW	DEL MEP	Edita	I HODOLD I LABEL I MAP	_!
	4	1 1	ISHPS			7
- 1		1	1 1	}		ł
		1 1	1 1	}		1
-	<u> </u>	 				



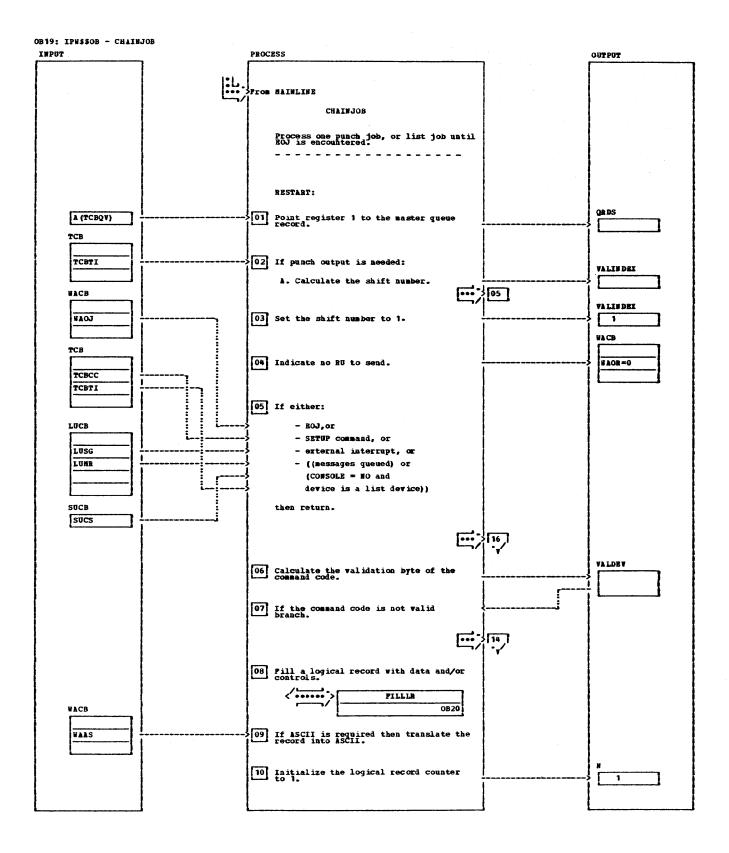




NOTES	HODULE LA	BEL REP	NOTES	MODULE LABEL REP
3 1907I ERROR ON *request*RTNCD, PDBK2 = xx,yy SENSE = xxxx *luname*				

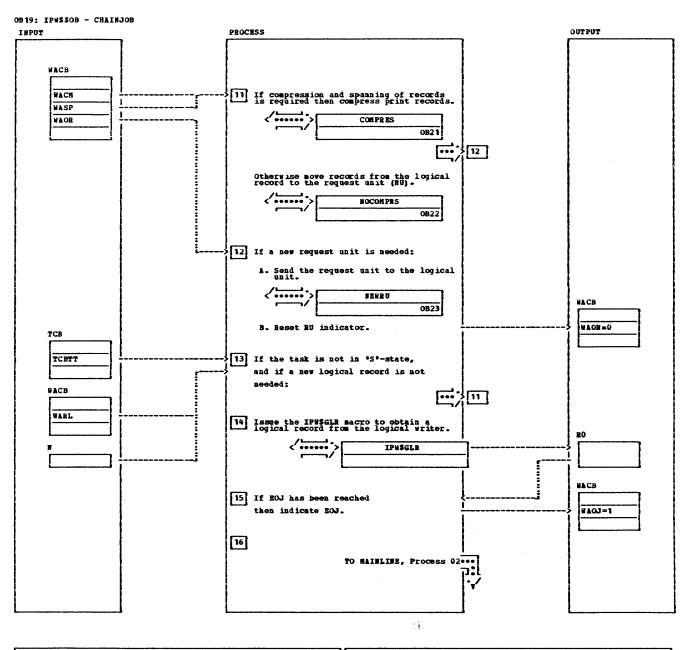


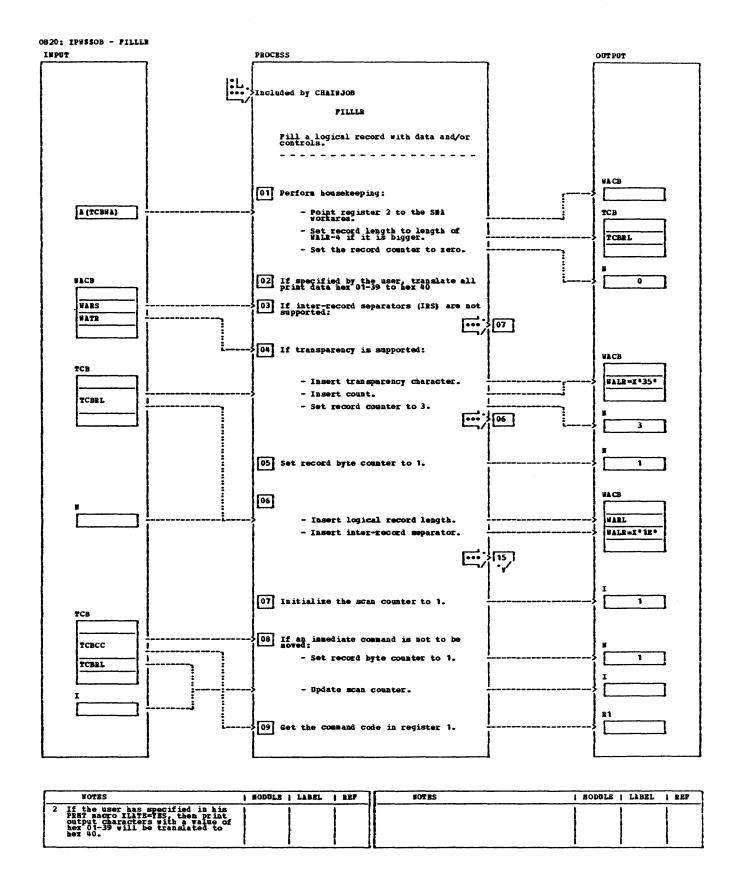
NOTES	HODULE Li	ABEL BEF	BOTES	MODULE LABEL REP
2	1	SWPC		
		1 1	1	

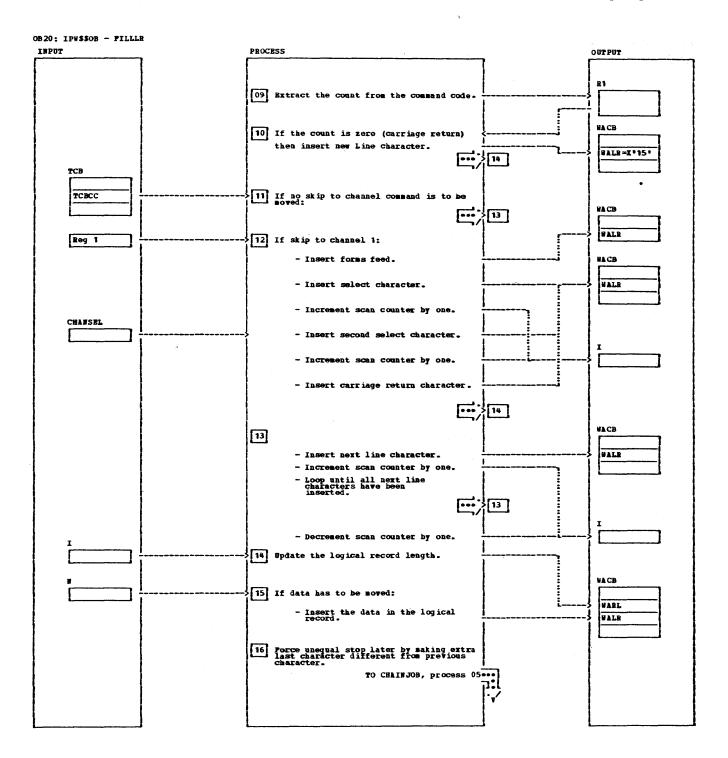


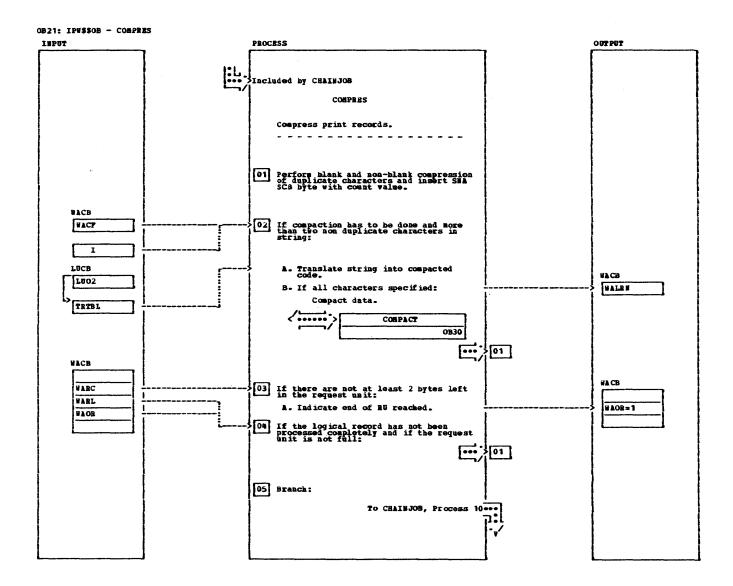
OB19: IPW\$\$OB - CHAINJOB

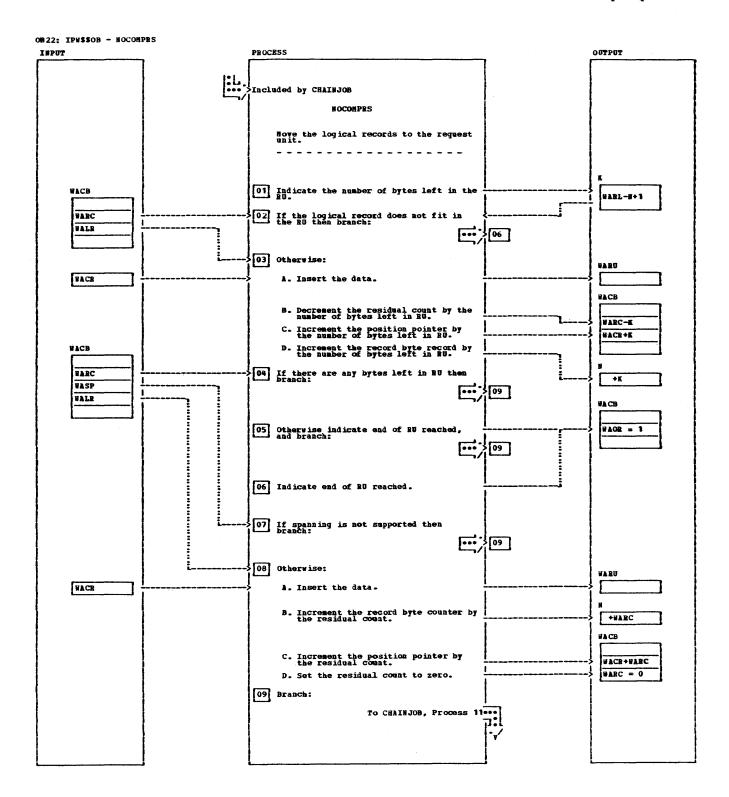
NOTES	HODULE	LABE	L RE	MOTES	HODULE	LABEL	LEP
The walidation table (VALIDAT) is used to check whether a punch or print command for a particular command for a particular comsists of 256 bytes, each of such correspond with a command code. Each bit position in a byte represents a punch or printer levice. If the bit is on, the command command for the levice is valid. If the bit is off, the command will be ignored. To test the bit, it is shifted to the low order position. Therefore the low order position. Therefore the byte is devided by a number (VALIDEX), which is calculated with the help of the device type (IRDT) found in the gueue record, and a device table (BETTAB).							

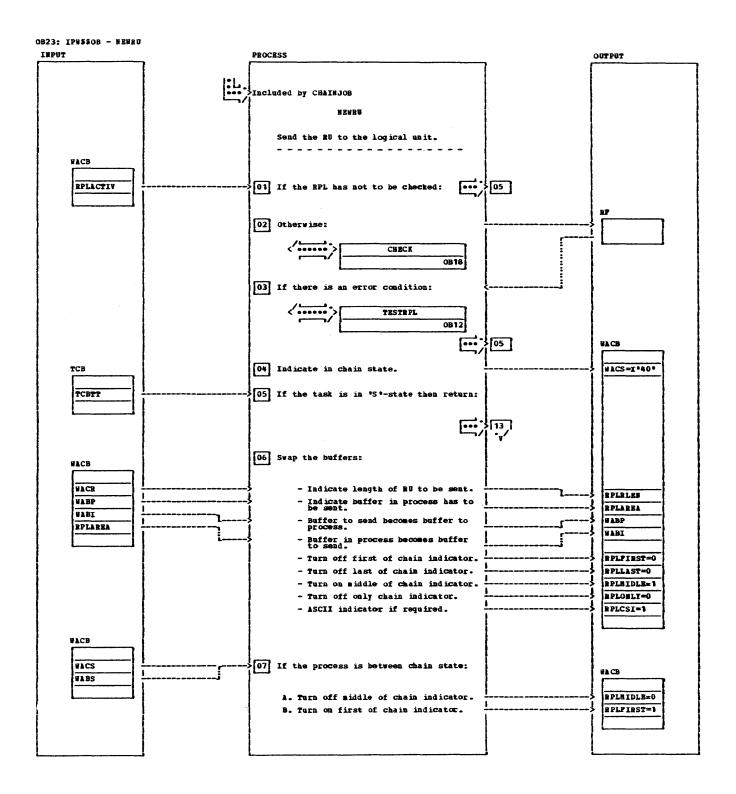


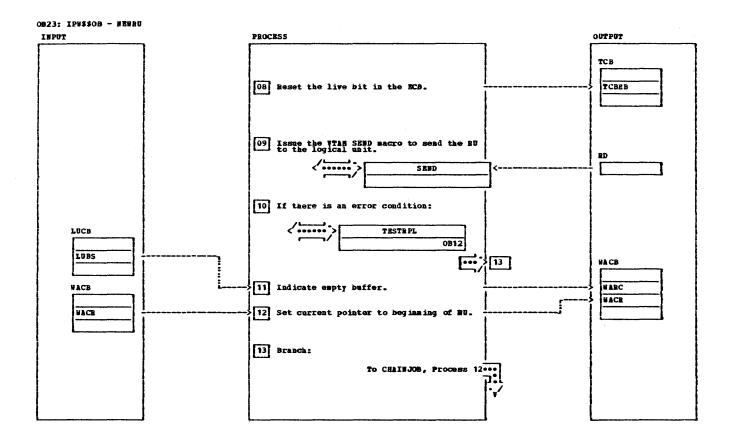


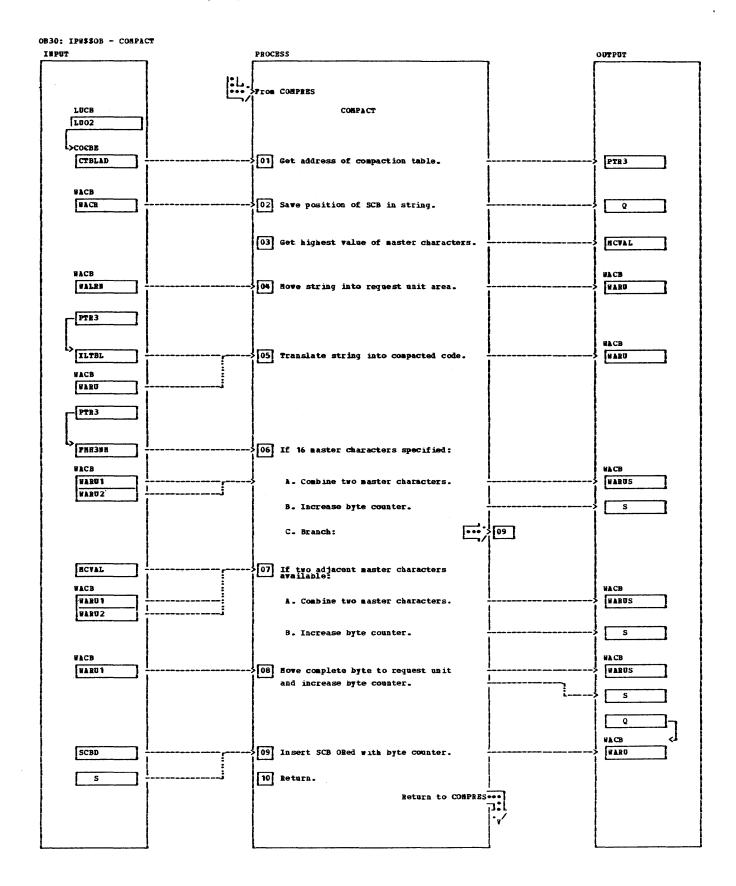


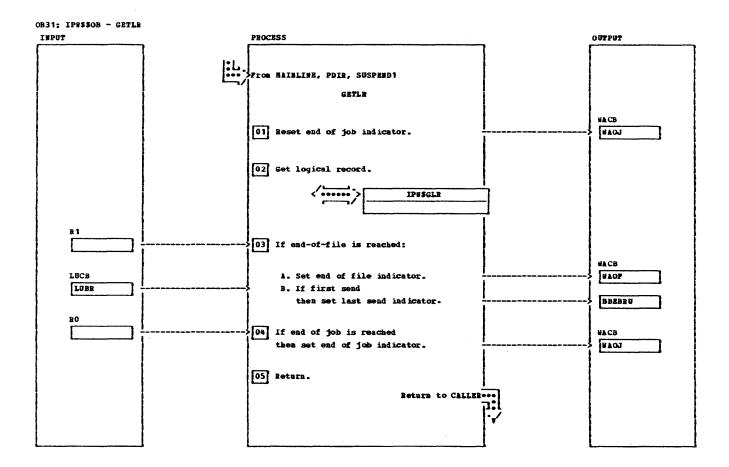


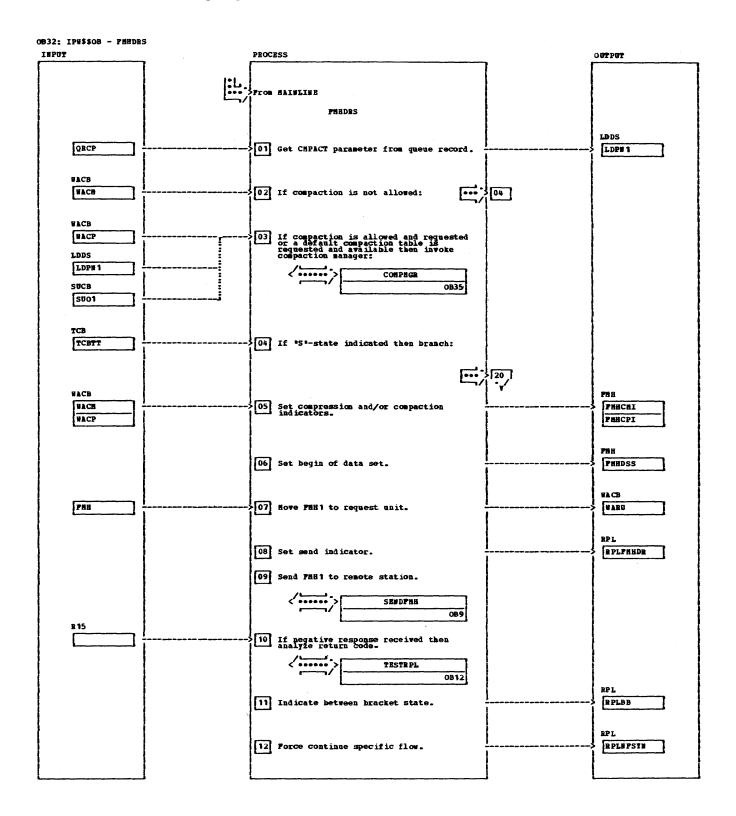












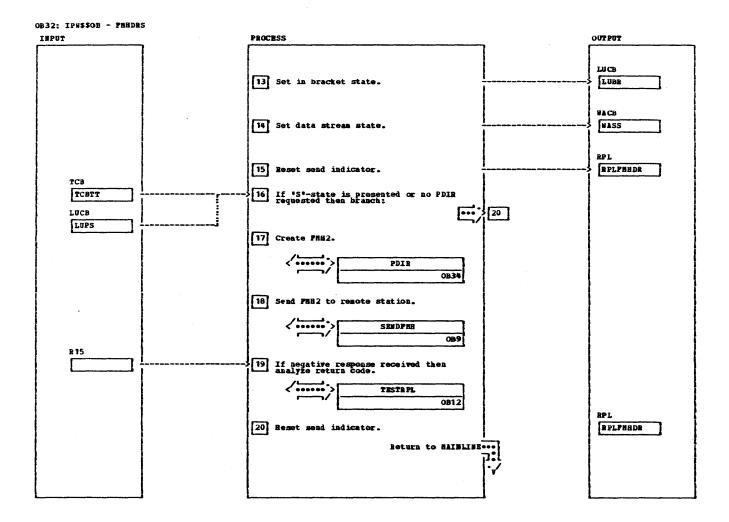
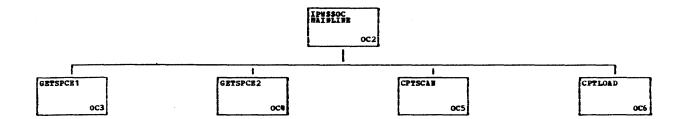
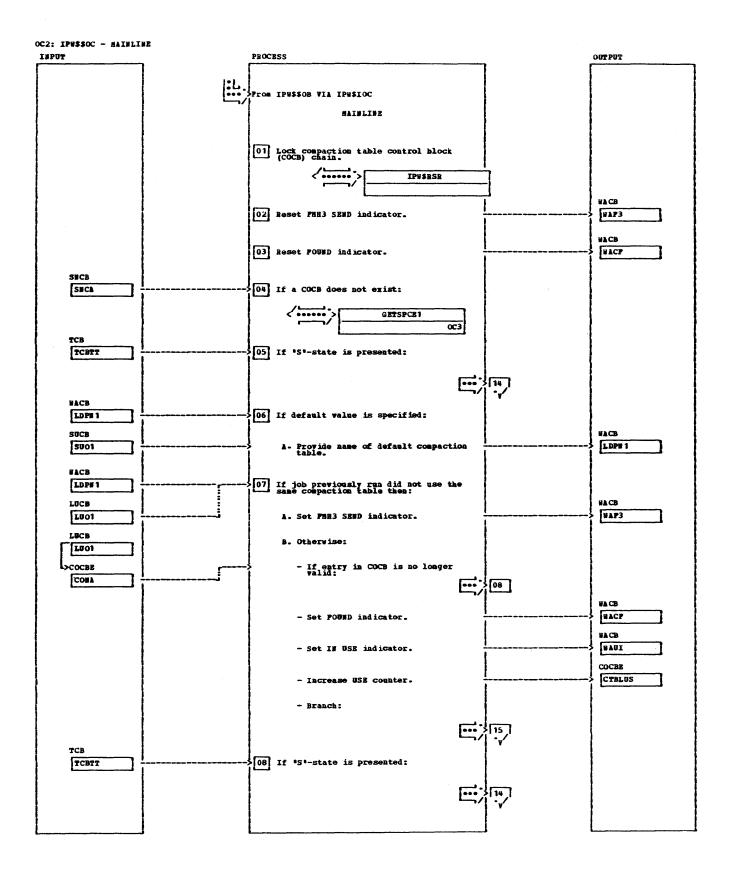


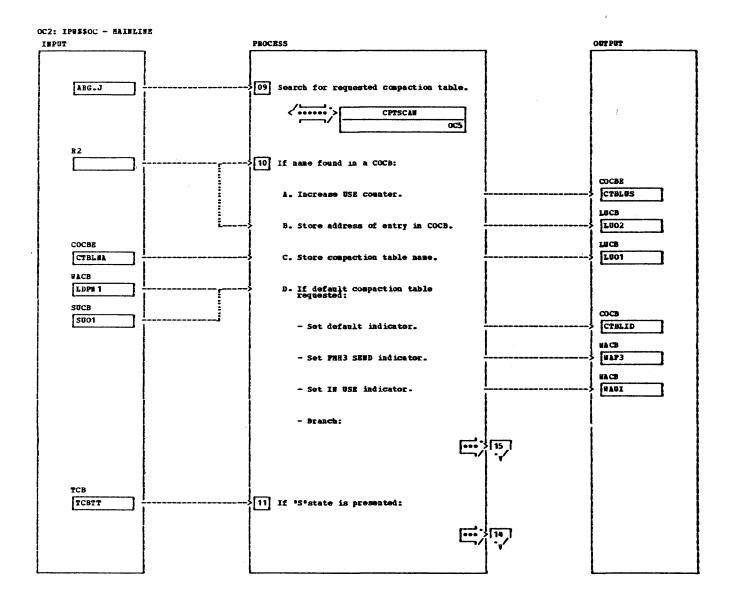
CHART OC: IPW\$\$OC - RJE_SNA COMPACTION





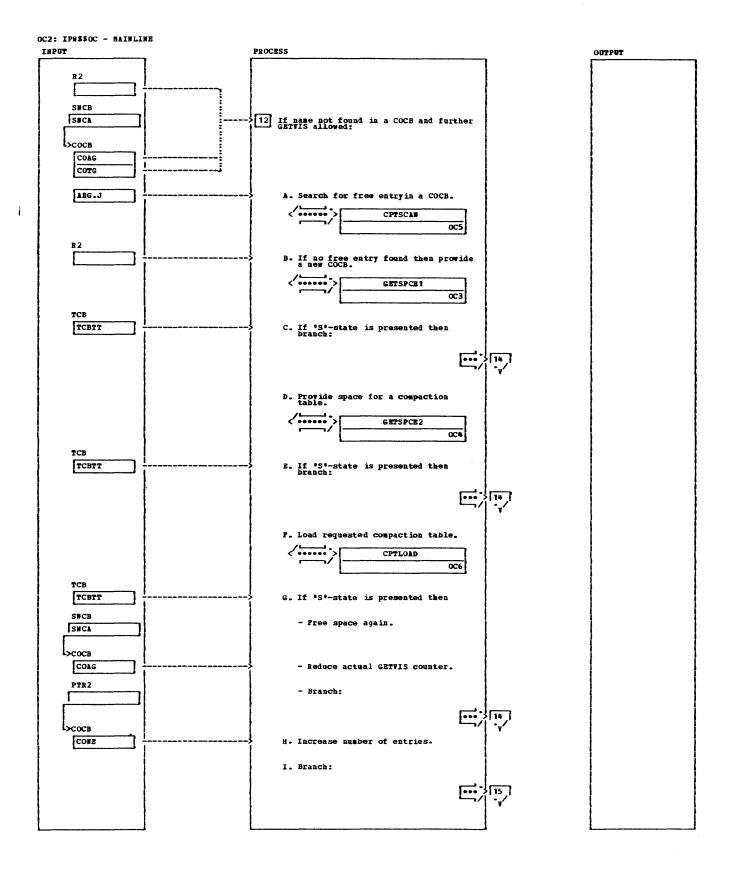
OC2: IP#\$\$OC - HAINLINE

	NOTES	HODULE	LABEL	REP	NOTES	BODGLE	LABEL	REP
3 4	WAF3 is set whenever a management header type 3 (FHH3) has to be transmitted to the workstation. FHH3 contains the compaction table name which has to be used for a Job. WACF is set whenever a valid compaction table (that means the table set generated by use of PCPTAB - macro) is available for a Job. SMCA contains the address of the first COCB in chain. If SMCA = 0 no COCB exists and therefore the first COCB in chain has to be generated. If CHISPCB1 returns with 15'-state, that means that acquiring an CPCB was not successful. A branch back to the outbound processor IPW\$08 is made where the TERM routine will detach the outbound processor.				6 If the CMPACT parameter is statement is omitted the compaction table specific has to be used as fill local pill are used as fill local pill are used as fill local pill are used as fill local pill are used as fill local pill are used as fill local pill pill local	default default sub in SUCB bb. LDPWi lds in a a later ttain the the con table. same tt not be In this cot set formed, ble name in COCBs		



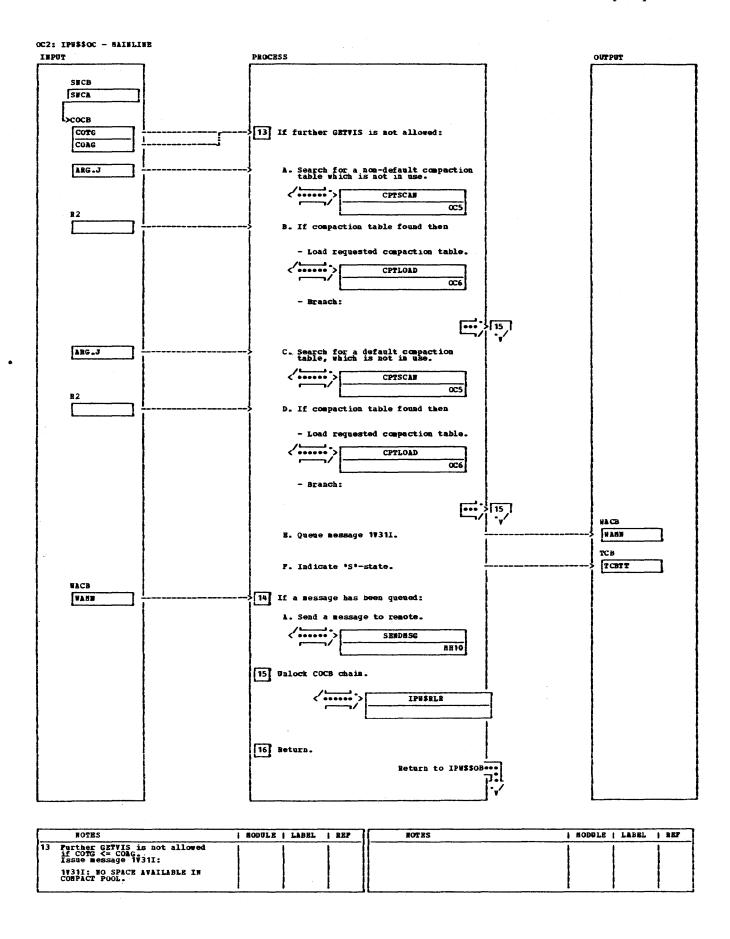
OC2: IPW\$\$OC - MAINLINE

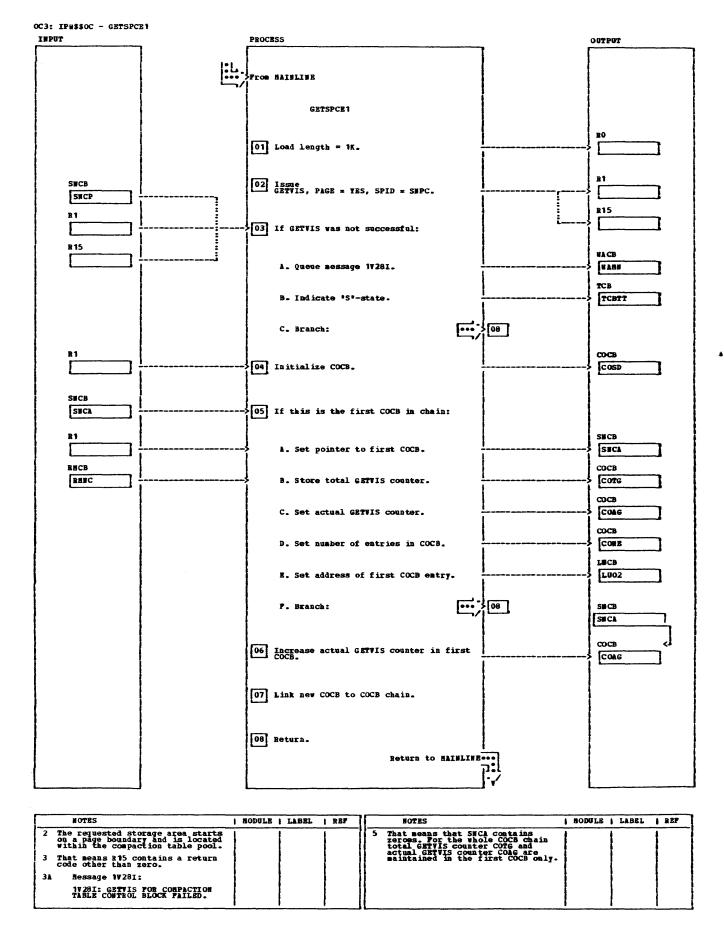
HOTES	HODULE !	LABEL	REP	NOTES	MODULE	LABEL	REP
9 After return from CPTSCAW, R2 will contain the address of the entry in a COCB if the search was successful, that means the compaction table name was found in a COCB. If R2 contains zeroes, the search was unsuccessful. ARG contains the name of the requested compaction table and J sets the position in each entry where to compare with search argument as following figure shows:							
COCB COCB - header COCB - entry name addr id use count length 1							

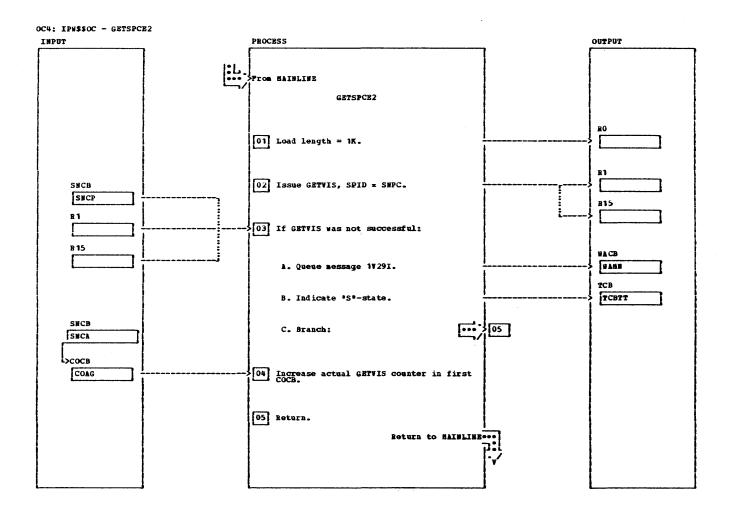


OC2: IPW\$\$OC - MAINLINE

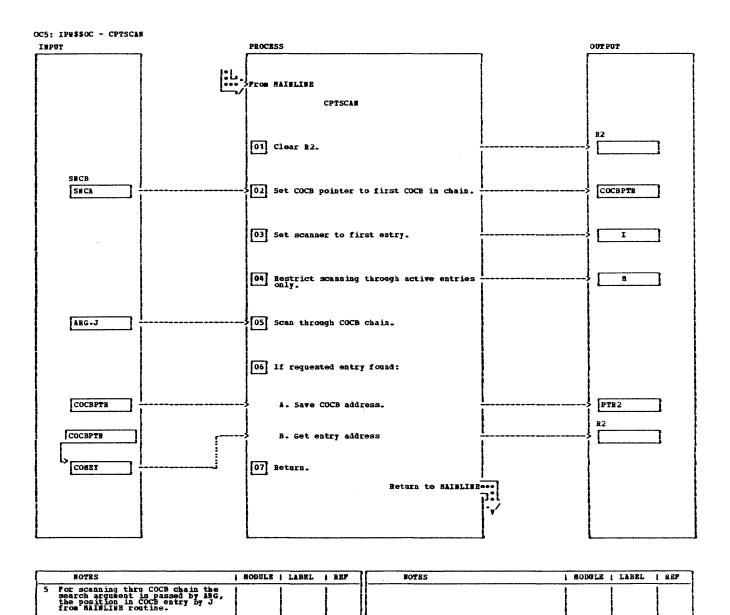
NOTES	MODULE	LABEL	REP	HOTES	HODULE	LABEL	REP
12 R2 contains zeroes after return from CPTSCAW. Further GETVIS is allowed if the total GETVIS is allowed if the total GETVIS counter COTG is greater than the actual GETVIS codneter COA. after each successful GETVIS COA is increased by one. For the whole COCB chain COTG and COAG are maintained only in the first COCB. ARG containes zeroes, J is set to the position of the USE count in a COCB entry.							

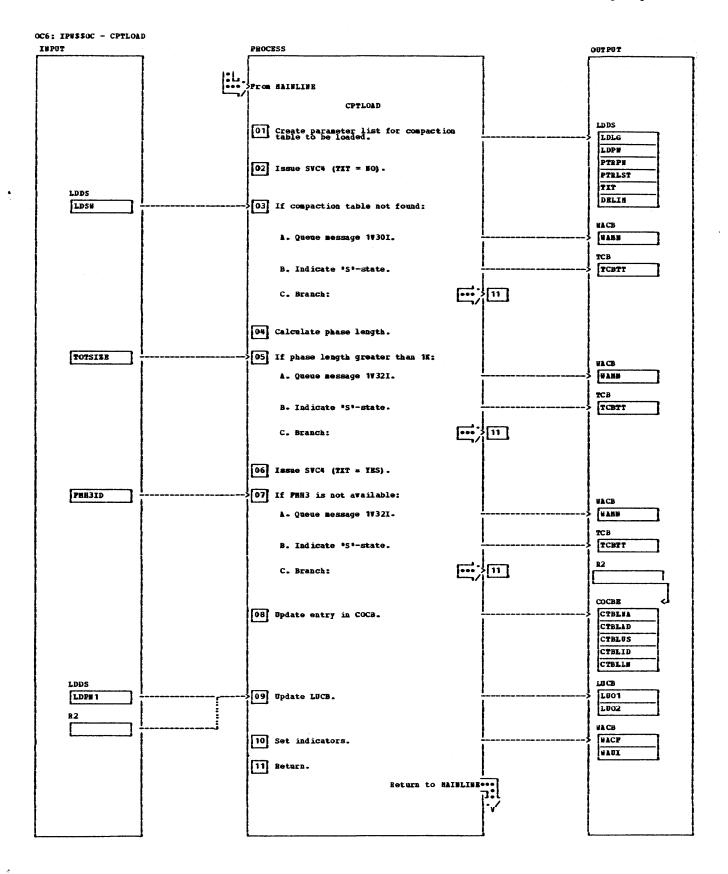






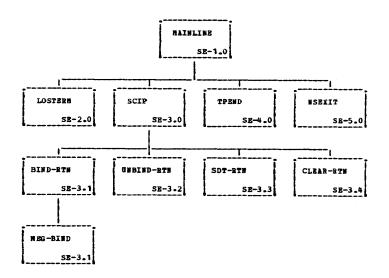
NOTES	I HODULE LABEL	REP	NOTES	HODULE	LABEL	RRP
3 That means R15 contains a return code other than zero.			4 For the whole COCB chain total GETVIS counter COTG and actual GETVIS counter COAG are maintained			
3A Hessage 1V291: 1V291: GETVIS FOR COMPACTION TABLE PAILED.			in the first COCB only.			

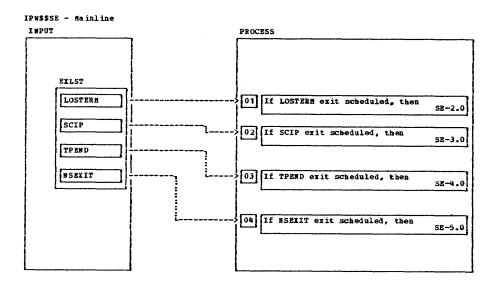


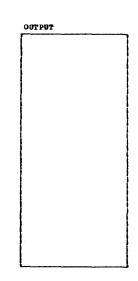


OC6: IPW\$\$OC - CPTLOAD

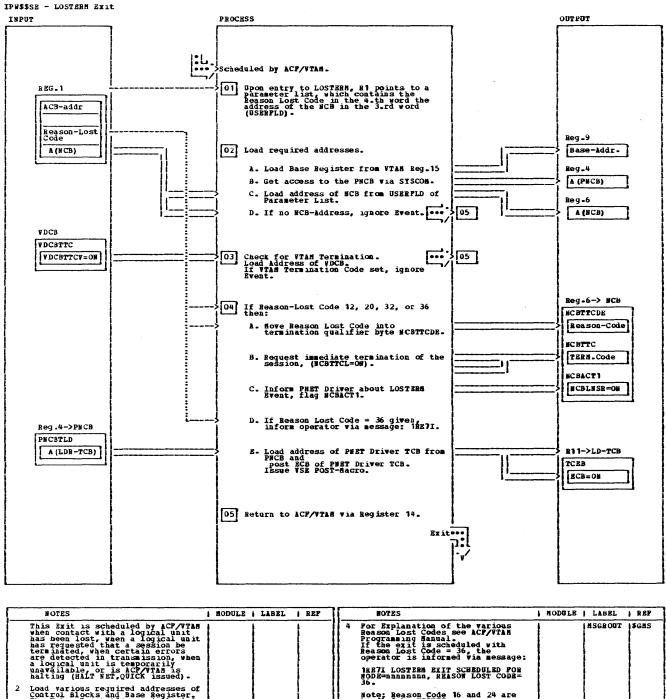
BOTES	HODULE LA	BEL REF	NOTES	HODULE	LABEL	REP
3h Hessage 19301: 19301: COMPACTION TABLE NOT POUND: 4 This check is necessary because user might have specified unintentionally a phase name, which does not represent a compaction table. As the compaction table generated by PCPTAB macro is always 1% bytes long, phases with a length of 1% bytes are considered as compaction tables for the first.			5A Hessage W321: 1V321: INVALID COMPACTION TABLE. 7 After loading the phase this check has to be done to be shure, that this phase represents a compaction table, generated by use of PCPTAB macro. 7A Hessage W321: 1V321: INVALID COMPACTION TABLE.			





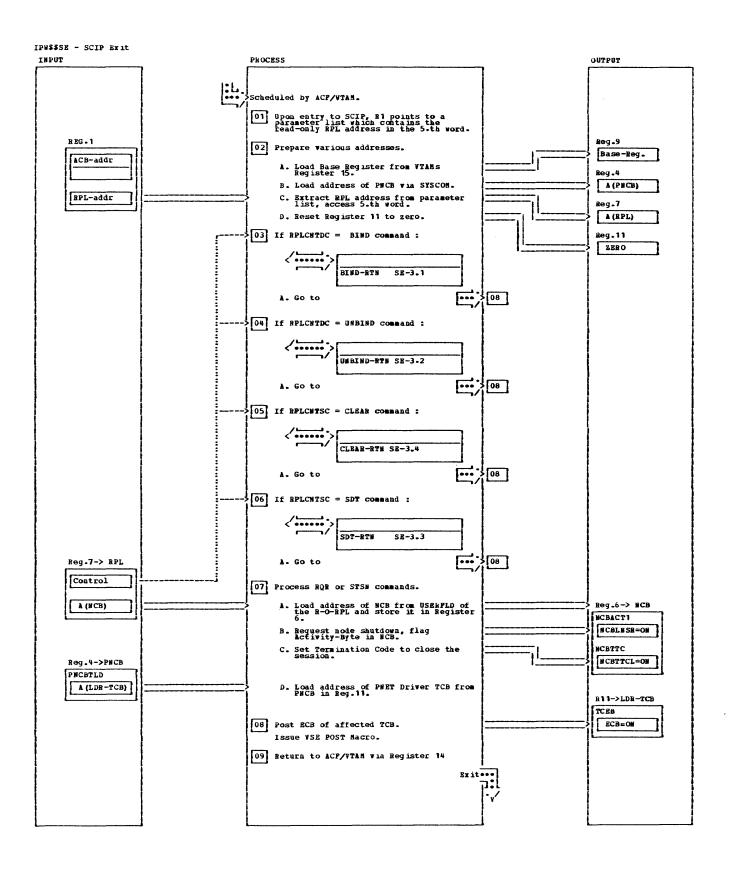


NOTES	HODULE LABEL	REP	NOTES	HODULE	LABEL	REP
The Mainline does not show the processing flow, it shows the exit routines as they are located within the module IPW\$\$5E. Zach Exit Routine is scheduled by ACF/VITH, if the given event takes place. The Medule: IPW\$\$5E is loaded during Y5E/POWER Initialization. In addition the Mainline Code will contain the EXIST Macro, which is required to enable the Exit Routines to ACF/VITH. This is done by the PNET SNA OPEN VSE Subtask (IPW\$\$51). The PNET SNA Exit Routines works under control of the VSE Subtask under which the SNA OPEN was performed. The EXLST Macro contains the addresses of the four supported Exit Routines and will be coded as follows: EXLST AM=VITH SEROUT NOTE: DPRSY Exit Routine is not supported because Expedited Flow Commands will be received via RECEIVE Operations and will be RECEIVE Operations and will be handled by the PNET Driver.	EXLST		If one of the Exit's is scheduled by VTAH, the following register conventions take place: On Entry: R1 = Parameter List VTAH R19= Recturn Register VTAH R19= Rese Register Processing: R0 = Workredister R2 = Workredister R3 = Workredister R4 = Address of PNCB R5 = Address of VDCB R6 = Address of RCB R7 = address of RFL R8 = Subroutine Linkage R9 = Rase Register R10= Address of VSE/POWER Part. R10= Address of VSE/POWER Part. R11= Unused R13= Unused R13= Unused R13= Return Register VTAH R15= Return Code to VTAH			



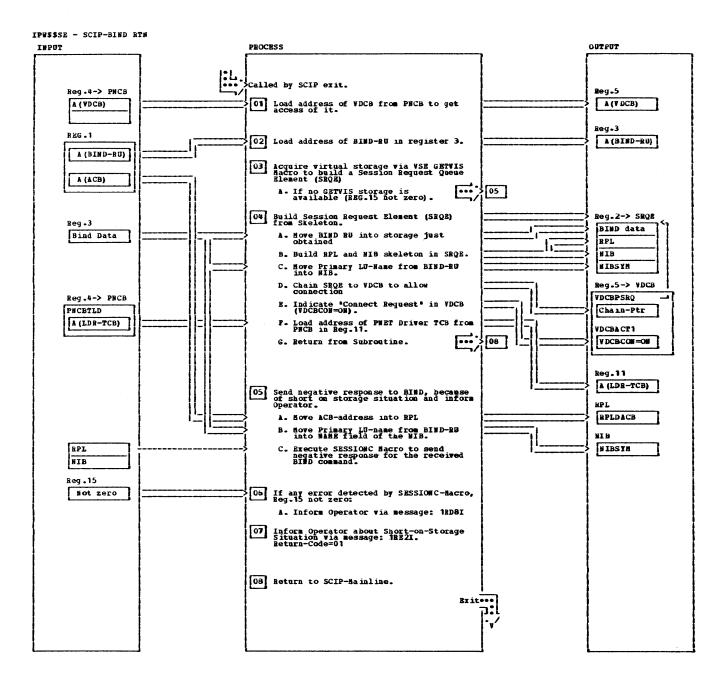
NOTES	HODUL	B LA	BEL	REF	HOTES HODULE LABEL	REP
This Exit is scheduled by ACF/V' when contact with a logical unit has been lost, when a logical unit has been lost, when a logical with has requested that a session be terminated, when certain errors are detected in transmission, who a logical unit is temporarily unavailable, or is ACF/VTAM is halting (HALT NET, QUICK issued) Load various required addresses Control Blocks and Base Register The Entry Point Address is load from Register 15 passed by ACF/VTAM into Register 9. The address of the VSE/POWER Partition is loaded from the System Communication Region (SYSCOM) and the address of PNC is loaded from the CAT, label C. into Register 4. The address of the NCB is loaded from the USE/FLD of the Paramet List in Register 6, if no NCB Address is available (no session exists), the Event is ignored. The VDCB Termination Type Code examined if VTAM already terminating. If so, the Event is meaningless and control is given back to VTAM w/o any actions.	of d				4 Por Explanation of the various Reason Lost Codes see ACF/TAR Programming Hanual. If the exit is scheduled with Reason Lost Code = 36, the operator is informed via message: 1RE7I LOSTERE EXIT SCHEDULED POR HODE=nannnann, REASON LOST CODE= 36. Note: Reason Code 16 and 24 are handled by MSEXIT. 4R The ECB of the PNRT Driver TCB is posted by issuing the VSR POST-Hactro. The address of the PNRT Driver TCB is loaded from the PNCB, label PMCSTLD in Register 11. Hote: This implies posting of the VSE/POWER Haster ECB and makes the partition dispatchable for the VSB Dispatcher- 5 Control is given back to VTAH via Register 14.	≨GMS

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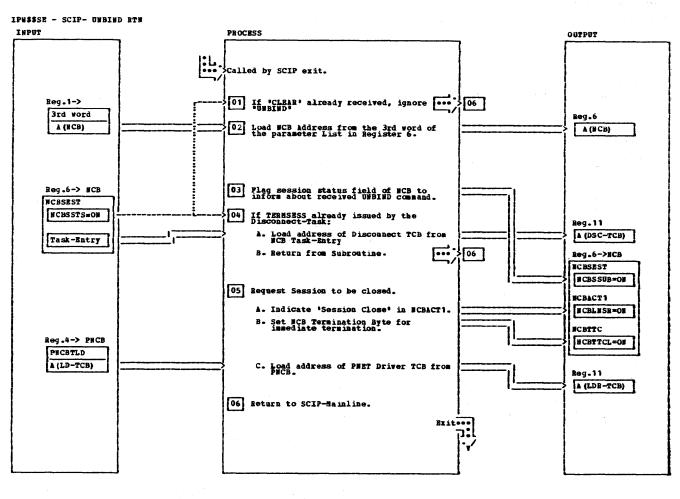
IPU\$\$SE - SCIP Exit

	NOTES	MODULE	LABEL	REP	HOTES	PODATE	LABEL	REF
	The SCIP Exit is driven when one of the following session control commands are received by VSE/POWER:				4 If the RPL control byte (RPLCMTDC) indicates UBBLUD control command (RPLTUMBD) received, the appropriate subroutine is called.			
	CLEAR Start Data Traffic-SDT Request Recovery-RON Set and Test Seg.Bumber-STST BIND DIBIND				5 If the RPL control byte (RPLCHTSC) indicates CLEAR control command (RPLCLERB) received, the appropriate subroutine is called. 6 If the RPL control byte (RPLCHTSC)			
	These commands except RQR, are sent only from the Primary to the Secondary Application.				inicates SDT control command (RPISDT) received, the appropriate subroutine is called.			
2	Various addresses are prepared to get access to the Control Blocks. The Entry Point Address passed from the Entry Point Address passed from the Control Begins of the Point Block of the Point Begins of the State Communication Begins is accessed to get the address of the YSE/POWER Partition. The address of the PNCB is than loaded from the CAT, label CAPN into Register 4. The address of the Read-only RPL is loaded from the 5-th word of the Parameter List in Register 7. Register 11 is set to zero. This is required to check the POST mechanism on return from the Subroutines.		7		7 One of the following commands has tringered this exit, either ROR or STSM. It is now required to inform the PNET Driver about these unsupported commands. RCBITC is flagged (NCBTTCL=OM), to the ACC,			
3	If the RPL control byte (RPLCHTDC) indicates BIND control command (RPLTBIND) received, the appropriate subroutine is called.				Note: This implies posting of the VSE/POURE Master ECB and makes the partition dispatchable for the VSE Dispatcher. 9 Control is given back to VTAM via Register 14.		/	

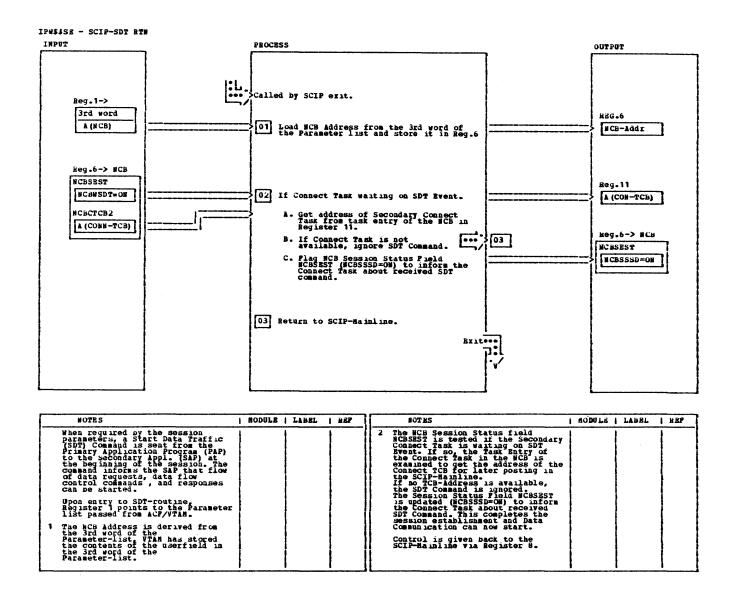


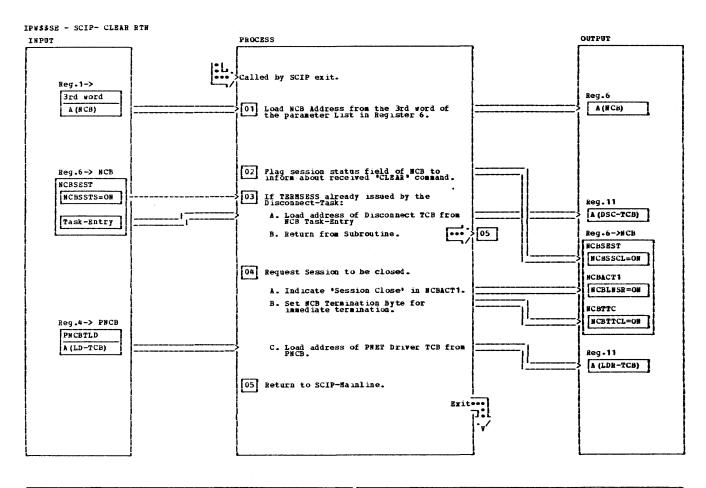
IPW\$\$SE - SCIP-BIND RTN

NOTES	HODULE	LABEL	REF	HOTES MODULE LABEL	REP
The BIND Command is sent from the primary end of the session to the secondary to establish the session. The BIND indicates that the PLU wants to start a session with the SLU and the RU contains session parameters that the PLU with the SLU and the RU contains session parameters that the PLU will use for the session. Upon entry to BIND, the 4th word of the parameter list contains the address of the FORM in Register 5 to get from the PNCB in Register 5 to get access to the VDCB. The address of the BIND-RU, located in the 4th word of the parameter list is loaded in Register 3. Wittual storage is reserved to putid a SROE via the VEE ERTYIS derived from the label SROPTIN of the SROE DECT Macro and loaded in Register 0. GETVIS LERGTH=(RO), ADDRESS=(R 2) The BIND-RU is moved into the SROE DECT Macro and I register of the SROE DECT Macro and I register of the SROE DECT Macro and I register in the reserved space, The BIND-RU is moved into the SROE, label SROEDBRU. The RPL and NIB, defined in the Module is used to build the SROE in the SROE DECT. The PLUMBER I INDOMEDIATE IN THE RPL AND THE RPL AND THE REGISTRATION OF THE PROPERTY OF TH		LADEL	\$DRQ	The Adress of the PNET Driver TCB is loaded from the PMCB in Register 11, to allow posting of the PMET Driver RCB in the Mainline Routine. 5 If no storage has been obtained to create a SBCB because the GETVIS Area was to small, a SESSIOWC Macro (OPTCD=SYN) will be issued to reject the OPMOST on the other end of the session by sending a negative response. The LU-Hame is moved from the BIND-RU in the MAME Field of the MIB. The ACB-Address is moved into the RFL before executing the SESSIONC RPL=MPLNEGBD RPLNEGBD RPL AM-WYAM ACB=	\$GMS



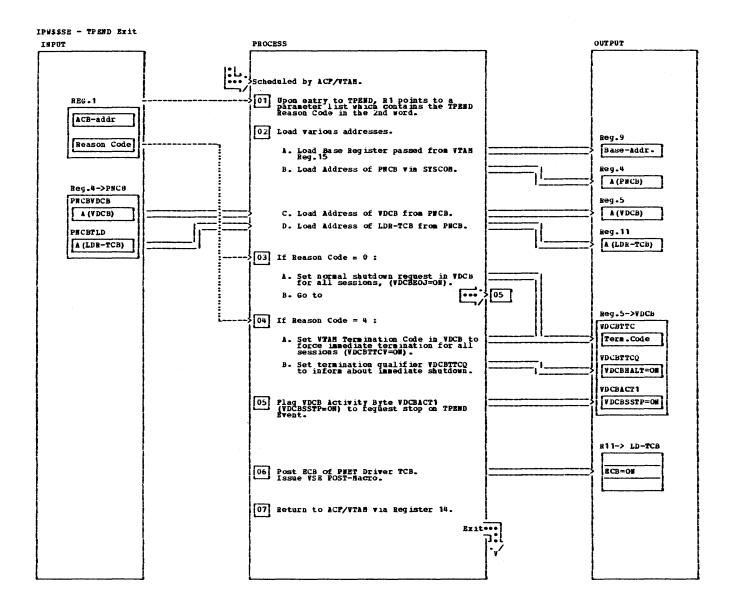
	NOTES	SODULE	LABEL	BEP	HOTES	BODULE	LABEL	REP
	As a part of the session termination process, the PLU sends an Uninia Request to the SLU. The secondary Application should now cleanup its control blocks and other laformation pertaining to the session.				As part of an earlier termination of the session the TERMSESS macro was executed by the Disconnect Task. It is now required to load the address of the Disconnect Task for later posting, by accessing the related Task Entry in the MCB.			
1	Upon entry , Register 1 contains the address of the Parameter List.				5 If no Disconnect Task is waiting on completion of the) .
1	If the "CLEAR" command is already received, this is indicated in the session status field (MCDSEST) NCBSSCL=ON, the "UNBIND" Command is ignored and control is given back to ACF/VTAM.				TERRSESS-Hacro, the Session is requested to terminate, the NCBACT1 is flagged (NCBLESS=0B), the NCB Termination Code NCBTC is flagged (NCBTTCL=DB) and the address of the PNET Driver TCB is loaded in Register 11 to allow			
2	The address of the NCB is derived from the 3rd word of the Parameter-list.				posting in the SCIP Mainline. 6 Control is given back to the SCIP Mainline via Begister 8.			
3	The session status field NCBSEST of the NCB is flagged (NCBSSDB=OM) to indicate ,UNBIND Command received.							





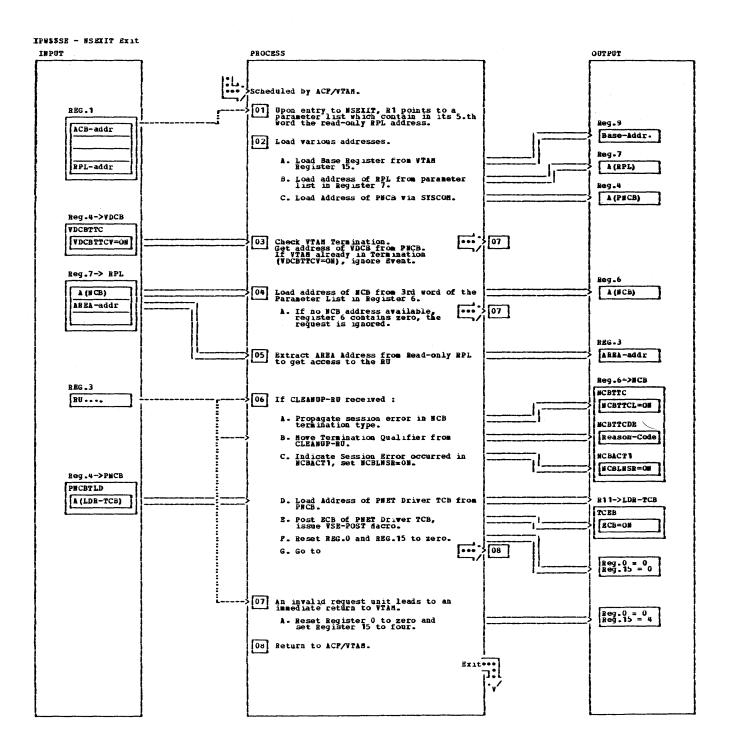
NOTES	MODULE LABEL	REF	NOTES NODULE LABRE REF
The "CLEAR" command is sent by theprimary LU when the Plow of Data Requests, Data Plow Control Commands, and Responses is to be stopped, either because the primary LU is term marting or it wants to take some recovery action,. Upon entry, Register 1 contains the address of the Parameter List. 1 The address of the NCB is derived from the 3rd word of the parameter List, ACF/VTAH has setup this. 2 The session status field NCBSST of the NCB is flauged (NCBSST of the NCB is flauged (NCBSST) to indicate, "CLEAR" Command			3 As part of an earlier termination of the session the TREMESES macro was executed by the Disconnect Task. It is now required to load the address of the Disconnect Task for later posting, py accessing the related Task Entry in the MCB. 4 If no Disconnect Task is vaiting on completion of the TERMESS-Macro, the Session is requested to terminate, the MCB ACT1 is flagged (MCBMISH=OM), the MCB Termination Code MCBTC is flagged (NCBTCL=OM) and the address of the PMET Driver TCB is loaded in Register 11 to allow posting in the SCIP Mainline. 5 Control is given back to the SCIP Mainline via Register 8.

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IPW##SE - TPEND Exit

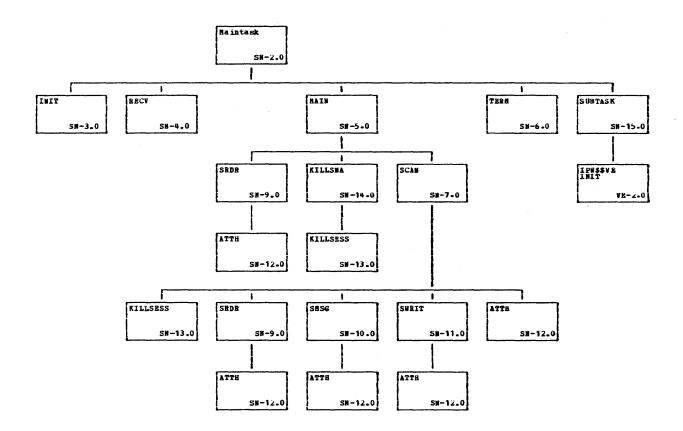
NOTES	HODULE	LABEL	REF	[[NOTES	HODULE	LABEL	k BP
The TPEND Exit is scheduled under the following circumstances: Either the Network Operator enters: - HALT NET OF THALT NET, QUICK OF ACF/VTAM is halting itself in an orderly fashion because of an internal problem, or is being abnormally terminated. The addresses of various Control Blocks are loaded from the hitry Point Address passed via Register 15 from VTAM is loaded in Register 15 from VTAM is loaded in Register 9. The address of the VSB/POWER Partition is loaded from the System Communication Region (SYSCOM) in Register 10 and the CAT is accessed to get get the Address of the PNCB, label CAPN in Register 4. The Address of the PNCB, label CAPN in Register 15. The Address of the PNCB, label PNCBVDCB in The Address of the PNEB Driver TCB is loaded from the PNCB, label PNCBTLD in Register 11. The Network Operator issued: HALT NET Command ACF/VTAM in this case schedules the TPEND Exit with Reason Code = 2000 and 1000 and				5	Either the Network Operator ISSUED: MALT NET,QUICK OF ACT/TTAM is halting itself due to an internal problem. In this cases, the TDEND Erit with Reason Code = 4 is scheduled. In this cases, the TDEND Erit with Reason Code = 4 is scheduled. Based on this request, an Abnormal Termination for all sessions without any activities except of Closing the ACB: CLOSE ACB IS requested. The Global Fermination Type Code, VDCBTCC is flagged for inhediate Termination of all Sessions (VDCBTCC) is flagged (VDCBHALT=ON) to inform the DISCONNECT this About this event. The Activity byte VDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte VDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte VDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte VDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte vDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte vDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte vDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte vDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte vDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte vDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte vDCBACT1 is flagged (VDCBSTP=ON) to inform the Activity byte vDCBACT1 The ECB of the PRET DTCB is posted by issuing the VSE DOST-BaCTO- This implies posting of the VSE/POWER Haster ECB and Makes the Dispatcher. Control is given back to ACF/VTAM via Register 14.	POST		

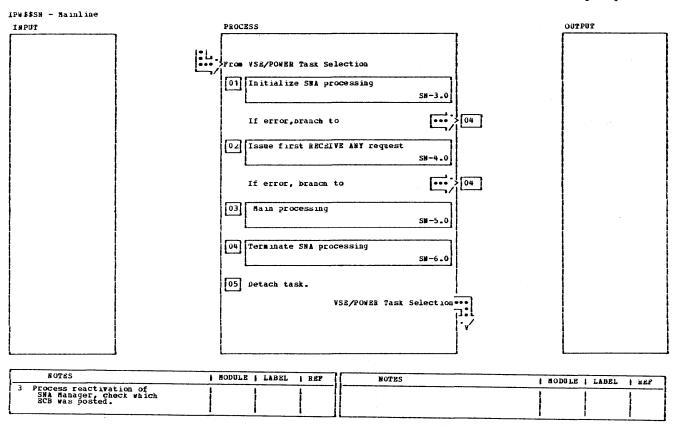


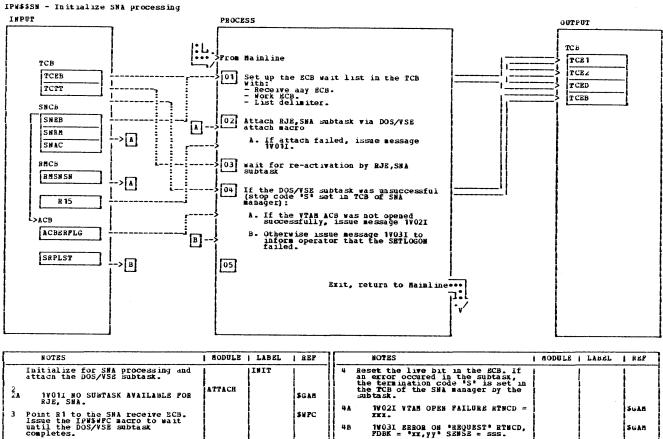
IPW\$\$SE - NSEXIT Exit

NOTES	MODULE	LABRL	REF	NOTES		HODULE	LABEL	REF
The NSENIT routine is entered whenever a network service request unit arrives for an application program. Any of the three types of network service request units can be received: - Network Service Procedure Error (NSPE) - Network Service Procedure Error (NSPE) - Network Service Cleanup Request Notify Request Unit The CLEANUP Request Unit The CLEANUP Request is the only type which is supported and leads to an immediate stop of the Session. The various addresses required to have access to the Control Blocks are loaded. The Entry Foint Address passed via Register 9. From VTAM is loaded in Register 9. From VTAM is loaded in Register 9. From VTAM is loaded in the Parameter list in Register 7. The Address of the VSE/POWER Partition is loaded from the System Communication Region (STSCOM) in Register 10 and the address of the PNC3 is loaded from the CAT, label CAPN in Register 4. The VDC3 is accessed and the Termination Code is checked for VTAM Termination. If VTAM already terminating (VDCBTTCV=ON), the Event is ignored. In this case, VTAM is already terminating, forced by either the Operator or through internal errors. The address of the NC3 is derived from the 3rd word of the STE Code of the RPL in the 3rd word of the STE Code of the RPL in the 3rd word. If no NC5 address, the request is ignored and control is given back to VTAM way action.	i	LABBL) REP	The Address conta Area-Field of the Points to the recipion of the follow the recipion of the follow triggered this En HALT NET, OUICK VARY NET, INACT VARY NET, TERR, TTY Unexpected CLOSE, still Sessions. These Events hand way of sending a Application. For possible because been taken down. The Termination 1 Session is flagged with fallow the Reason Code of CLEANUP-RU is more transaction Qualithe Activity Byte flagged with fallow the Activity Byte flagged with fallow the Activity Byte flagged with fallow the LDR transaction of the Possion is flagged with fallow the County Byte flagged with fallow the Activity Byte flagged with fallow the County Byte flagged with fallow the Possion I mediate for one described condition the LDR transaction of the Possion of the P	mined in the e Read-Only RPL ceived RU and is er 3. ving Events has rit: PE=P , while thera are clean with the CLEANUP-RU to the recovery is the Session has Type Code of the ed to shutdown the ely (NCBTTCLEM). contained in the recovery is the Session has Type Code of the ed to shutdown the ely (NCBTTCLEM). To the contained in the recovery is the BLNSR-ON, to and the MEXIT was e of the above tons. The PNCB, label ter 11. EST Driver TCB is g the VSB es posting of the ECD and makes the chable for the VSE and 15 are reseted eturning to VTAH. This being on immediate M. Before M. Before M. Before M. Before M. Before	POST	LABEL	LEP LES LES LES LES LES LES LES LES LES LES

CHART SN: IPW\$\$\$N - RJE_SNA MANAGER





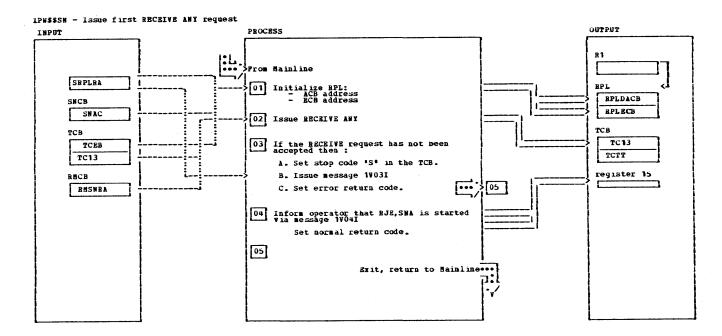


SWPC

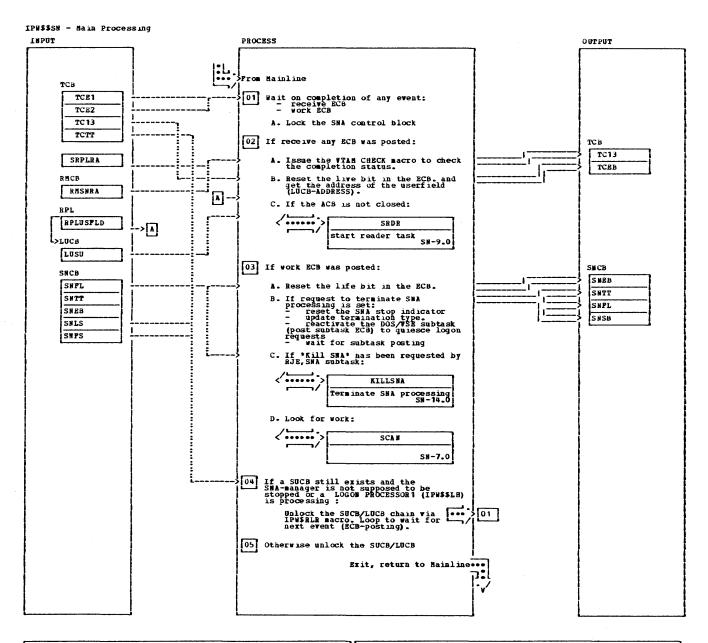
4B

1V03I ERROR ON "REQUEST" RTHCD, FDBK = "xx,yy" SENSE = sss.

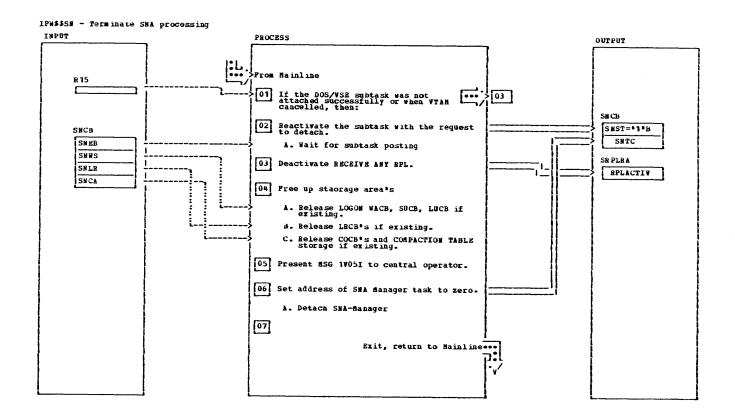
\$GAN



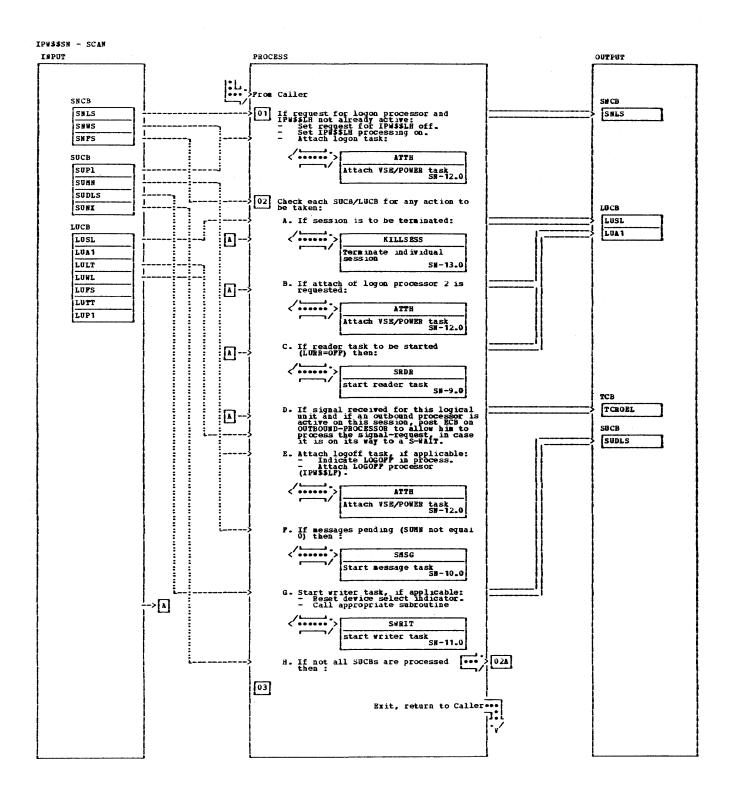
NOTES	HODULE	LABEL	REP		NOTES	HODULE	LABEL	REP
Issue the first RECEIVE request in order to accept input from any logical unit that is logged on.		RECV		2 3B	1V03I ERROR ON RECEIVE RINCD, FDBK = XX, YY, SBNSE = SSSS.	BECRIAR		SGAM
	l			4 17	041 RJR, SNA STARTED.			SGAM



NOTES	MODULE LABE	L REP	MOTES	WODULE	LABEL	REP
Wait for any BCB to be posted and check whether SNA processing is to be continued or not. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CHECK	\$WPM \$RSR	3 If the work ECB was posted, the life bit in the ECB is reset. Then a SUCB/LUCB scan is performed to determine for which SUCB and/or LUCB action is to be taken. But first a test is made if "stop SNA" has been requested. If so, the RJB,SNA subtask is posted to disable logon requests. The subtask sets the "request kill SNA" landicator. Terquest kill SNA" landicator. Terquest kill SNA" landicator. Terquest subtask sets the "request subtask set she" request subtask sets the "request kill SNA" indicator. The subtask sets the "request kill SNA" indicator. The subtask sets the "request kill SNA" indicator. The subtask sets the set set she set she she she she she she she she she she	POST	HAIDWECH	SMPC SALR SRIR

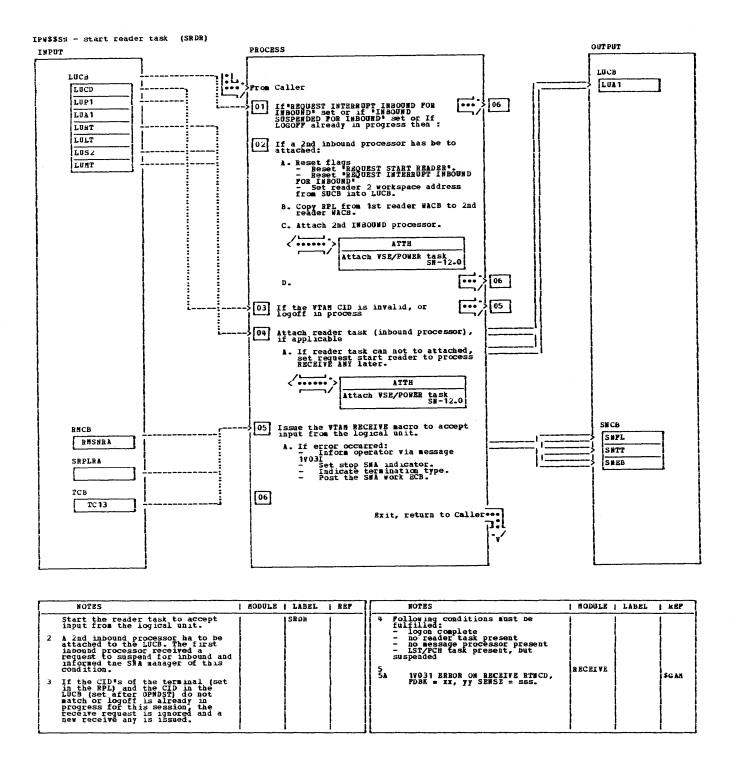


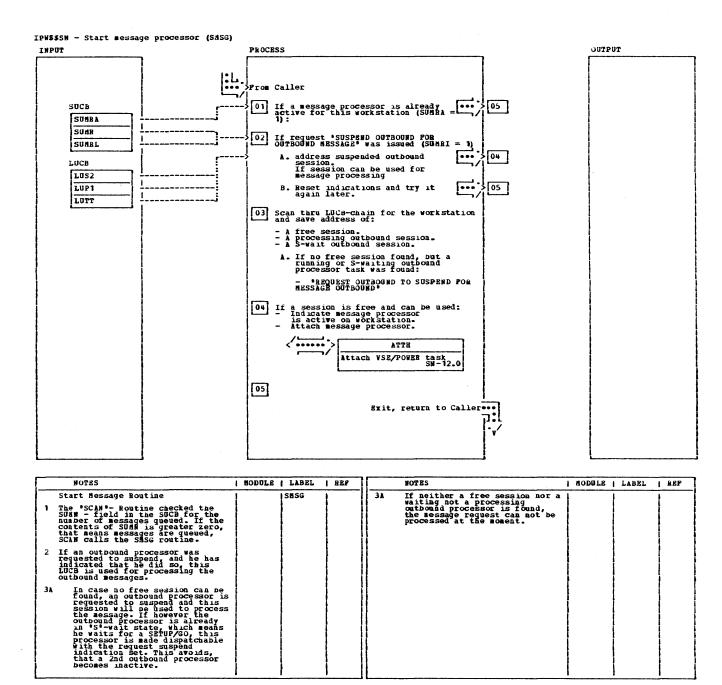
NOTES	MODULE LABEL	REP	NOTES	MODULE LABEL	REP
1	TERS		2 24 5 19051 RJE,SWA TERMINATED.	POST	SHPC SGAM

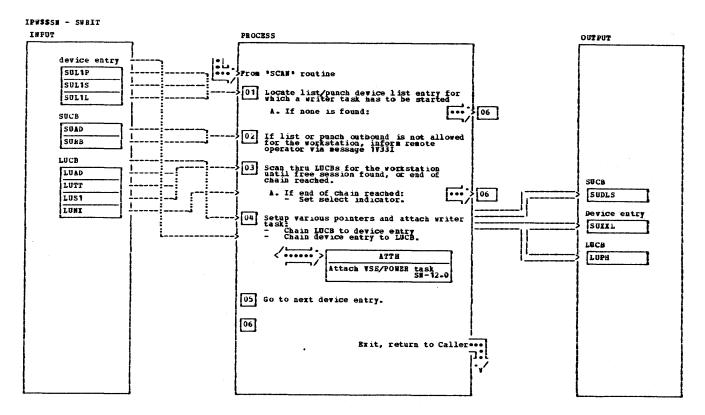


IPW\$\$SN - SCAN

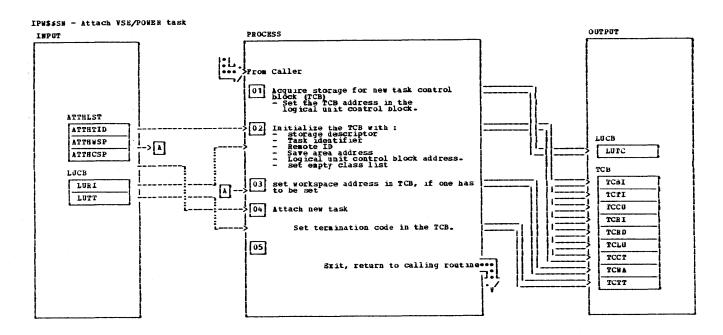
BOTES	MODULE LABEL	IREP	NOTES	HODULE	LABEL	REP
Scan the SUCB/LUCB chain to check whether an action is to be taken for any of the logical units or devices that are logged on. IPH\$\$\frac{1}{2}\] House through the LECBS. When 1 kRUB is processed, IPH\$\$\frac{1}{2}\] House for he ext one only when all LRUBs are processed, SWIM is set off. Now SNA-MANAGER can attach IPH\$\$\frac{1}{2}\] House is checked if work has to be done. If the select byte is on, the LUCB is analyzed for detailed information. If the LUCB select byte is not set, the LUCB is ignored and the next LUCB, if any, is addressed.	SCAN		Queue management selects a printer in the device list, if print output is available. To select a specific printer, it must meet following criteria: - printer must be started (specific output be available output output output output output and printer must match. Then queue management sets following indicators: - device not available (SUNU output o			



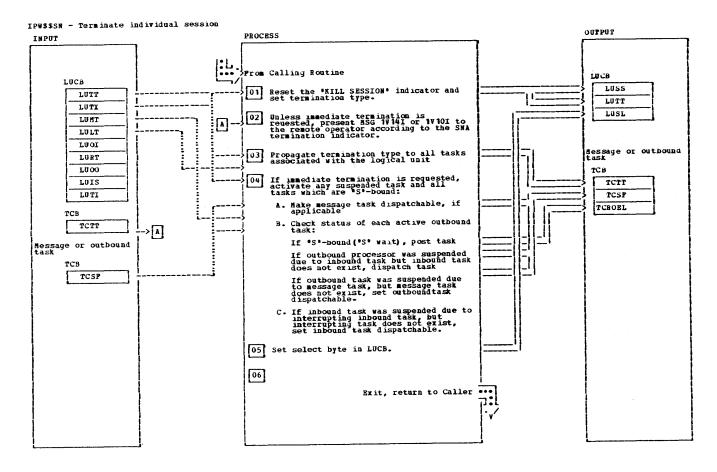




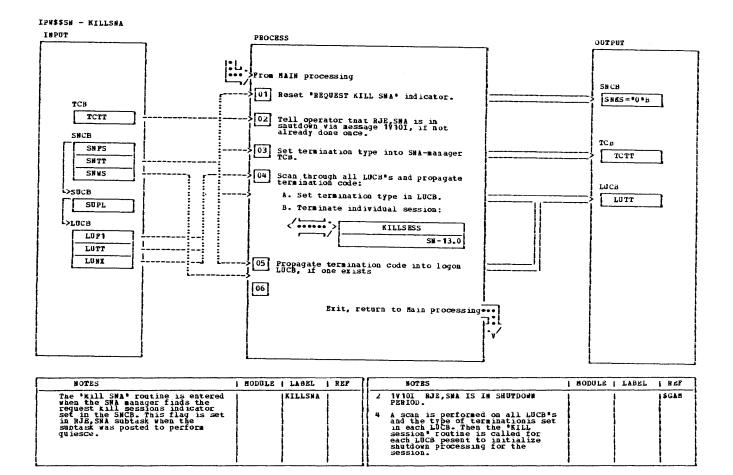
NOTES	HODULE LABEL REF	NOTES	HODULE	LABEL	HEP
Start Writer Task 1 All devices are checked one after each other, in case action was indicated in several devices before SNA manager gets control. The output available flag must be set, the device entry must define a list or punch entry, and the device must be started. 2 Output is available, or LST/PUNCH was started for a workstation (RZBOTE-ID), where according to the received bind-parameter no document or card data outbound is allowed for all sessions.	SWRIT	1V33I REMOTE = XXX OUTPUT FOR NOW WRITER WORK STATION. 3A No free session is found to print or punch. The "OUTPUT AVAILABLE" remains on, so when the SNA-manager gets control again, it will scan for a free session again. Next scan will take place when e.g. a processor detaches and posts SNA-manager.			3GAR

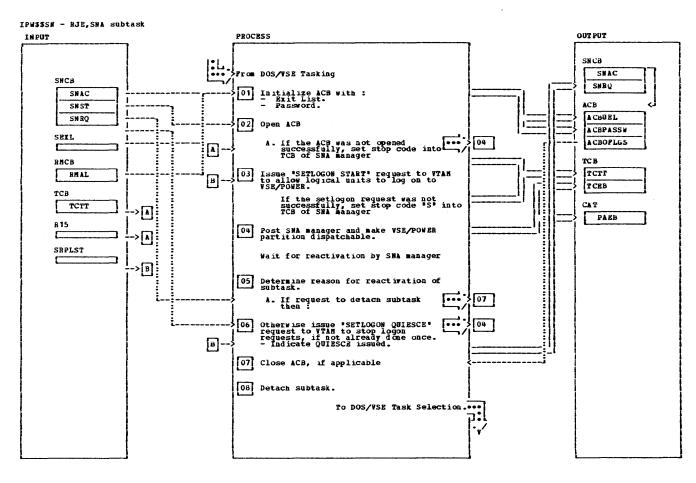


NOTES	HODULE	LABEL	REF	NOTES	i woder i frant i	REP
Attach a task control block to the TCB chain as indicated in the SMA unit control block.		ATTH		1		JRSH SATT



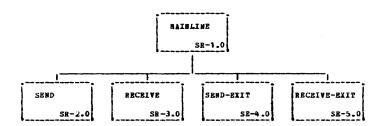
NOTES	RODULE	LABEL) B	EF	NOTES	ı	HODULE	1	LABEL	1	REP
The terminate session routine is entered when the SNA manager finds the request kill indicator's set in the SNA control block. 2 19101 RJE, SNA IS IN SHUTDOWN PERIOD. 19141 SESSION IS IN SHUTDOWN PERIOD.		KILLSESS		.AB	3 Scan thru all TCB-address-fields of the LUCB. If a TCB is present, set the termination type into it. 4 If the message processor or any outbound processor are waiting for operator intervention or a processor was suspended for another processor, and the second processor is not yet attached, the task is set dispatchable.						

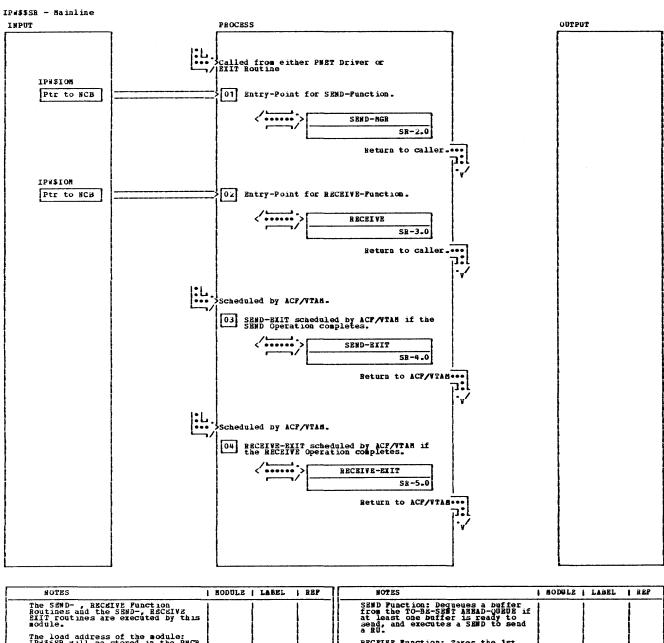




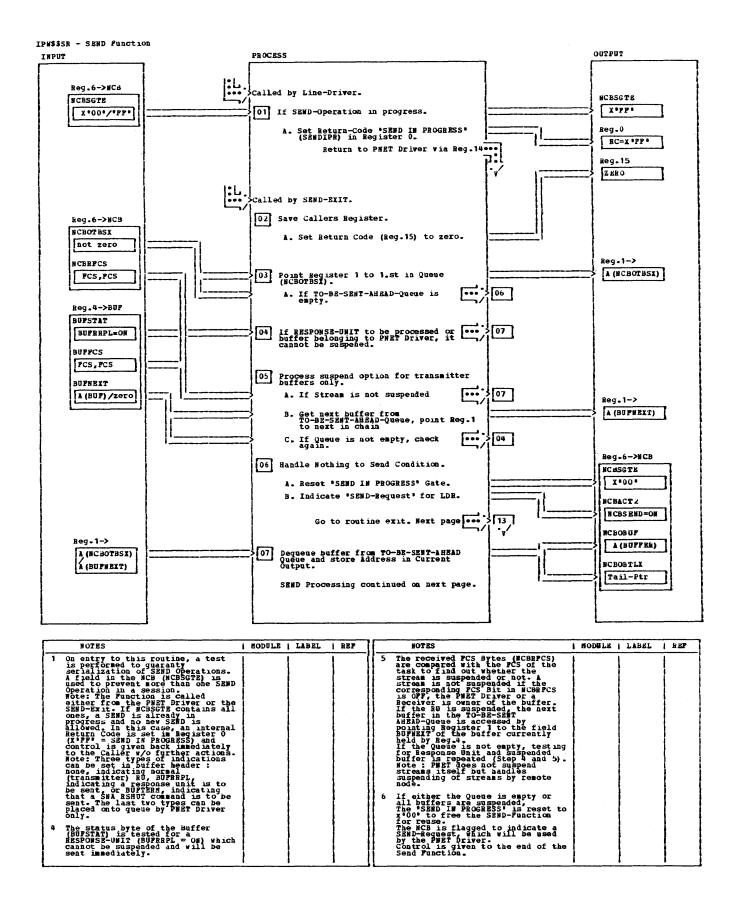
NOTES	HODULE	 LABEL	R	P [[notes	HODULE	ŧ	LABEL	ŧ	REP
The DOS/VSE subtask is attached in the LNIIT coutra and is executed to JNIIT coutral and is executed as Structon structure. The ACB and course is structed as structed as structed as the LNIIT course in the					3 4 4 6	A branch is made to the IPW\$\$VE routine in order to setup the exlist for the VTAB exits This piece of coding forms an infinite wait loop which is only terminated when SNA processing it to be terminated.	OPENR SETLOGO POST WALT	N	UbTASK		

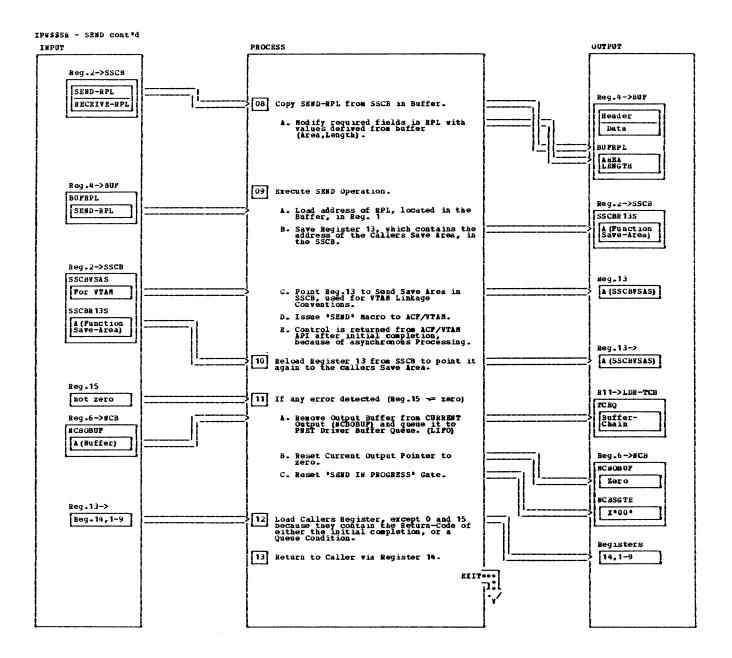
CHART SR: IPW\$\$SR - PNET SEND/RECEIVE HANAGER





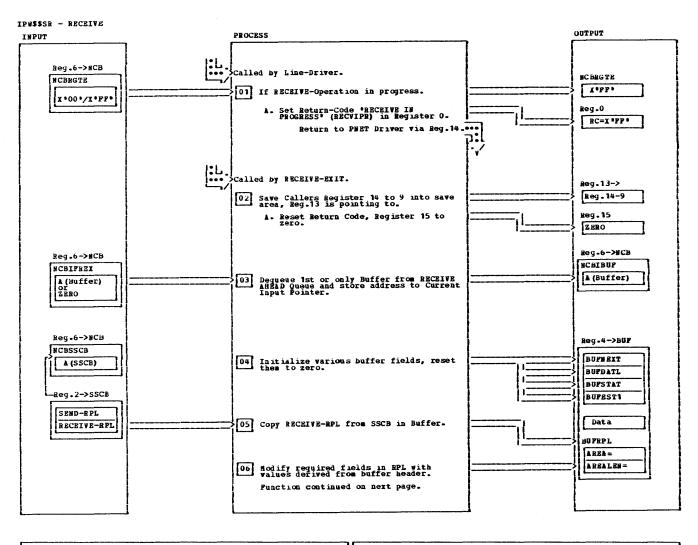
NOTES	HODULE	LABEL	REP	NOTES	MODULE	LABEL	i rep
The SRND-, RECEIVE Function ROUTINES and the SRND-, RECEIVE EXIT routines are executed by this module. The load address of the module: IPW\$\$SR will be stored in the PNCB if successfully loaded. The SEND-, RECEIVE Functions Routines is run under control of either the PNET Driver Task or under control of the VSE Subtask isher the PNET Driver Task or under control of the EXES Subtask isher running under control of the EXIT ROUTINES, ACP, VTAM or VTAME have scheduled the EXIT if the I/O- Operation of the SKND/RECEIVE have been completed finally. Linkage to the SEND-, RECEIVE PUNCTION ROBE (Feg), TYPE=SEND (BAL RE, 16 (RF) IPW\$IOM NCB= (reg), TYPE=SEND (BAL RE, 20 (RF) IPW\$IOM NCB= (reg), TYPE=SENDX (BAL RE, 20 (RF) IPW\$IOM NCB= (reg), TYPE=RECEIVEX (BAL RE, 20 (RF)				SEMD Punction: Dequeues a buffer from the TO-BR-SEMF ARRAD-QUBUR if at least one buffer is ready to send, and executes a SEMD to send a RU. BECEIVE Function: Takes the 1st free buffer from the RECEIVE ARRAD Queue and executes a RECEIVE Operation to receive a RU from the Other end of the session. SEND-EXIT: Scheduled by VTAM if the SEMD Operation completes finally. The buffer seht is queued to the PNET Driver Buffer Queue for further processing and if possible, another SEMD-Operation is started by calling the SEMD-Function. BECEIVE-EXIT: Scheduled by VTAM if the RECEIVE Operation completes finally. The buffer received is queued to the PNET Driver Buffer Queue for processing. If a free buffer is awailable another RECEIVE Operation is started by calling the RECEIVE Operation is started by calling the RECEIVE-Function.			



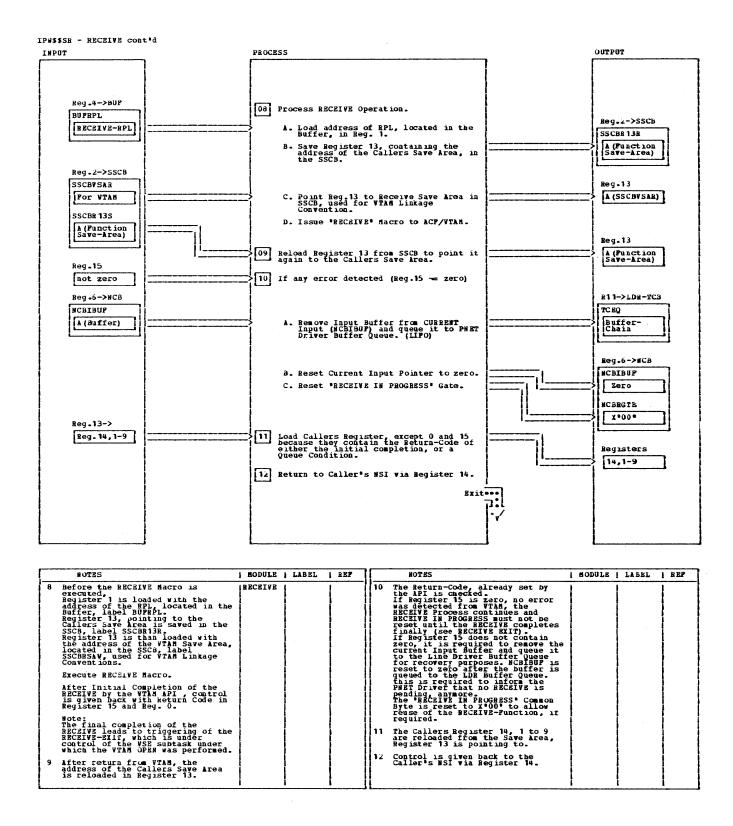


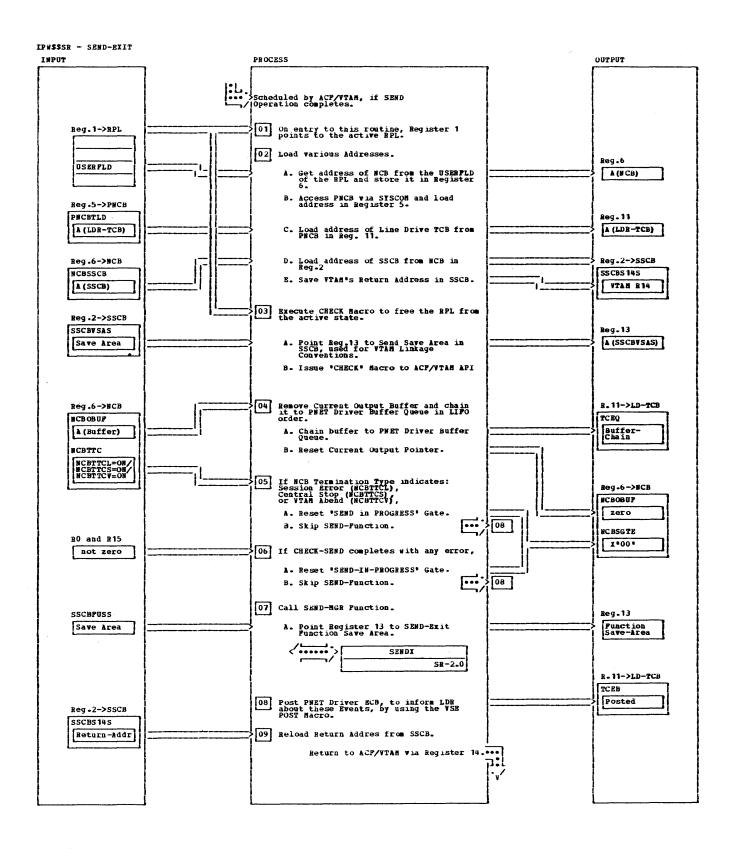
IPW\$\$SR - SEND cont*d

	NOTES	MODULE	LABEL	REP		NOTES	HODELE	LABEL	REP
8	The required fields (AREA and AREALES) of the BPL are updated with the values derived from the buffer header.				10	On return from VTAH, Initial Completion of API, the address of the Callers Save Area is loaded from the SSCB in Register 13.			
9	Register 0 is loaded with the address of the nert buffer in Queue. The buffer is now dequeued from the TO-BE-SENT AHEAD-Queue by using Compare and Swap Instruction (CS). The buffer address is stored in the field NCBCBPO to make it to Current Output.				11	The Return-Code, already set by the API is checked for a zero value. If Register 15 is zero vTAH has accepted the SEND and continues the Process. Note: SEND IN PROGRESS aust not be reset until the SEND completes finally (see SEND-EXIT). If any error was detected (Reg. 15 not zero),			
10	Before the SEND is executed, is is required to point Register 13 to a Save Area being used by VTAM to save the callers register. Therefore, Register 13 has to be saved in the field SSCBP 13s to prevent the callers Save Area Address to be lost. Register 13 is than loaded with the address of the VTAM Save Area located in the SSCB. Register 1 is loaded with the Address of actual SEND-RPL located in the Buffer. The SEND Macro is executed to pass the buffer to the VTAM-API.	S & N D				the Current buffer is removed from the Output Buffer Pointer and is queued to the PNET Driver Buffer Queue for recovery purposes. NCBOBUF is than reset to zero. The 'SEMD IN PROGRESS' Gate is reset to I'00' to allow reuse of the SEMD-Function, if required. The Callers Register 14, 1 to 9 are reloaded from the Save Area, Register 13 is pointing to. Control is given back to the Caller's NSI via Register 14. Note: Register 0 and 15 contain a Return Code.			
	Note: The final completion of the SEND will trigger the SEND-EIIT, which is under control of the VSE subtask under which the VTAM OPEN was performed.		:						

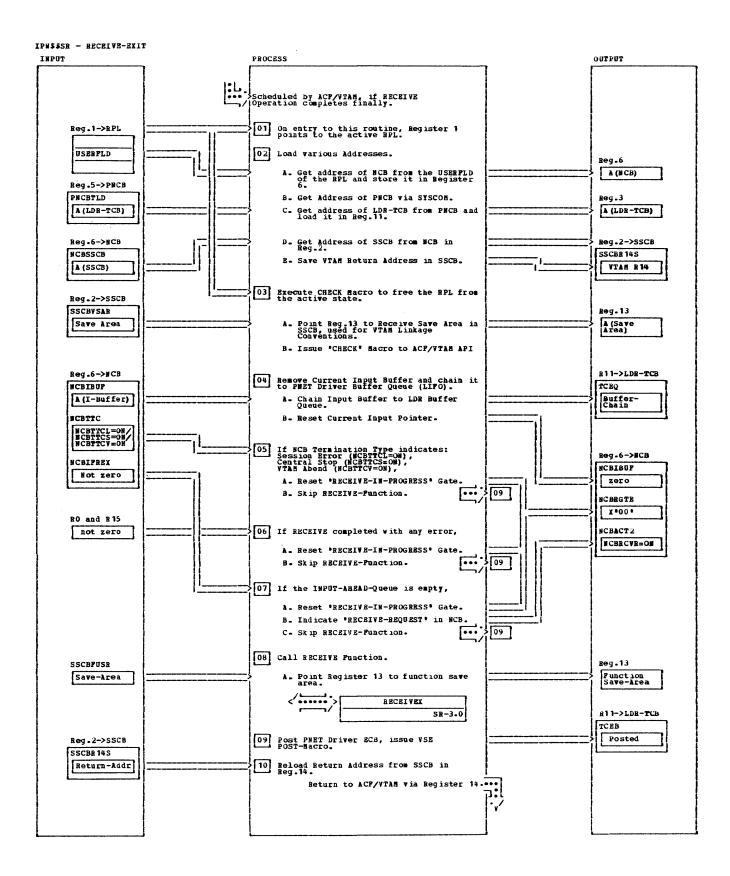


NOTES	HODULE	LABEL	RBP		NOTES	BODGLE	LABEL	REP
On entry to this routine, a test is performed to guaranty serialization of RECKIVE Operations. A common field in the NCB (NCBRGTE) is used to prevent cocurrent RECEIVE Operations in a session. Note: The function is called either from the PNET Driver or the RECKIVE-Exit. If NCBRGTE Contains all ones, a RECWIVE-Exit of the RECMIVE-Exit of the RECMIVE-Exit of the RECMIVE allowed. In this case, an internal Return Code is set in Reg.0 (X*FF*) = RECMIVE IN PROGRESS and control is given back immediately to the Caller W/o further actions. The Callers Register's 14 to 9 are saved in the Function Save Area Register 13 is pointing to. This implies that the caller is responsible to have a 12 word Save Area available when calling. In addition, the Base address in Register 15 is loaded in Register Open CREG. 15 = zero).				4	The various fields in the Buffer: BUPERT, BUFDATL, BUFSTAT, and BUFEST1 are initialized with zero values. It is required to update the RPL with the address of the Data Area and the Length of the Area with values derived from Buffer Header.			





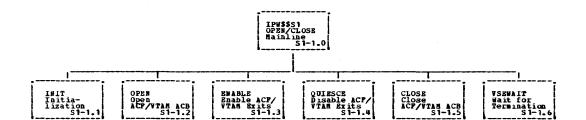
	\$SR - SEND-EXIT	HODRIE	TABBY	, 00B		NOMBE	- AODITE		1 000
	NOTES	HODULE	LABEL	REF	-	NOTES	AODULE	LABEL	REP
1	The SEND-EXIT is scheduled by ACF/VTRM if the current SEND Operation completes finally. It executes under the VSE Subtask. On entry to this routine, Register 1 points to the RPL, Register 15 contains the entry point address, and register 14 the return address. The Entry Point Address in Reg. 15 is loaded in Req. 9				VT 15 1t an Th to Dr an Co	the Return-Codes passed from MM indicates any error (Register and 0 contain honzero values). does not make sense to start other SEND. • SEND-IN-PMOGRESS Gate is reset o zero, indicating the PMET iver, that no SEND is pending, ymore. • introl is passed to post the PMET iver ECB.			
2	Addressibility is established for varios Control blocks: The address of the MCB is loaded from the USERPLD of the RPL in Register 6. The address of the PUWER Partition is loaded via SYSCOM access and is loaded via SYSCOM access and is the address of the PNCB is derived from the CAT, label CAPN and put in Reg. 5 The address of the PNET Driver TCB is loaded in Reg. 11, derived from the PNCB, label PNCBTLD. The address of the SSCB is loaded from the NCB, label NCBSSCB in Register 2. The NCB Label SSCBSCB in Register 2. The Register 14, containing the Return Address to VTAM is stored in the SSCB, label SSCBST45.				Cae Rer Sai Lion II P Cae Sai	offore the SEND-Function is illed, it is required to point ig ister 13 to an internal Save rea, where the SEND-Function will live the Registers. Inkage is established to the SEND perform another SEND via the Wallon Hacro. is required to post the PNET inver ECB, by issuing the VSE ST-Hacro. by issuing the VSE ST-Hacro of the PNET Driver ECB, so well as dispatching of the returning of the vSE/POWER Haster is, as well as dispatching of the intition. effore returning to VTAM, the sturn Address being saved in the CB, label SCGS/182 is loaded in glister 18 and control is given	POST	SENDY	\$IOH
3	Before the CHECK facro is executed, it is required to point Begister 13 to a Save Area, used for VTAM Linkage Conventions. It is now required to free the APL from the current SEND Operation. This is done via the CHECK-facro which implies also setting of the Beturn- and Feedback Codes.	CHECK			ba	ick to ACP/WTAN Via Register 14.			
4	The Current Output Buffer addressed in NCBOBUF is removed and queued to the PNET Driver Buffer Queue TCEQ.								
5	The NCB Termination Type is examined for stamined for stamined for detected (MCBTTCL=ON), Central Stop issued (NCBTTCS=ON), Central Stop issued (NCBTTCS=ON), Central Stop issued (NCBTTCS=ON), In these cases, it does not make sense to do another Send. The SEND-IN-PROGRESS Gate is reset to zero, indicating the PBET Driver, that no SEND is pending, anymore. Control is passed to post the PMET Driver ECB.								

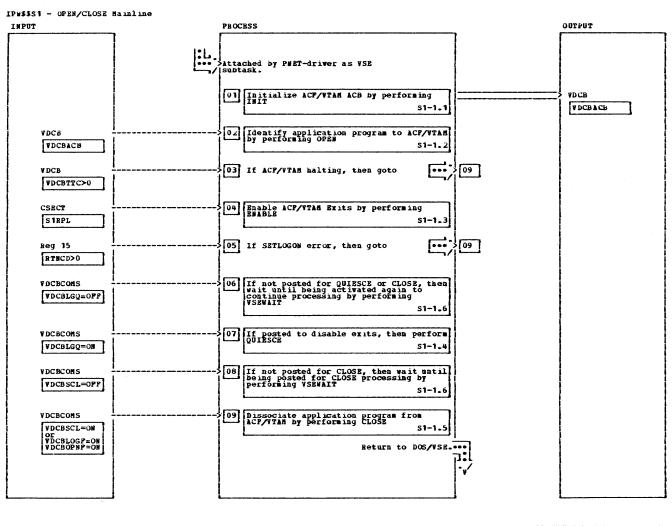


IPW\$\$SR - RECEIVE-EXIT

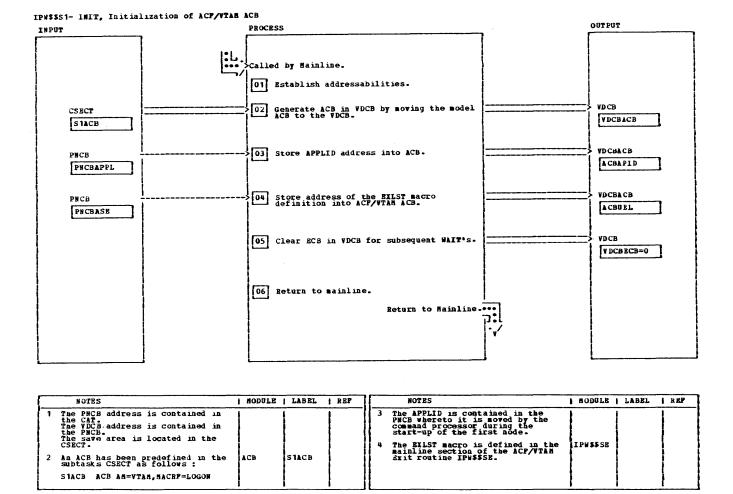
	NOTES	HODULE	LABEL	REP	NOTES MODULE LAN	BEL H	i EP
1	The RECEIVE-EXIT is scheduled by ACP/VIAH If the current RECEIVE operation completes finally. It executes under the VSE Subtask. On entry to this routine, Register 1 points to the RPL. Register 9 is loaded with the Base address, derived from Reg. 15.		-		5 If the Return Code of the CHECK indicates any error (Register 15 not zero), no RECEIVE Operation is started. The RECEIVE IN PROGRESS Indication (MCBRGTE) is reset to zero, to inform the PRET Driver that no RECEIVE is pending anymore.		
2	Addressibility is established for varios Control Blocks: is loaded from the address of the MCB is loaded from the SERFLO of the RPL in Register 6. of the POWER Partition is dedived from the SYSCOM and loaded in Register 10. It is than the Address of the POWER Partition in Address of the PNEB is than the Address of the PNET priver TCB is loaded from the PNEB, label CAPN. The address of the SECB is loaded from the PNCB, label PNCBTLD in Register 11. The address of the SCB is loaded from the NCB label PNCBTLD in Register 11. The Address of the SCB is loaded from the NCB label NCBSSCB, in register 24 is saved in the SCCB, label SSCBR14S.				address of a internal save area, which allows the REGRIVE Function saving of the callers registers.	RIASX 21	IOM
3	Before the CHECK Macro is executed it is required to point Register 13 to a Save Area, used for VTAM Linkage Conventions. It is now required to free the RPL from the current RECEIVE Operation. This is done via the CHECK Macro, which implies also setting of the Return- and Feeback Codes.	CHRCK			RECEIVE Punction to perform another RECEIVE via IPW\$108 macro. 9 It is required to post the PWBT POST Driver ECB by issuing the VSE POST-facto. Note: The POST implies posting of the PWBT Driver REB. Posting of the PWBT Driver REB. Posting of the YSE/POWER Haster ECB, as well as dispatching of the Partition.		
4	After return from the CHECK, the received buffer is removed from the Current Input Pointer (NCSIBIP) and is chained to the PMET Driver Buffer Queue (TCEQ) LIFO.				O WTAH'S Return Address is loaded from the SSCb in register 14 and control is given back to WTAH.		
5	The MCB Termination Type (NCBTTC) is examined to find out whether the session has already been stopped (NCBTCS=ON), or a session error was previousely detected (NCBTTCL=ON), or VTAM Abend was triggered (NCBTTCV=ON). In these cases, it does not make sense to start a new RECEIVE. The "RECEIVE IN PROGRESS" Indication (NCBRGTE) is reset to zero, to inform the PMET Driver that no RECEIVE is pending anymore.						

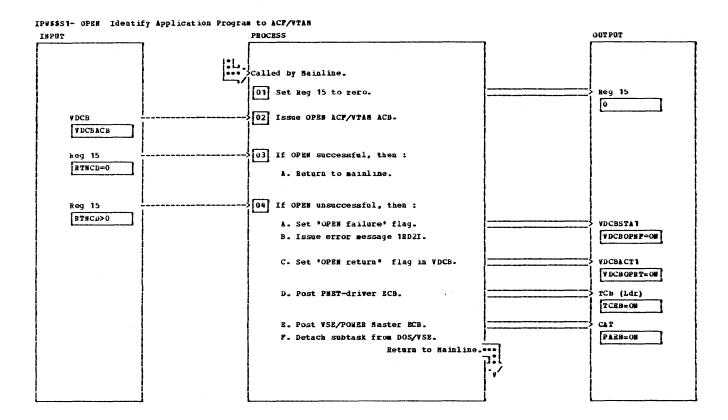
CHART S1: IPW\$\$S1 - PNET SNA SUBTASK



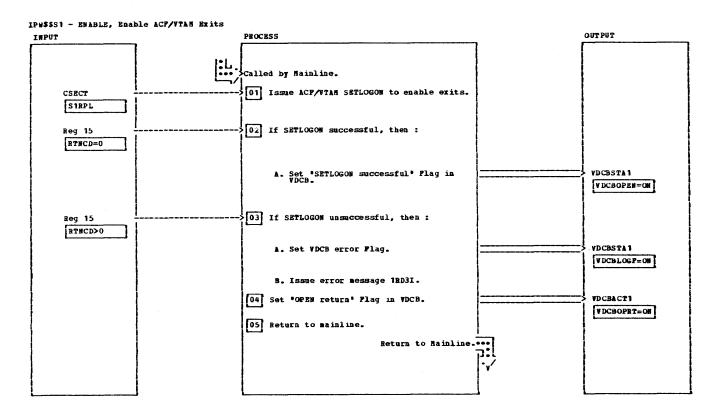


NOTES	HODULE	LABEL	REP	NOTES MODULE LABRE	REP
Routine IPW\$\$\$1 is a VSE subtask which is attached by the PNET-driver to perform the ACF/VTAH OPEN, SETLOGON and CLOSE functions. Also SEMD, MECELYE and BPL Brits are scheduled under this task. 1 The INIT routine is executed to build an ACF/VTAH ACB in the VDCB area. An ACB is predefined in the subtask's CSECT and is moved to the VDCB. Relevant ACB fields are initialized.				6 It might happen that the subtask is posted to perform SETLOGOM; QUIRSCE or CLOSE processing while it is just processing open and SETLOGOM. The IPMS\$51 routine posts the PMET-driver ECB thus indicating that session establishing can be performed now - IPM\$51 remains in a WAIT state until it is posted to quiesce the exits. 7 The QUIRSCE routine is executed to quiesce the ACE/VTMM exits. Error IRDMI is displayed in case of a	
identify the application program to ACP/YTHM by issuing the OPEN. An error message will be issued in case of an OPEN error (TRD21). The subtask terminates when any OPEN error is detected.				SETLOGON error. 8 The subtask waits until the PNET-driver posts the subtask again in order to resume processing of the CLOSE.	
3 The subtask does not perform the SETLOGON in case ACP/VIAM is halting. No error message will be displayed.				9 The CLOSE routine is executed to dissociate the application program from ACF/VTAM. In case of a CLOSE error, error message 1RD51 is displayed.	
4 The SNABLE routine is executed to initialize the ACF/TTAB exits so that session requests can be received from reacte nodes. An error message will be issued in case of an SETLOGOM error (RDJI). 5 The subtask terminates when any SETLOGOM error is detected.				NOTE: As the IPW\$\$\$1 subtask does not have access to VSE/FOWER control blocks and function modules, a separate routine 'Hessage display routine') has been added to simulate theses function modules.	

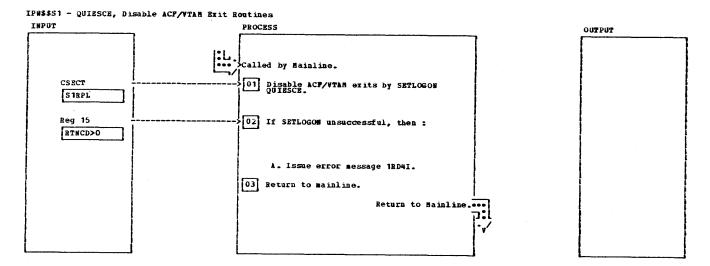




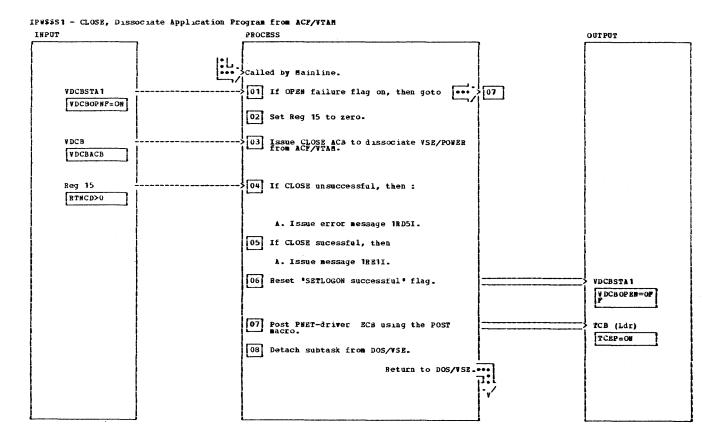
NOTES	MODULE LABEL	REF	NOTES	HODULE	LABEL	REP
1 Reg 15 must be set to zero before issuing an OPEN request. 2 The ACF/VTAM OPEN identifies VSE/POWER as an application program to ACF/VTAM.	OPEN		4 Requister 15 contains a return code with non-zero walue in case of an OPEN error. ACB field ACBERLPG contains the error code which is diplayed with error message 1RD2I. The subtask is terminated immediately after encountering an OPEN error.		S 150	



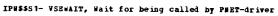
	NOTES	WODULE LA	BEL REP	NOTES	HODULE	LABBL	REP
1	A RPL with the options for a SETLOGON has been predefined in the subtasks CSECT.	SETLOGON		3 Register 15 contains a non-zero value and the PDBK2 code has been set.			
2	Register 15 contains a zero value after successful completion of the STILOGON flag VDCHOPEN-ON incicates that at this point we can receive session requests insued by remote nodes and we can establish sessions on our own.			Error message 1RD3I will be displayed in case of an unsuccessful SETLOGOM.		S175	

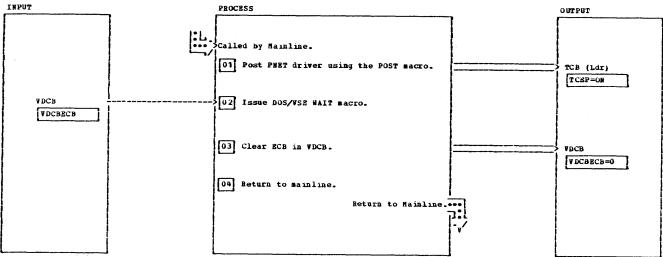


ROTES	MODULE LABRE	REP	NOTES	HODULE	LABEL	REP
The IPs##\$51 routine is posted by the PMET-driver to call the QUISSCE routine to disable the ACF/VTAM exits. The ACF/VTAM exits are only disabled when the SETLOGOM OPTCD-STAMT has been completed successfully.	SETLOGON S120		No more session requests will be passed thur the SCIP exit after successful completion of the SETIOGON QUIESCE. Error message 1RD4I will be displayed in case of an unsuccessful SETLOGON QUIESCE.		s 180	



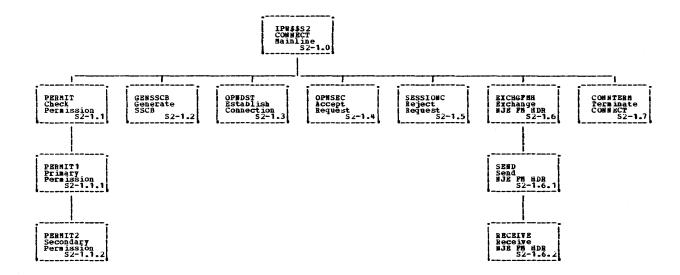
	NOTES	HODULE	LABEL	REP	NOTES	WODGTE	LABEL	REP
	The CLOSE routine is executed to dissociate VSE/POWER from ACF/VTAM.		IS 14 0		6 After closing down the API, th OPEN successful flag is reset zero to indicate to the PNET-driver that the VDCB can	to	S 150	-
1	The CLOSE request is only issued when the OPEN has been completed successfully.	CLOSE	S 14 4		7 The PMET-driver ECB is posted inform the PMET-driver about completion of the DOS/VES subt	}	S 152	
2	Reg 15 must be set to zero before the CLOSE request is issued.				completion of the DOS/VSE subt	ask.	S 152	
4	Hessage 1RD5I is displayed in case of an unsuccessful CLOSE request.		S 19 0		DOS/VSE.		3 132	
5	Message 1RE1I is displayed in case of a successful Close request to indicate that the ACP/VTAM interface has been terminated.							

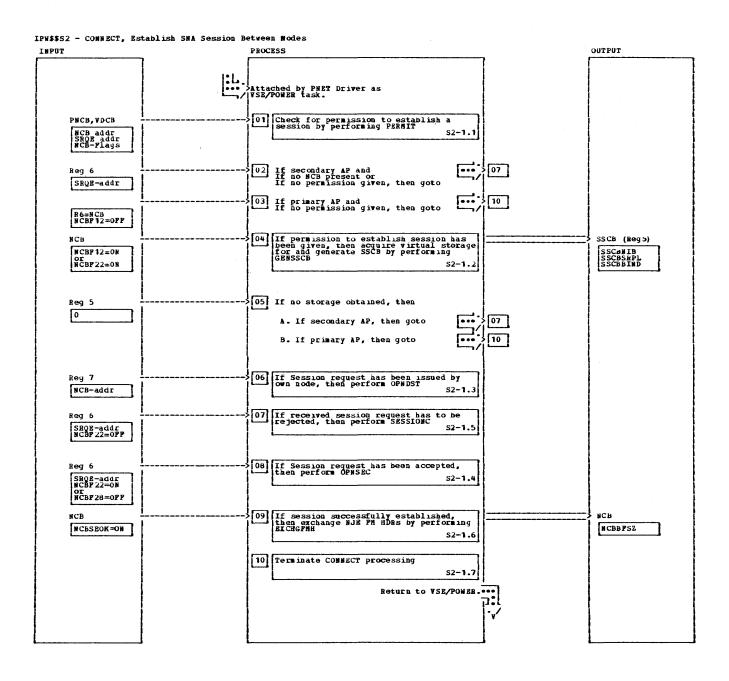




NOTES	MODULE	LABEL	REF	ľ	BOTES		HODGIE	LABEL	1	REP
The VSEWAIT routine is called to post the PNET-driver and to wait for resumption of processing.	1	S160		$\prod_{i=1}^{n}$	2 The DOS/VSE WAIT macro is used communication of the DOS/VSE subtask with the PNET-driver.	for	WAIT			
1 The DOS/VSE POST macro is used for communication of the DOS/VSE subtask with the PNET-driver-	POST									

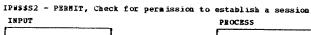
CHART S2: IPW\$\$S2 - PNET SNA CONNECT TASK

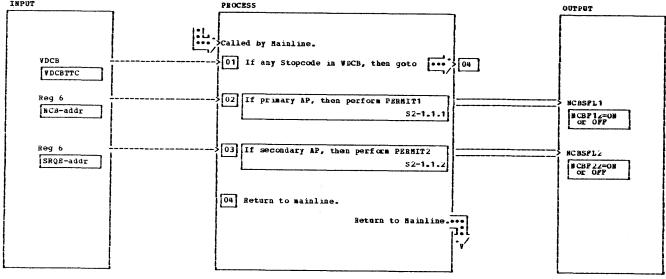




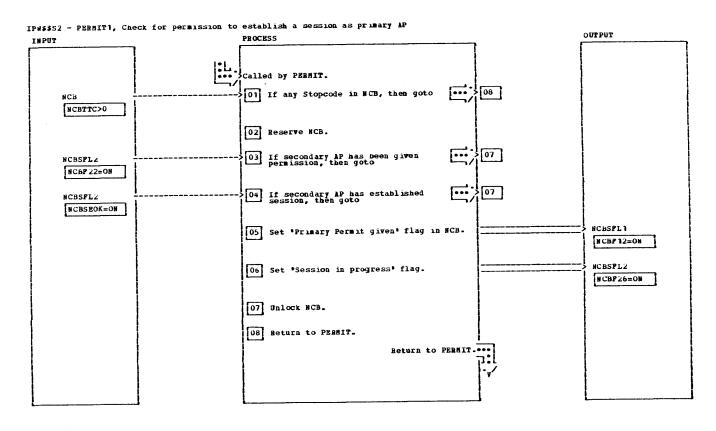
IPW\$\$\$2 - COMMECT, Establish SMA Session Between Modes

NOTES	BODULE	LABEL	REF	NOTES MODULE LABEL RE
Note: In the above diagram some references are made to NCB status				3 A primary session request will be rejected if there is already a secondary session in progress.
flags even if there is no MCB present. This error situation is handled in the SESSIOMC logic. Routine IPW\$\$52 is attached as a VSB/POWEB task either when a session has to be established or when a session request has been				4 The SSCB contains all control blocks and buffers used by IPW\$\$52. If there is no storage available, the task will remain in a Wait state until storage becomes available.
received from a remote node (thru SCIP Exit routine). At entry, Reg 6 contains the address where either a NCB or a				5 No primary session request will be fulfilled if there is no storage available, and a remote session request will be rejected.
SROE is located. Session requests are rejected if there is already a session active or an OPNDST or OPNSEC pending.				6 The primary logic issues the OPMDST to establish the logical connection with the secondary application program.
Purthermore, it is rejected when a PSTOP command has been entered to stop VSE/POWER. A session request issued by a				7 The SESSIONC logic issues the SESSIONC in order to reject a session request.
remote node will be rejected if its APPLID is not known or if there has no PSTART command been given (i.e. no NCB present). The operator will be notified about				8 The OPMSEC logic issues the OPMSEC in order to respond to a session request and to complete session establishment.
the session request rejection. A session request by a remote will be rejected if there is either no MCB present in the MCB chain, or				9 The EXCHGPMH routine performs exchanging the NJR FM HDRs in order to agree on a commonly used buffersize.
if there is no valid NDT entry for this APPLID or if there is already a primary AP in progress.				10 The COMMITTER routine is called to perform termination and cleanup for COMMICT completion.

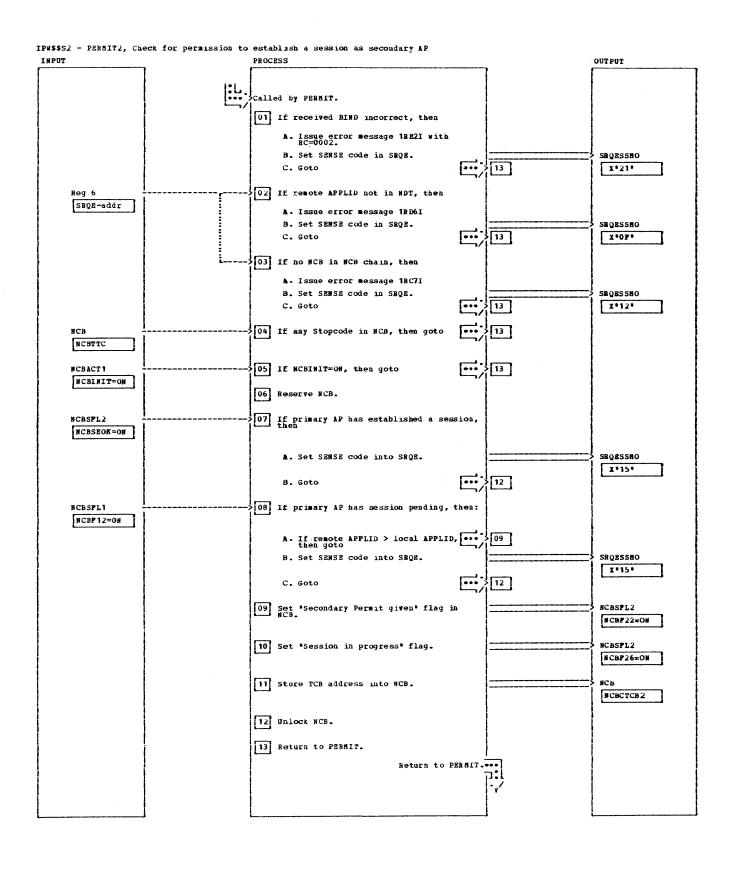




NOTES	MODULE LABEL	REP	NOTES	HODULE	LABEL	REP
1 In case any stop code is set in the VDCB, no permission will be given and session establishment cannot be performed. The CONNECT task will be detached in case of a primary AP without any error message as the reason for discontinuation is explained by the error message describing the status flag setting in the VDCB. The CONNECT TO address located in the NCB (NCBCTCB) and has to post the PMET Driver ECB. The CONNECT task will issue a SESSIONC in case of a secondary AF without any error message as the reason for discontinuation is explained by the error message describing the Status flag setting in the VDCB.			2 A primary AP can continue session establishment if there is no concurrent secondary AP executing. NCB712 is set if permission is given. 3 A remote session request will be accepted if no concurrent primary AP is executing and if a valid APPLID is defined in the MDT and a MCB is present in the MCB chain. Note that the MCB-flags shown in the diagram are only valid there is a MCB present. MCBP12 is set if permission is given.			

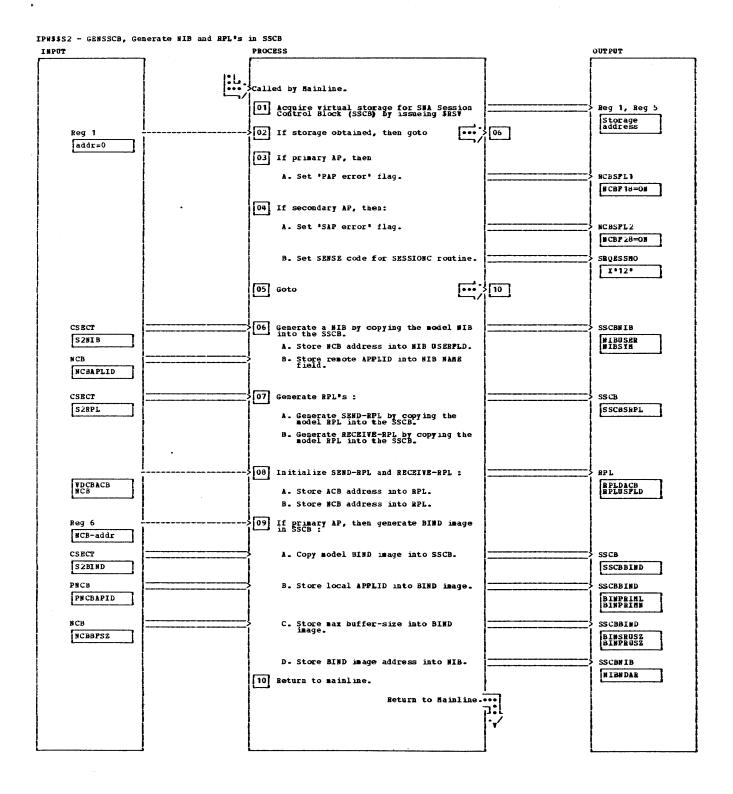


	NOTES	HODULE	LABEL	REP	NOTES MODULE LABER	. REP
1	Any stopcode set in the NCB implies that session establishment cannot be performed. The CONNECT task will be detached without any error message as the reason for discontinuation is explained by the error message describing the status flag setting in the NCB. The CONNTERM routine has only to clear the TCB address				3 This situation is encountered when a secondary AP is running concurrently with a primary AP task. 4 No permission is given if a sescondary application program has already established a session. 5 The *PERBIT given* flag indicates that all prerequisites for session establishent are checked and that	
2	located in the NCB [NCBCTCB] and has to post the PNET Driver BCB. The NCB is locked during permission checking to prevent another COMNECT task not to get the correct status.	IPW\$RSR			establishent are checked and that it can proceed now. 6 The 'Session in progress' flag is set to infrom the PRET Driver about session establishment being just performed. As soon as the session is established, this flag is turned off and the 'session of' flag is turned on instead.	



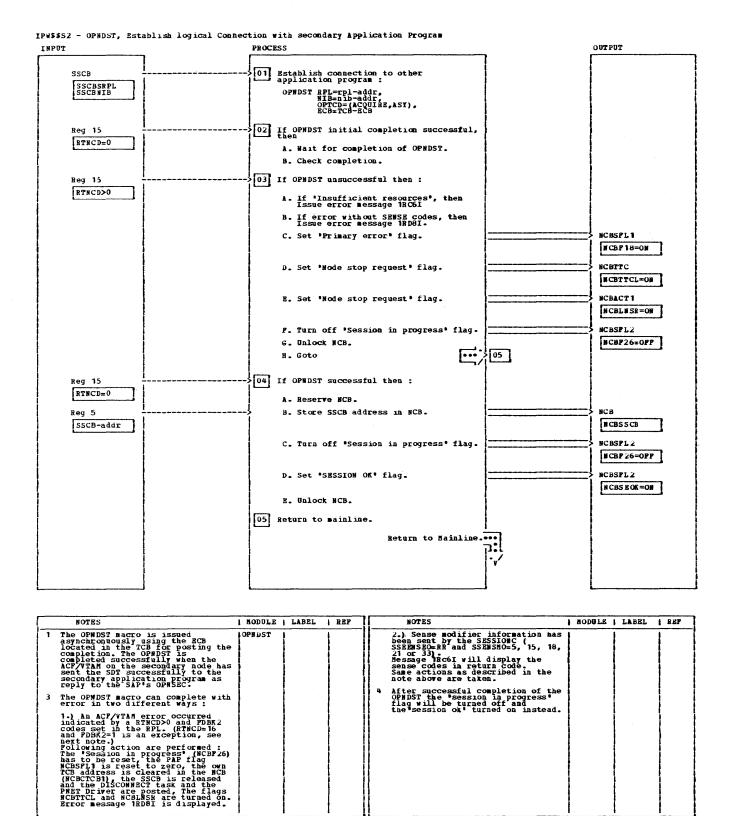
IPW\$\$52 - PERMIT2, Check for permission to establish a session as secondary AP

NOTES	MODULE	LABEL	REF	NOTES MODULE LABEL REP
1 A session request is rejected if the received BIBD image does not agree with the BIND image defined in the task's CSECT.				4 The session request is rejected in case a stopcode has been set in the meantime in the MCD.
SENSE code 1,21° is set which means 'Invalid session parameters'.				6 The WCB must be locked during checking of the status of the primary AP and during the setting of the status flags.
2 The NDT is scanned for an entry with a matching APPLID (which is contained in the received BIND command, i.e. in the SEQE.		· - -		7 The session request is rejected in case the primary AP has already established a session.
If no valid APPLID has been found, error message TRDGI will be displayed and the session request is rejected. The SESSIONC is issued with SENSE				8 The session request is rejected in case the primary AP has a pending session and if the local APPLID is higher than the remote APPLID.
code X*0F* which means "End user not authorized".				9 The *Secondary Permit given* flag indicates that all prerequisites for session establishment are
3 The NCB chain is scanned for an NCB with a matching APPLID (which is contained in the received BIND				checked and that it can proceed now.
command, i.e. in the SRQE. If no NCB has been found, error				10 The *Session in progress* flag is set to infrom the PMET Driver about session establishment being
message IRC7I will be displayed and the session request is rejected. The SESSIONC is issued with SENSE code 1 12 which means				just performed. As soon as the session is established this flag is turned off and the Session of flag is turned on instead.
Insufficient resources.			1	



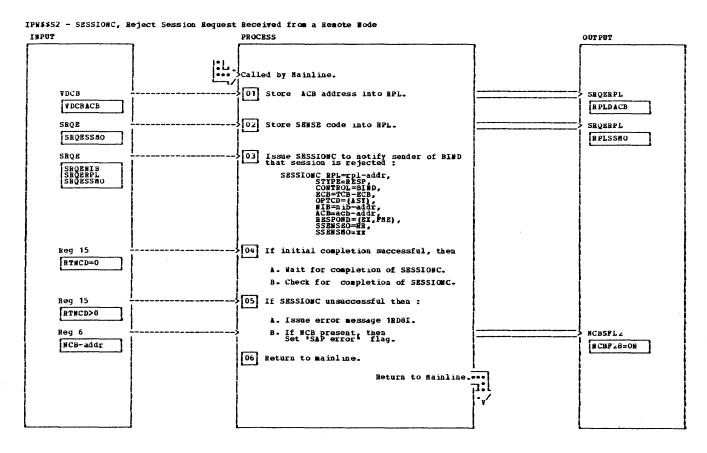
IPW\$\$52 - GRWSSCB, Generate NIB and RPL*s in SSCB

	NOTES	HODULE	LABEL	REP		notes	MODULE	LABEL	REP
	The GENSSCB routine is called to create a BIND image (only for PAP), a NIB, a SEMD-MPL as well as a RECEIVE-RPL. All these control blocks are located in the SNM Session Control Block (SSCB) which is chained to the NCB. Reg 5 points to the SCS.		5222		6	A MIB is hard coded in the tasks CSECT and is moved to the SSCB where only relevant fields in the MIB are changed. The MIB contains in its USERFLD the associated MCB address thus making it available to the exit routines.			
1	The SSCB is built in a contiguous area of virtual storage which is acquired using the \$R\$V macro instruction. The IPP\$RSV macro to obtain storage is issued with the WAIT=TRS option. The PRET Driver is defined as owner of the acquired SSCB storage.	IP#\$RSV	S222			A RPL is hard coded in the tasks CSECT and this RPL is moved into the SSCB. Following addresses have to be relocated in the SEND-RPL as well as RCV-RPL in NCB-address, ACB-address.		5223	
2	Only in case the CONNECT subtask has to be cancelled, no storage might be obtained.		5222		9	A primary AP uses the BIND command during the OPNDST. A model BIND image is coded in the tasks CSECT and is moved into the SCCB. The local APPLID contained in the			
3	Session establishing is not performed in case no storage could be obtained for a primary AP. The CONTERN TOULINE will perform following resetting: The "Session in progress" (MCBF26) has to be reset the PAP flag NCBFLI is reset to zero, the own TCB address is cleared in the MCB (MCBCTCB1) and the PNET Driver is posted.					PNICE as well as the buffersize contained in the NCB are inserted into the BIND image. Note that the buffersize is transformed into condensed format. The BIND image address is stored into the NIB.			
4	Session establishing is not performed in case no storage could be obtained for a secondary AP. The session request of the remote node is rejected with SMSE code X'12" which means 'Insufficent resources' in the session in progress' (MCBP26) has a session in progress' (MCBP26). The session in progress' (MCBP26) has a session to see the session request. The NCB MCBP12 is reset to zero, the own TCB address is cleared in the NCB (MCBCTCB2), error message 1RE2I with RC=1 is displayed. The SROB is released in case ACF/WTAM has terminated its functions; otherwise a SESSIONC is issued to reject the session request.								

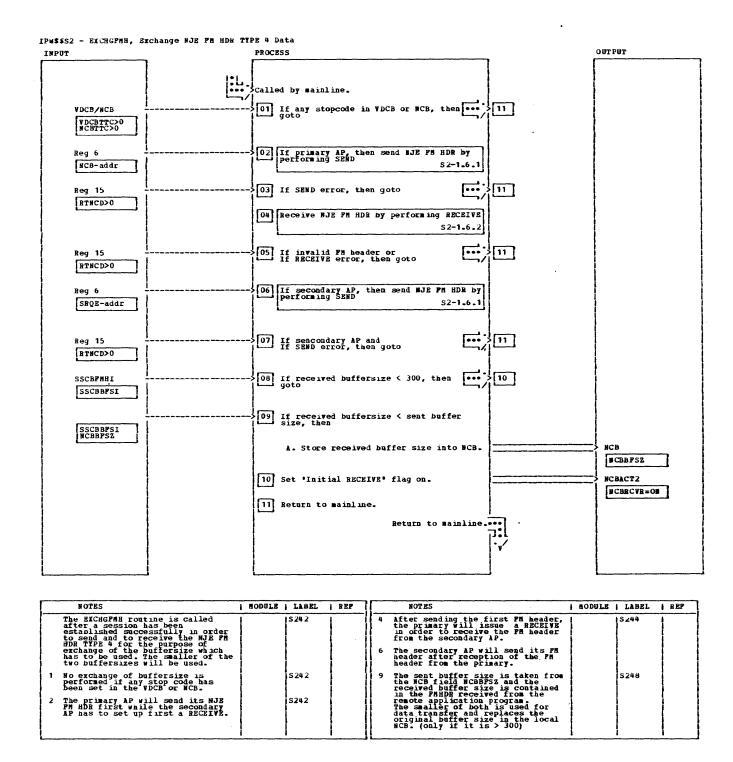


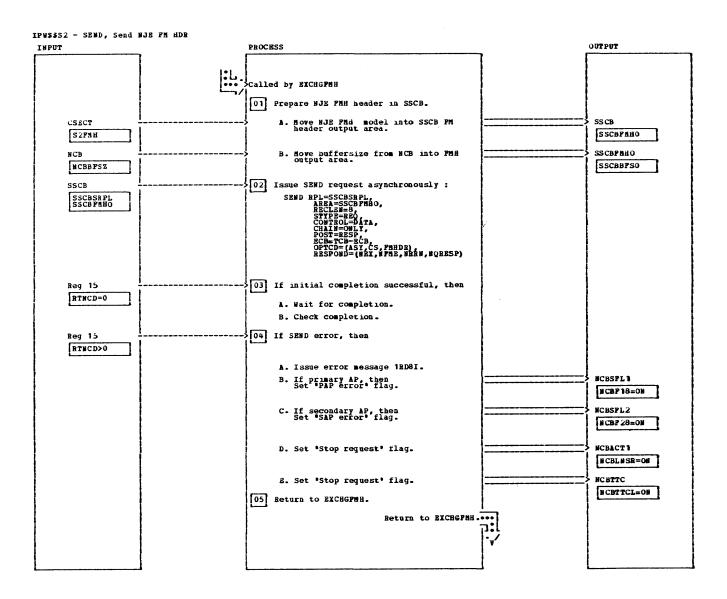
402

IPW\$\$S2 - OPNSEC, Accept Received Session Request OUTPUT Called by Mainline. Ol Set "WAIT for SDT" Flag in NCB as we are waiting for it as reply to OPNSEC. NCBSEST NCBWSDT=ON 12 Issue OPMSEC to notify sender of BIND that request is accepted: SSCB SSCBNIB SSCBSRPL OPNSEC BPL=rpl-addr, NIB=nlb-addr, ECB=TCB-ECB, OPTCD=(ASY,CS) Reg 15 03 If initial completion successful, then RTNCD=0 A. Wait for completion of OPMSEC. B. Check completion of OPNSEC. Reg 15 04 If OPMSEC error, then : RTNCD>0 A. Issue error message 1RD8I. B. Set 'Node stop' flag. NCBTTC N CBTTCL=ON C. Turn off 'Session in progress' flag. NCBSFL2 NCBPZ6=OFF D. Set "SAP error" flag. NCBSFL2 MCBF∠8=OH E. Set *Stop request* flag. ··· 07 NCBLNSR=ON P. Goto 05 If SDT not yet arrived, then NCBSEST NCBSSSD=OFF A. Wait for SDT to arrive. NCBSEST 06 If SDT received, then : NCBSSSD=ON A. Reserve NCB. B. Store SSCB address in NCB. NCB NCBSSCB C. Turn on 'Session ok' flag. NCBSPL2 MCBSEOK=ON D. Store SRQE address into NCB. NCBSRQE E. Turn off *Session in progress* flag. NCBSPL2 NCBF26=OFF F. Unlock NCB. 07 Turn off "Wait for SDT" flag. NCBSEST NCBSSSD=PP NCBWSDT=OPP 08 Return to mainline. Return to Mainline. *** NOTES | MODULE | LABEL | REP BOTES | MODULE | LABEL | REF Any OPNSEC error will lead to immediate stopping of the session establishment process. Message 1RDBI is issued and displays the ACP/VTAM RINCD and the PDBK2 codes. The SSCB has to be released as well as the SRQE. The OPNSEC routine is exectued in order to send a positive response to the (at the remote node) pending OPNDST. 5232 The 'WAIT for SDT' flag signals the SCIP exit routine, that the OPNSEC routine is going to wait for the SDT as response to the OPNSEC. s232 ACF/WTAM will send the SDT and the CONBECT task has to wait for its arrival thru the SCIP SDT exit. This exit routine will post the CONBECT task which has to check if it has been posted either by the exit routine or by the PNET driver in case of a ACF/WTAM abend. IPWSWPC The OPNDST issued at the primary application programs node will be completed successfully. The OPNSEC is issued asynchronuously. If the OPNSEC completes unsuccessfully, no reply to the OPNDST is possible. The MIB NAME field contains the APPLID of the remote, i.e. of the primary application program. OPNSEC

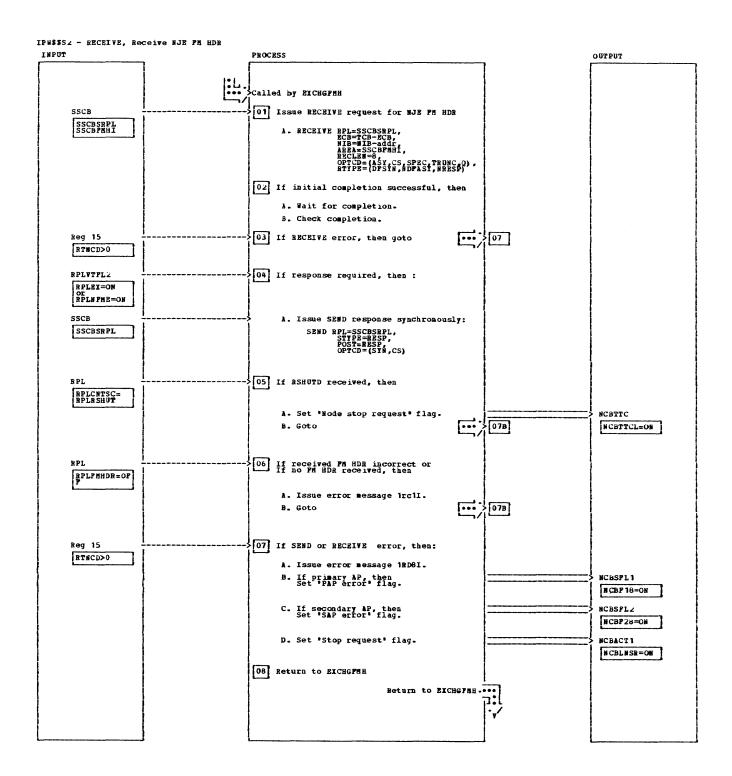


NOTES	HODULE	LABEL	REP	NOTES	MODULE LABEL	REP
Note: This routine can be called without having a NCB present. The SESSIONC routine is called in order to perform the rejection of an unacceptable session request issued by a remote node. Pollowing internal error situations lead to reject a remote session request: 1. Stop code in VDCB or NCB has been set. 2. Invalid SIND has been received. 3. No NCB has been found in NCB chain. 4. A primary session has been established already. 5. A contention situation has been encountered and the local apilid was higher than the remote own. 6. No storage could be obtained and the COMMECT task has been cancelled.	SESSIONC	5240		3 The SESSIONC sends a negative response to the BIND originator, thus causing the OPMINT to be completed unsuccessfully. Pollowing SEMSE MODIFIERS will be used to indicate the reason of the session request rejection: I*05* - Session 1 mit exceeded. I*07* - End user not authorized. I*12* - Insufficient resources. I*15* - Function already active. I*21* - Invalid session param. 5 No recovery action is performed in case of a SESSIONC failure. Message 18DBI is displayed to indicate unsuccessful completion of the SESSIONC.	SESSIONCIS 240	



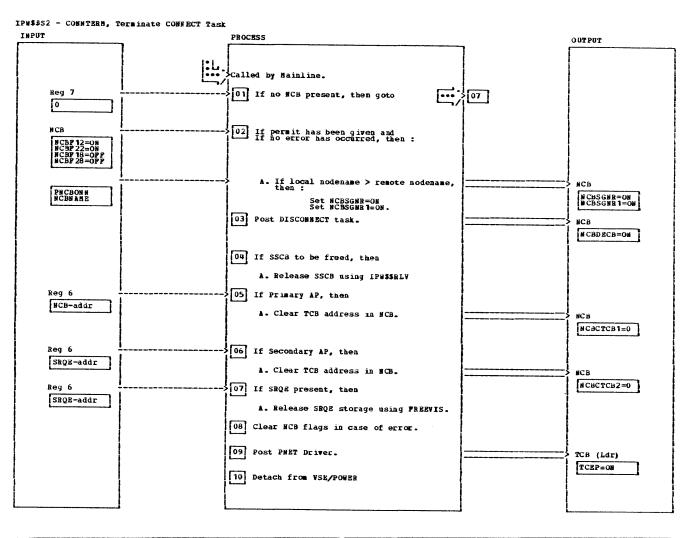


EXCHGPMH routine to send the NJE sto	BND error leads to immediate S289
1 A model PHBDR is defined in the tasks CSECT as follows: byte 0: X*08* = length of PHBDR byte 1: X*04* = type 4 indicat. byte 2-3:	opping of exchange of FM dders. Th operator is notified display of message 18081. The COMBECT task has to terminate session. MCB status flags NCBTTCL and LESR are turned on. LESR are turned on. WCB status flags NCBTPL1 is ared for a primary AP. The NCB task flags NCBTCL and CBC CBC CBC CBC CBC CBC CBC CBC CBC CB



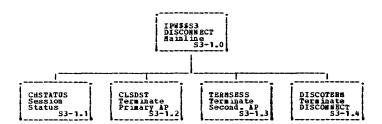
IPW\$\$\$2 + RECEIVE, Receive NJE PM HDR

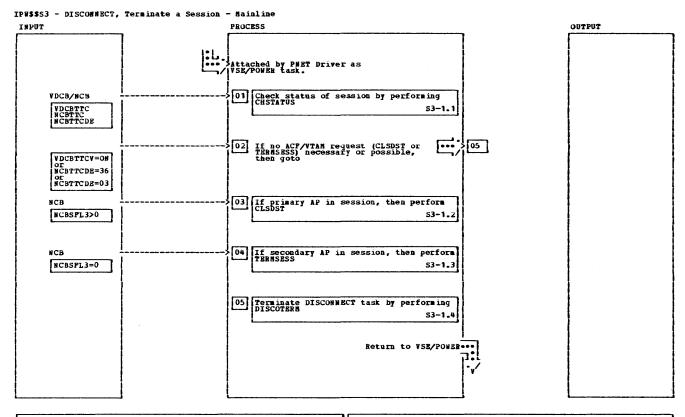
	NOTES	MODULE	LABEL	REP		HOTES	I HODULE	LABEL	REP
	The ACF/VTAN RECEIVE macro is issued by the EXCHGPMH routine to receive the NJE PA HDR TYPE 4 for the purpose of exchange of the buffer Size which has to be used. The smaller of the two buffersizes will be used.		S244		6	The remote node might have sent an incorrect FB header or not an FB iDB at all. The exchange of buffersizes is terminated and the RCB is flagged that the session has to be terminated. Error sessage TRCII is displayed.		S 246	
1	The RECEIVE is set up in asynchronous manner and such that it can receive normal data as well as expedited data like a RSHUTD command. Overlength data is discarded as it is incorrect.	RECEIVE			7	A SEND or RECEIVE error leads to termination of the exchange of buffersizes. The MCB is flagged that the session has to be terminated. Error message 1RDBI is displayed. The DISCONMECT task has to		S ∠89	
4	A wait is issued to await the final completion which is checked using the CHECK macro.	СНЕСК				terminate the session. The NCB status flags MCBTTCL and NCBLMSR are turned on. The NCB status flag NCBSFL1 is			
3	A RECEIVE error leads to discontinuation of the exchange of buffersizes. Error message 1RD8I.					cleared for a primary AP. The NCb status flag NCBSFL2 is cleared except for NCBSBOK flag in case of a secondary AP. The SROE must be			
4	The RPL has been flagged whether the sender wants to have a response or not and the appropriate action is taken. The SEND response is issued in a synchronous manner.	SEND				released in case of a secondary AP. In both cases is the PNET Driver and the DISCONNECT ECB (in NCBDECB) posted,			
5	The remote node might have sent a RSHUTD command. The exchange of puffersizes is terminated and the NCB is flagged that the session has to be terminated.								-



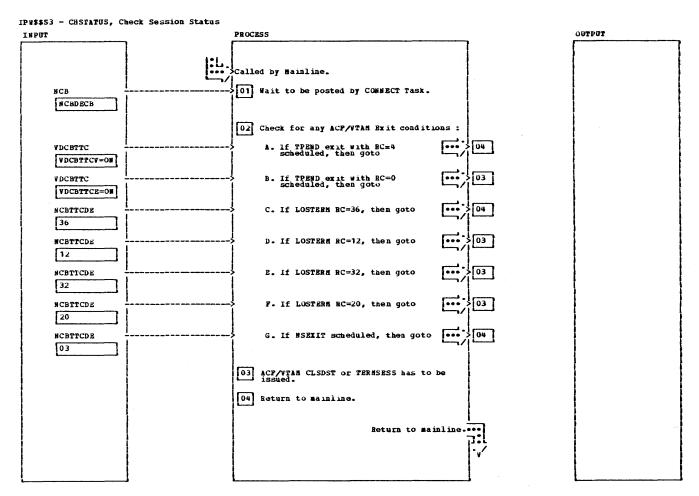
	NOTES	RODULE	† LABEL	REP		NOTES	WODEF	LABEL	RE	P
	The CONNTERM is called in order to perform the task cleanup.		S 256		4	The SSCB (if acquired) will be released in following cases: a) a session could not be	IPW\$RLV	1		
1	This condition is caused when a session request has been received, but the local operator has not given the *PSTART* command or if the APPLID is invalid.					established successfully, (OPNDST or CPNSEC error), b) no permission has been given for session establishment. In all other cases the SSCB is released by the PNET Driver after				
2	The node with the higher nodename will send the SIGN-ON record first]	ĺ	1 1	i _	terminating the session.	Ì.	İ	Ì	
	while the other node with the lower nodename will receive this record first.	1			7	The SRQE is discarded as it is not used anymore.	PREEVIS	l		
	Brror condition means: Stop code has been set	ĺ			9	The PNET Driver ECB is posted before the subtask is detached.	ļ			
	Stop code has been set No storage available INQUIRE failure OPHSET failure OPHSEC failure SEND failure RECEIVE failure.				10	The COMMECT task is detached after completing session establishment successfully or unsuccessfully.	IPW \$DET			
3	The DISCONNECT routine might have waited for CONNECT task to complete. This happens when the operator enters a PSTART command and immediately after it a PSTOP command for the same node.									

CHART S3: IPW\$\$S3 - PNET SNA DISCONNECT TASK

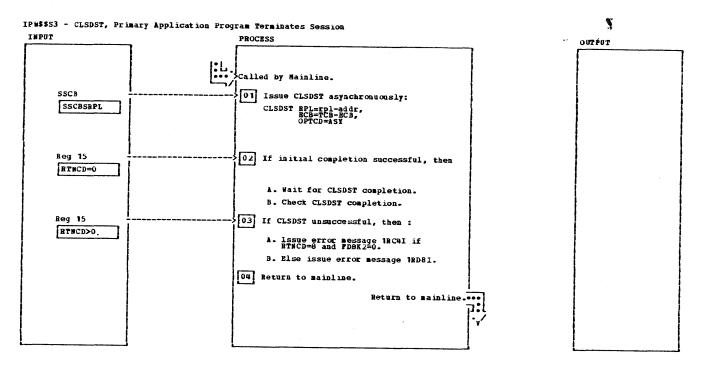




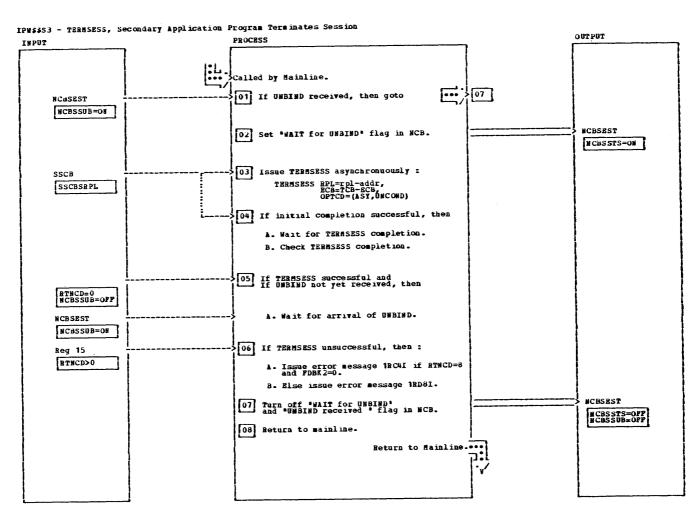
NOTES	WODULE	LABEL	REP		NOTES	HODGLE	LABEL	REP
Routine IPW\$\$S3 is attached by the PMET Driver as a VSZ/POWER task whenever a session has to be terminated.					Depending upon the situation just mentioned either routine CLSDST or TERESESS is called. Following registers are used:			
Session termination is requested at the location of the local node by the operator when entering					R2 = VDCB Address R3 = NIB Address R4 = RPL Address			
PSTOP PNET, nodeid or PEND.					R4 = RFL Address R5 = SSCB Address R6 = Work register R7 = MCB Address			
Session termination is initiated by a remote node when one of the following commands is received:					RO = PNCB Address R9 = Base register RA = CAT Address RB = TCB Address			
UNBIND via SCIP exit, TERMSESS via LOSTERM exit.					RD = Save area address.	•		
Session termination is initiated when an exceptional condition is passed to PNET thru an ACF/VTAM exit:					Registers RO,R1,RE and RF are used by ACF/VTAM. R6 points at entry to the DISCOMMRCT task to the NCB		!	
TPEND LOSTERM NSEXIT.				║,	representing the session. RA is pointing to the CAT. The CHSTATUS routine checks the			
Four cases must be distinguished:					status of ACP/VTAM, the status of the exit conditions and the status of the NCB in order to decide if	•		
a) The session termination request has been issued by the local node and the local node is primary AP within this session. Only a CLSDST		S320			any ACF/VIAM request can be issued or only cleanup actions can be performed.			
has to be sent to the secondary application program.				2	TERMSESS is issued in case no permission has been given. Only			
b) The session termination request has been issued by a remote node and the local node is acting as a		S320			cleanup actions are taken in the DISCOTERN routine.			
primary AP within this session. In this case a CLSDST has to be sent as reply to the received TBAMSESS or RSBUTD command.				3	The CLSDST routine terminates the session as primary application program.		S320	
c) The session termination request has been received from another		s330		4	The TERMSESS routine terminates the session as secondary application program.		S330	
node and the own node is acting as a secondary AP within this session. Only clean-up action is necessary as only an DMBIMD has arrived.				5	The DISCOTERM routine performs the cleanup of status flags and detaches the task.		S340	
d) The session termination request has been issued by the local node and VSE/POWER is acting as a secondary AP within this session. A TERMESS has to be sent to the primary AP.		s330			No message is displayed after the completion of the COMPECT task. Only in case of a CLSDST or TERRSESS error, message 18001 or 18041 is displayed.		S360	



NOTES	HODULE	LABEL	REP		NOTES	MODULE	LABEL	1	REP
1 An ECD located in field MCBDECB is used for communication between a COMBECT task and a DISCOMBECT task which might be attached while a COMBECT task is still active.	IPWSWPC			20	The session has to be shutdown in case of permanent loss of contact which is indicated by scheduling the LOSTERH exit with RC=12.			1	
2 The DISCONNECT task has to check the reason why it has been called. 2A No more communication is possible when ACP/VTAB has terminated its functions which has been indicated by scheduling the TPEND exit with RC=4. Only cleanup is to be done. 2B Communication is still possible when ACP/VTAB is going to terminate its functions which is indicated by scheduling the TPEND exit with RC=0. 2C No more communication is possible when the buffer limit is exceeded which is indicated by scheduling the LOSTERM exit with RC=36. Only cleanup is to be done.				Ca Or No CL	Communication is still possible when a conditional command has been entered which is indicated by scheduling the LOSTERM exit with BC=22. The LOSTERM exit has been scheduled with RC=20 which has been caused by the reception of a TERMSESS request. The session has to be sbutdown normally. If the WSEXIT exit has been scheduled, the contact has been lost and in Bore communication is possible. Bore communication in possible of the contact has been lost and in given only dicates that ACF/VTAM requests in be or have to be issued in der to terminate the session. Permission will be given if a SDST or TERMSESS cannot be usued successfully or if it is the cessary.				

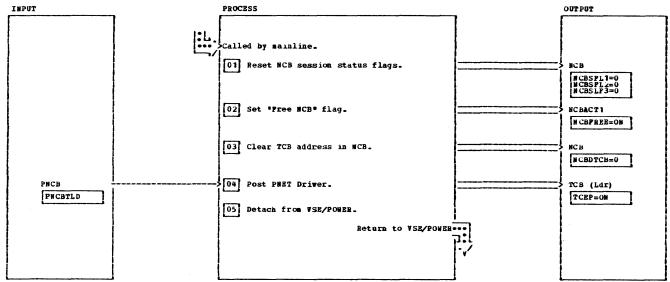


NOTES	HODULE	LABEL	REP	NOTES	HODULE	LABEL	REP
The CLSDST subroutine is called when the session has to be termined and he application is dealed and he application is dealed and he application is dealed and he application is dealed and he application is dealed and he application is dealed and he application is dealed and he application termination request has to be issued by the primary AP. If the session termination request has been issued by the secondary AP, a CLSDST has to be issued by the primary AP as a reply to the TERMSESS OF RESHUTD issued by the secondary AP. The SEND-RPL located in the SSCB is used for the CLSDST. The CLSDST is executed asynchronuously using the TCB-ECS for posting.	CLSDST	S320		2A After successful initial completion the task waits for final completion. 2B A final completion check is performed. 3 If any (initial or final completion) CLSDST error occurs, message 1RDBI is displayed for any error except NTMCD=8 and FDBN 2=0 (for which message 1RC41 is displayed) to inform the operator.	CHECK IPW\$GAM	s 365	



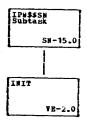
	NOTES	HODULE LABEL	REF	NOTES	PODULE	LABEL	REP
1	No response is necessary in case an UNBIND has been sent by the primary AP.	\$330		performed.	CHECK		
2	An UNBIND will be sent by the primary application as a reply to the TERNSESS request. Thus the SCIP exit routine has to be informed that IPM\$\$\$3 is expecting it by setting the NCBSSTS flag in the RCB.			5 After successful completion of the TRRMSSSS macro, an UBBIND will be sent by the primary application program. The SCIP exit is scheduled and the DISCOMMECT task is posted after arrival of the UBBIND to resume processing.			
3	The TERMSESS is issued with the ASYnchronyous option and the task will remain in a wait state until the request is completed.	TERESESS		6 Any error code causes that an error message is displayed (1RDGI). For RTMCD=8 and FDBK2=0 message 1RC4I will be issued.	IP#\$GAB	S360	
44	After successful initial completion a the task goes in a wait for final completion.	IPW\$WPC		7 The session status flag MCBSSST (which is used by the SCIP exit routine) is reset.		S 335	

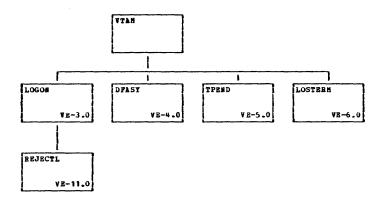
IPW\$\$53 - DISCOTERM, Terminate DISCONNECT Task

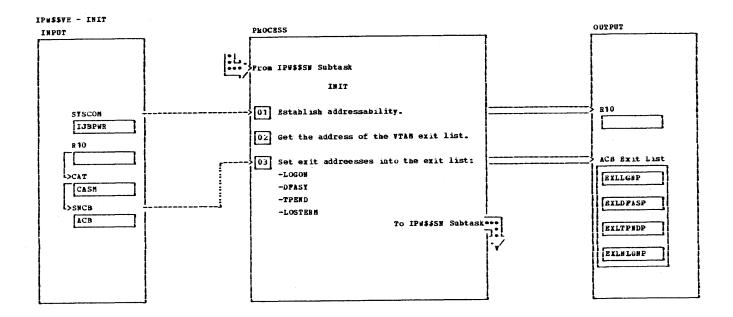


NOTES	HODULE LA	BEL BEF	NOTES	HODULE	LABEL	REP
The SSCB is released by the PMET Driver as the SEMD or MRCEIVE Exit routine might still use the save area contained in the SSCB. 1 The session status flags have to be reset as the session has been terminated. 2 The NCB has to be discarded by the PMET Driver after terminating the session.	534		3 The task's TCB address which has been stored in the NCB is cleared to indicate to the PUET Driver that no DISCONNECT task is present anymore. 4 The PNET Driver is posted to perform release of the NCB. 5 The DISCONNECT task is detached.	IPW\$DET	S347	

CHART VE: IPW\$\$VE - RJE, SNA ACF/VTAM(E) EXITS

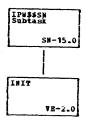


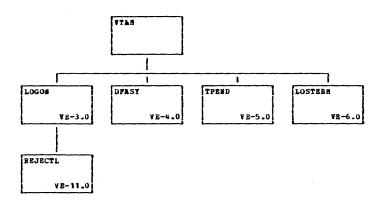


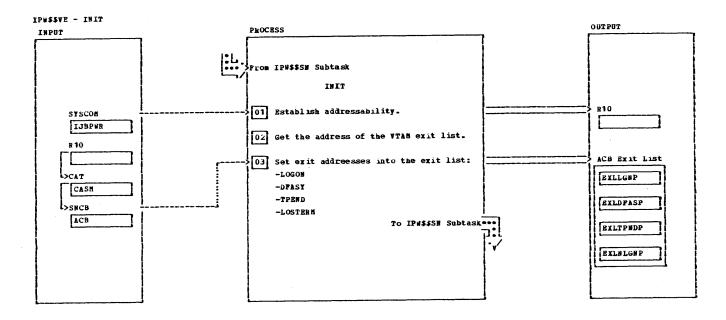


NOTES	MODULE LABEL	1 REP	NOTES	MODULE LABEL	REP
1 Upon entry, r15 is setup to contain the address of ipw\$\$VE, and is used as base-register for the initialization routie. The initialization routine is entered from the DOS/VS subtask in IPW\$\$SN, and will return to it.			1 The address of the VTAM exit list is set into the VTAM ACB, located in the SWCB, prior to entering the INIT routine. The exit list itself is located in IPW\$\$\$SM.		

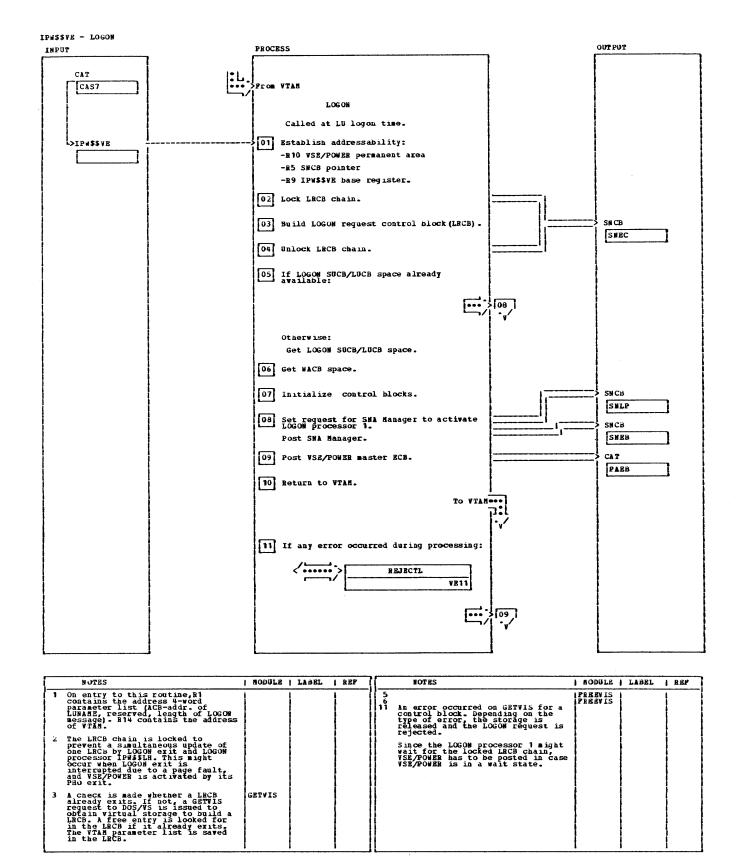
CHART VE: IPW\$\$VE - RJE, SNA ACF/VTAM(E) EXITS

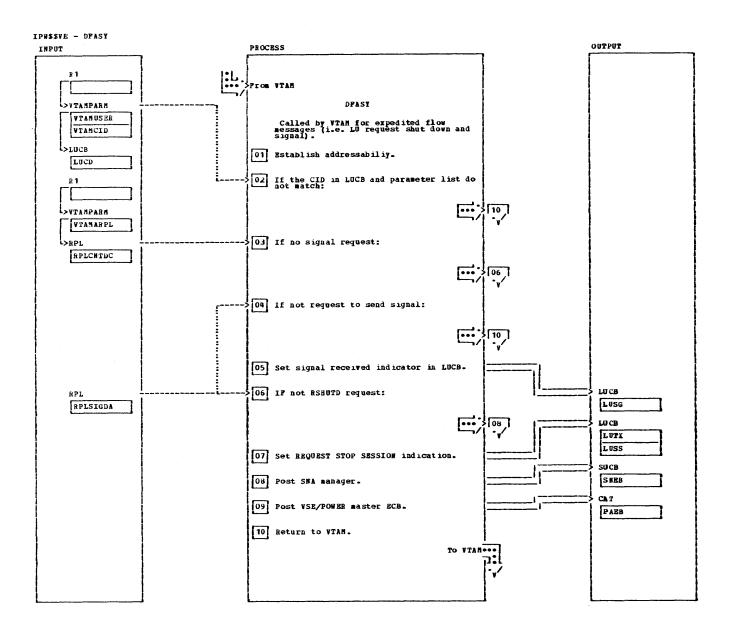




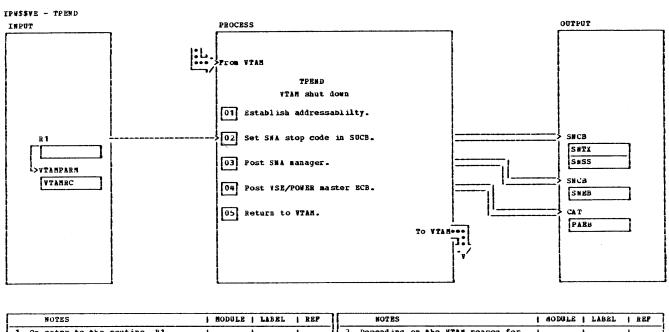


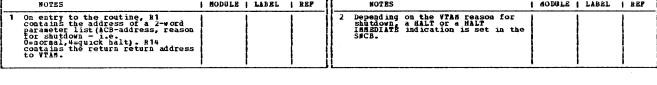
NOTES	MODULE	LABEL	REP	HOTES		HODULE	LABEL	REP
1 Upon entry, r15 is setup to contain the address of lpw\$\$VE, and is used as base-register for the initialization routine is entered from the DOS/VS subtask in IPW\$\$SN, and will return to it-				is set into	of the VTAM exit list the VTAM ACB, located prior to entering the . The exit list itself n IPW\$\$SM.			

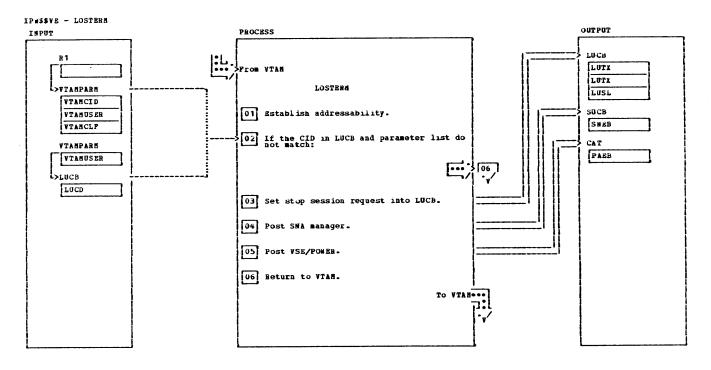




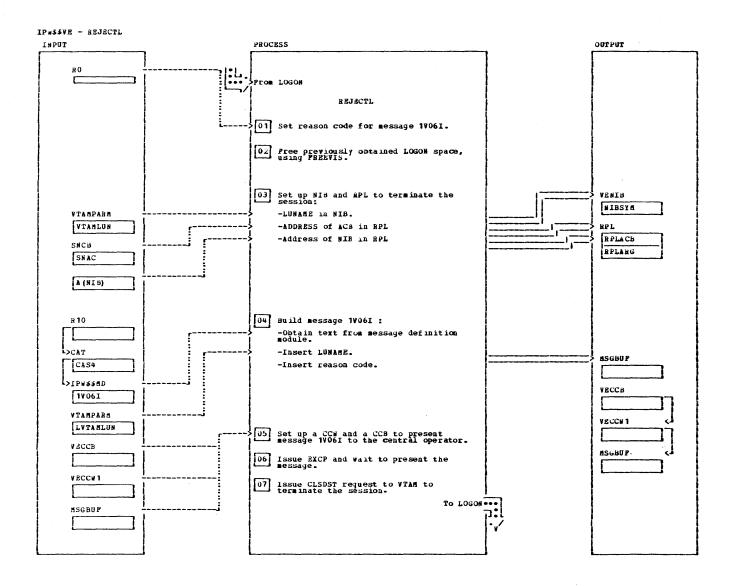
NOTES	MODULE LABEL	REF	NOTES	TWODGIE	LABEL	REF
1 On entry to this routine, R1 contains the address of a 5-word parameter list (ACB-address, CID of terminal, user information - here the address of the corresponding terminal LUCB, number of bytes received and address of a read-only RPL). R14 contains the return address of			5 If a request-to-send signal is received an information bit is set in the LUCA which is set in the LUCA which is periodically checked by the inbound and outbound processor running on this session. If the bit is found to be set, the processor will suspend to allow data-flow inbound. 6 The second type of signal which is accepted is RRQUEST-FOR-SHUTDOWN. All other signals are ignored.			







NOTES	1 2	HODULE	1	LABEL	ı	REP	I	BOTES	1	HODULE	L	LABEL	1	RKF
1 On entry to this routine, R1 contains the address of a 4-word parameter list(ACB, address, CID of terminal, user information - here the address of the corresponding LUCB, reason for LOGOFF - 32=CONDITIONAL LOGOFF) R14 contains the return address to VTAH.							3	Depending on the LOGOFF reason, a HALT or HALT IMMEDIATE inducation is set in the LUCB.						



NOTES	I HODUL	E LABI	L REF	NOTES	AODULE LABEL REI	P
(1			2 6	PREEVIS WAIT CLSDST	
	!	İ		7	CLSDST	1



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