

# Mitel PBX interface with Conferencing Server Configuration Notes



Note: This document section is maintained by Mitel Networks

**When referring to any information in this document please also check the Additions & Correction section on the last page for updates.**

**File: Mitel 3300 PBX interface with Conferencing Server V002**

# Mitel PBX interface with Conferencing Server Configuration Notes

Mitel PBX interface with Conferencing Server Configuration Notes .....	1
Introduction.....	3
3300ICP with ISDN or SX2000 with ISDN.....	3
Example of T1 PRI programming on 3300 or SX2000.....	3
Class Of Service – changes from default values .....	3
Link Descriptor Assignment.....	4
Digital Link Assignment .....	4
MSDN-DPNSS-DASSII Trunk Circuit Descriptor .....	5
Trunk Service Assignment .....	5
Digital Trunk Assignment.....	5
3300 ICP with T1/D4 or SX2000 with T1/D4 .....	5
Example of T1/D4 (CAS) Programming on 3300 or SX2000.....	6
Class Of Service – changes from default values .....	6
Link Descriptor Assignment.....	7
Digital Link Assignment .....	7
Digital E and M Trunk Circuit Descriptor Assignment .....	8
Trunk Service Assignment .....	8
Digital Trunk Assignment.....	9
Example of ARS Programming on 3300 ICP/SX2000 .....	9
Create Trunk Group .....	9
Add individual trunks to trunk group .....	9
Create Digit Modification Assignment .....	11
Create Route Assignment .....	11
Create ARS Digits Dialed Assignment.....	11
SX200 with ISDN.....	12
SX200 with T1/D4 .....	20
T1 Crossover cable wiring Specifications [RJ45 Connector] .....	21



ANI/DNIS/ISDN Number Delivery      Yes

### Link Descriptor Assignment

Number: 4  
Address for Message Control: A  
BER - Maintenance Limit, 10\*\*-n: 4  
BER - Service Limit, 10\*\*-n: 3  
Data Call Alternate Digit Inversion: Yes  
Framing Losses in 24 hrs - Maintenance Limit: 255  
Framing Losses in 24 hrs - Service Limit: 9000  
Integrated Digital Access: ISDN NODE  
Satellite Link Delay: No  
Slip Rate - Maintenance Limit (slips/24hr.): 5000  
Slip Rate - Service Limit (slips/24hr.): 7000  
Alarm Debounce Timer - Service Limit (millisec.): 500  
Voice Encoding: Invert  
Data Encoding: Nil  
QSIG Private Network Access: No  
Digital Link Fault Delay Timer (sec.): 240  
Termination Mode: LT  
T1 Only:  
    B8ZS Zero Code Suppression: Yes  
    Operation Mode: DSX-1  
    CSU Tx Line Build-Out (dB.):  
    DSX-1 Line Length (Ft.): 0-133  
    Extended Super Frame: Yes  
    Inverted D channel ( DPNSS only ): No  
E1 Only:  
    CRC-4 Enabled: Yes  
    E1 Line Length (Ft.): 0-133  
    E1 Impedance (Ohms): 120

### Digital Link Assignment

Controller Module	Port	Unit	Shelf	Slot	Link	Interface Type
	1	1	6	1	1	UNIVERSAL T1
	1	1	6	1	2	UNIVERSAL T1



## MSDN-DPNSS-DASSII Trunk Circuit Descriptor

Number	Card Type	Dual Seizure Priority	Far End Connection	Signalling Protocol
4	UNIVERSAL T1	Incoming	Local Office	MSDN-DPNSS

## Trunk Service Assignment

Trunk Service Number:	4
Release Link Trunk:	No
Class of Service:	4
Class of Restriction:	1
Baud Rate:	300
Intercept Number:	1
Non-dial In Trunks Answer Point - Day:	
Non-dial In Trunks Answer Point - Night 1:	
Non-dial In Trunks Answer Point - Night 2:	
Dial In Trunks Incoming Digit Modification - Absorb:	0
Dial In Trunks Incoming Digit Modification - Insert:	
Trunk Label:	ISDN Trunk

## Digital Trunk Assignment

Cabinet:	6
Shelf:	1
Slot:	1
Circuit:	1
Card Type:	UNIVERSAL T1
Trunk Number:	6101
Trunk Service Number:	4
DTS Service Number:	
Circuit Descriptor Number:	4
Interconnect Number:	1

**3300 ICP with T1/D4 or SX2000 with T1/D4**



- Attach VCon IGC server T1 link to NSU, DSU or Embedded PRI card
  - Configure hardware for Line Termination through jumpers or DIP switch – please refer to the Technician’s Handbook of the correct product (3300 or SX2000)
- connect to server with a straight through cable
- Program trunks
  - for example, please see Example of T1/D4 Programming on 3300 or SX2000
- Test link to server by dialing <feature access code for individual trunk access> <trunk number><any 4 digit number>< # > e.g. < \*\*2 > < 6101 > < 1000 > < # >
  - You should hear “Welcome to Remoteability”
- Program ARS so a single four digit number accesses the IGC system
  - Program trunk group
  - Add trunks to trunk group
  - Create Digit Modification Assignment **\*\* see following note**
  - Create Route Assignment
  - Create ARS Digits Dialed Assignment
  - Please see Example of ARS Programming on 3300 or SX2000

**\*\*Note: The Dialogic card in the IGC server is expecting ANI on the T1D4 trunk, but the 3300 or SX2000 does not deliver ANI over T1D4. This will result in a 10 to 15 second delay in accessing the IGC after the trunk access number is dialed. To correct this, send an ANI digit string to the trunk through the Digit Modification Form. See below.**

Digit Modification Assignment

Digit Modification Number	Number of Digits to Absorb	Digits to be Inserted	Final Tone Plan/Information Marker
1	3		
2	0		
3	1	<T01>	
4	0	**6135922122**	

***Example of T1/D4 (CAS) Programming on 3300 or SX2000***

**Class Of Service – changes from default values**

Public Network Access via DPNSS Yes



ANI/DNIS/ISDN Number Delivery Yes

## Link Descriptor Assignment

Number: 4  
Address for Message Control:  
BER - Maintenance Limit, 10\*\*-n: 4  
BER - Service Limit, 10\*\*-n: 3  
Data Call Alternate Digit Inversion: Yes  
Framing Losses in 24 hrs - Maintenance Limit: 255  
Framing Losses in 24 hrs - Service Limit: 9000  
Integrated Digital Access: T1D4  
Satellite Link Delay: No  
Slip Rate - Maintenance Limit (slips/24hr.): 5000  
Slip Rate - Service Limit (slips/24hr.): 7000  
Alarm Debounce Timer - Service Limit (millisec.): 500  
Voice Encoding: Invert  
Data Encoding: Nil  
QSIG Private Network Access: No  
Digital Link Fault Delay Timer (sec.): 240  
Termination Mode: NT  
T1 Only:  
    B8ZS Zero Code Suppression: Yes  
    Operation Mode: DSX-1  
    CSU Tx Line Build-Out (dB.):  
    DSX-1 Line Length (Ft.): 0-133  
    Extended Super Frame: No  
    Inverted D channel ( DPNSS only ): No  
E1 Only:  
    CRC-4 Enabled: No  
    E1 Line Length (Ft.): 0-133  
    E1 Impedance (Ohms): 120

## Digital Link Assignment

Controller Module	Port	Unit	Shelf	Slot	Link	Interface Type	Digital Link Descriptor	Comment
1	1	6	1	1	1	UNIVERSAL T1	4	Remoteability
1	1	6	1	1	2	UNIVERSAL T1	4	T1D4



## Digital E and M Trunk Circuit Descriptor Assignment

Number:	4
Call Collision Handling:	AT&T
AT&T Call Collision Handling:	Backoff
Ignore Far End Disconnect:	No
Release Acknowledge Timer:	80
Address Signalling:	DTMF
Disconnect Timer:	300
Incoming Start Type:	Wink
Dial Tone on Incoming Seize:	No
Outpulse Delay Timer:	800
Outgoing Start Type:	Wink
Supervision Timer:	200
Maximum Wink Timer:	400
Minimum Wink Timer:	100
Guard Timer:	500
Fake Answer Supervision After Outpulsing:	No
Ignore Answer Supervision:	No
Release Supervision Expected:	Yes
Audio Inhibit Until Answer Supervision:	Yes
Far End Connection:	Main PBX
Facility Type:	Combination
Minimum Flash Timer:	250
Maximum Flash Timer:	200
Drop Digit Rcvr for Outgoing Audio Before Ans Sup:	No
Flash Timer:	300

## Trunk Service Assignment

Trunk Service Number:	4
Release Link Trunk:	No
Class of Service:	4
Class of Restriction:	1
Baud Rate:	300
Intercept Number:	1
Non-dial In Trunks Answer Point - Day:	
Non-dial In Trunks Answer Point - Night 1:	
Non-dial In Trunks Answer Point - Night 2:	
Dial In Trunks Incoming Digit Modification - Absorb:	0
Dial In Trunks Incoming Digit Modification - Insert:	
Trunk Label:	T1 Trunk





## Digital Trunk Assignment

Cabinet: 6  
Shelf: 1  
Slot: 1  
Circuit: 1  
Card Type: UNIVERSAL T1  
Trunk Number: 6101  
Trunk Service Number: 4  
DTS Service Number:  
Circuit Descriptor Number: 4  
Interconnect Number: 1

## *Example of ARS Programming on 3300 ICP/SX2000*

### Create Trunk Group

#### Trunk Group Assignment

Trunk Group Number	Hunt Mode	Trunk Group Busy RAD	Maximum Network Hop	Comments
3	Terminal			Analog TG
4	Circular			Remotability
5	Terminal			To Sx2000

### Add individual trunks to trunk group

- all 23 ISDN trunks or 24 T1/D4 trunks should be added to the trunk group

#### Trunk Group Members

Member	Trunk Number
1	6101



2	6102
3	6103
4	6104
5	6105
6	6106
7	6107
8	6108
9	6109
10	6110

## Create Digit Modification Assignment

- in this example, we are using Digit Modification number 4, and there are no digits to absorb or to insert

### Digit Modification Assignment

Digit Modification Number	Number of Digits to Absorb	Digits to be Inserted	Final Tone Plan/Information Marker
1	3		
2	0		
3	1	<T01>	
4	0		
5	0		

## Create Route Assignment

- in this example, we are using Route 4

### Route Assignment

Route Number	Trunk Group Number	COR Group Number	Digit Modification Number	Digits Before Outpulsing	XNET Trunk Group Number	Route Type	Compressic
1		1	1		1		Off
2		1	1				Off
3	3	1	3				Off
4	4	1	4				Off
5	5	1	1				Off

## Create ARS Digits Dialed Assignment

- in this example, the digits dialed to access the Vcon IGC are 1100

### ARS Digits Dialed Assignment

Digits Dialed	Number of Digits to Follow	Termination Type	Termination Number
1100	0	Route	4
201	4	Route	1



## ***SX200 with ISDN***

- Attach VCon IGC server to PRI card with straight through cable
  - Configure hardware for Line Termination. Please refer to SX200 Technician's Handbook for more information.
- Program trunks
  - Please see Example of T1 PRI Programming on SX200
- Use IMAT to configure PRI card for DMS250, user side
- Reset PRI card to allow new configuration to load
- Program ARS
  - See SX200 Technician's Handbook for more information

## Example of T1 PRI Programming on SX200

Refer to SX200 EL/ML Technicians Handbook , Programming a PRI, for System Configuration, Class of Service Options and System Options/System Timers.

Form 13

Assign T1 E&M circuit descriptor to the ISDN trunk.

3:39 PM 25-JAN-03 alarm status = MAJOR

DESCRIPTOR	TRUNK TYPE	NUMBER OF TRKS ASSIGNED	COMMENTS	
> 01	T1 E&M	10	<	
02	T1 E&M	26		
03	8-CIRCUIT CLASS	0		
04	8-CIRCUIT CLASS	0		
05	8-CIRCUIT CLASS	0		
06	6-CIRCUIT CO	0		
07	6-CIRCUIT CO	0		
08	6-CIRCUIT CO	0		
09	6-CIRCUIT CO	0		
10	6-CIRCUIT CO	0		
11	4-CIRCUIT CLASS	0		
12	4-CIRCUIT CLASS	0		
01	T1 E&M	10		
1-	2-	3-	4-	5-
6-QUIT	7-DESC NUMBER	8-SEL. OPTION	9-REVIEW	0-

VT-100 Kermit |direct connect-Com1| 19200 N-8-1 |rd sd cts| 9:53AM |Row 19 Col 16|  
Port opened - Com1 Connected 20:19:27

Procomm Plus Terminal

File Edit View Options Data Tools Window Help

Rapid Connect-Data: STARTUP Script File:

3:40 PM 26-JAN-03 alarm status = MAJOR

[ T I E&M TRUNK: 1 ]	OPTION NAME	[ SUPERVISION PARAMETER ]	STATUS		
>	Reverse to Idle		NO		
	Far-end gives answer supervision		NO		
	Inhibit automatic supervision		NO		
	No seize alarm		NO		
	No release alarm		NO		
	Toll office		NO		
	Is this a CO		YES		
	DTMF		NO		
	Save Busy-Out Status		YES		
	Disconnect timer	150 - 900 ms ( 50 ms inc )	300		
	Release acknowledge timer	2 - 240 s ( 2 s inc )	40		
	Guard timer	200 - 1000 ms ( 100 ms inc )	800		
	Reverse to Idle		<input checked="" type="checkbox"/> NO		
	1-YES	2-	3-	4-	5-
	6-QUIT	7-	8-	9-	0-

Alt Host Chat LogonWiz WinLink Cmd Mode Send Fax Explorer DOS Prmpt

VT-100 Kermit |direct connect-Com1| 19200 N-8-1 rd sd cd cts 9:54AM Row 19 Col 70

Port opened - Com1 Connected 20:20:22

Procomm Plus Terminal

File Edit View Options Data Tools Window Help

Rapid Connect-Data: STARTUP Script File:

3:41 PM 26-JAN-03 alarm status = MAJOR

[ T I E&M TRUNK: 1 ]	OPTION NAME	[ TRANSMISSION PARAMETER ]	STATUS		
>	Incoming start type		WINK		
	Debounce timer	20 - 150 ms ( 10 ms inc )	100		
	Wink timer	150 - 300 ms ( 50 ms inc )	200		
	Outgoing start type		WINK		
	Digit outputting ratio		60/40		
	Output pulse delay timer	100 - 2000 ms ( 100 ms inc )	800		
	Flash timer	200 - 700 ms ( 100 ms inc )	300		
>	Flash type		LOOP FSH		
	Flash over trunk		NO		
	Interdigit timer	300 - 800 ms ( 100 ms inc )	800		
	Wait for delay timer	300 - 5000 ms ( 100 ms inc )	5000		
	Remote end is a satellite		NO		
	Flash type		<input checked="" type="checkbox"/> LOOP FSH		
	1-RING GROUND	2-	3-	4-	5-
	6-QUIT	7-	8-	9-	0-

Alt Host Chat LogonWiz WinLink Cmd Mode Send Fax Explorer DOS Prmpt

VT-100 Kermit |direct connect-Com1| 19200 N-8-1 rd sd cd cts 9:55AM Row 19 Col 70

Port opened - Com1 Connected 20:20:52



Procomm Plus Terminal

File Edit View Options Data Tools Window Help

Rapid Connect-Data: STARTUP Script File:

3:42 PM 26-JAN-03 alarm status = MAJOR

[ T1 E&M TRUNK: 1 ] OPTION NAME [ IN/OUT GOING PARAMETER ]	STATUS
Digit outpulsing ratio	60/40
Outpulse delay timer 100 - 2000 ms ( 100 ms inc )	800
Flash timer 200 - 700 ms ( 100 ms inc )	300
Flash type	LOOP FSH
Flash over trunk	NO
Interdigit timer 300 - 800 ms ( 100 ms inc )	800
Wait for delay timer 300 - 5000 ms ( 100 ms inc )	5000
Remote end is a satellite	NO
Remote end is a satellite with OPS lines	NO
Direct access on CO Line Keys: bypass Key System Toll Control	NO
Release Link Trunk	NO
QSIG Supplementary Services	NO
QSIG Supplementary Services	NO
1-YES	2-
3-	4-
5-	6-QUIT
7-	8-
9-	0-

Alt Host Chat Logon/Wiz WinLink Cmd Mode Send Fax Explorer DOS Pmpt

VT-100 Kermit |direct connect-Com1 19200 N-8-1 rd sd cts 9:56AM Row 19 Col 70

Port opened - Com1 Connected 20:21:48



Define the incoming ISDN trunk as a Dial In trunk in form 15

Procomm Plus Terminal

File Edit View Options Data Tools Window Help

Rapid Connect-Data: Script File:

Data STARTUP

3:45 PM 26-JAN-03 alarm status = MAJOR

BAY	SLT	CCT	COS	COR	TEN	N	M	X	CON	TK NUM	TK NAME	COMMENTS	
2	06	01	2	1	1	4	0		1	1		PRI LINK 1	
2	06	02	2	1	1	4	0		1	2			
2	06	03	2	1	1	4	0		1	3			
2	06	04	2	1	1	4	0		1	4			
2	06	05	2	1	1	4	0		1	5			
2	06	06											
2	06	07											
2	06	08											
2	06	09											
2	06	10											
2	06	11											
2	06	12											
2	06	08											
1-				2-			3-TRUNK NUMBER			4-		5-	
6-QUIT				7-BAY/SLT/CCT			8-			9-		0-	

Alt Host Chat LogonWiz WinLink Cmd Mode Send Fax Explorer DOS Prmpt

VT-100 Kermit direct connect-Com1 19200 N-8-1 rd sd ccd cts 9:59AM Row 19 Col 15

Port opened - Com1 Connected 20:24:57





Assign the ISDN trunks to a trunk group in Form 16

3:47 PM 26-JAN-03 alarm status = MAJOR

[GRP: 1-PRI 1 ] [SMDR ] [TERM]	TK NUM	BAY	SLT	CCT	COMMENTS
	1	02	06	01	PRI LINK 1
	2	02	06	02	
	3	02	06	03	
	4	02	06	04	
	5	02	06	05	
	1	02	06	01	PRI LINK 1

1-NO SMDR    2-CIRCULAR    3-INSERT    4-TK GRP NAME    5-TRUNK GROUP  
 6-QUIT    7-    8-DELETE    9-    0-

VT-100    Kermit    direct connect-Com1    19200    N-8-1    rd    sd    cd    cts    10:01AM    Row 19    Col 40    Connected    20:27:19



Select a T1 Link Descriptor for the ISDN trunks in form 42

3:51 PM 26-JAN-03 alarm status = MAJOR

DESCRIPTOR	LINK TYPE	NUMBER OF LINKS ASSIGNED	COMMENTS
01	T1 DS1	2	
02	T1 DS1	0	
03	T1 DS1	0	
04	T1 DS1	0	
05	T1 DS1	0	
06	T1 DS1	0	
07	T1 DS1	0	
08	T1 DS1	0	
09	T1 DS1	0	
10	T1 DS1	0	
11	T1 DS1	0	
12	T1 DS1	0	
01	T1 DS1	2	

1-T1 CSU    2-    3-    4-    5-  
6-QUIT    7-    8-SEL. OPTION    9-REVIEW    0-

VT-100    Kermit    direct connect-Com1    19200    N-8-1    rd    sd    cd    cts    10:05AM    Row 19    Col 16  
Port opened - Com1    Connected    20:30:55



Procomm Plus Terminal

File Edit View Options Data Tools Window Help

Rapid Connect-Data: STARTUP Script File:

3:51 PM 26-JAN-03 alarm status = MAJOR

[ LINK DESCRIPTOR NUMBER : 1 ]	IN/OUT GOING	VALUE		
> Alarm debounce timer	( 300 - 3200 ms )	2500		
Line Coding	{ AM1, AM1&ZCS, B8ZS }	B8ZS		
Line Build Out	{ 0, -7.5, -15, -22.5 DB }	0 DB		
Line Length	{ max 132, 265, 398, 533 or 655 }	0-132		
Framing	{ 04 or ESF }	04		
Slip rate - maintenance limit	{ 0 - 9000 } /24 hrs	255		
Slip rate - service limit	{ 0 - 9000 } /24 hrs	7000		
Slip rate - network sync limit	{ 0 - 9000 } /24 hrs	7		
BER - maintenance limit ( 10**-n , n =	{ 3,4,5,6 } / hour	3		
BER - service limit ( 10**-n , n =	{ 3,4,5,6 } / hour	3		
Framing losses - maintenance limit	{ 0 - 9000 } /24 hrs	255		
Framing losses - service limit	{ 0 - 9000 } /24 hrs	9000		
Alarm debounce timer	( 300 - 3200 ms )	2500		
1-	2-	3-	4-	5-
6-QUIT	7-	8-	9-	0-

Alt Host Chat LogonWiz WinLink Cmd Mode Send Fax Explorer DOS Prmpt

VT-100 Kermit |direct connect-Com1 19200 N-8-1 rd sd cts 10:05AM Row 19 Col 68

Port opened - Com1 Connected 20:31:28

Procomm Plus Terminal

File Edit View Options Data Tools Window Help

Rapid Connect-Data: STARTUP Script File:

3:52 PM 26-JAN-03 alarm status = MAJOR

[ LINK DESCRIPTOR NUMBER : 1 ]	IN/OUT GOING	VALUE		
Line Length	{ max 132, 265, 398, 533 or 655 }	0-132		
Framing	{ 04 or ESF }	04		
Slip rate - maintenance limit	{ 0 - 9000 } /24 hrs	255		
Slip rate - service limit	{ 0 - 9000 } /24 hrs	7000		
Slip rate - network sync limit	{ 0 - 9000 } /24 hrs	7		
BER - maintenance limit ( 10**-n , n =	{ 3,4,5,6 } / hour	3		
BER - service limit ( 10**-n , n =	{ 3,4,5,6 } / hour	3		
Framing losses - maintenance limit	{ 0 - 9000 } /24 hrs	255		
Framing losses - service limit	{ 0 - 9000 } /24 hrs	9000		
RTS timer - service limit exceeded	{ 1 - 255 min }	30		
RTS timer - net slip limit exceeded	{ 1 - 255 min }	30		
> RTS timer - after alarm	{ 0 - 300 sec }	10		
RTS timer - after alarm	( 0 - 300 sec )	10		
1-	2-	3-	4-	5-
6-QUIT	7-	8-	9-	0-

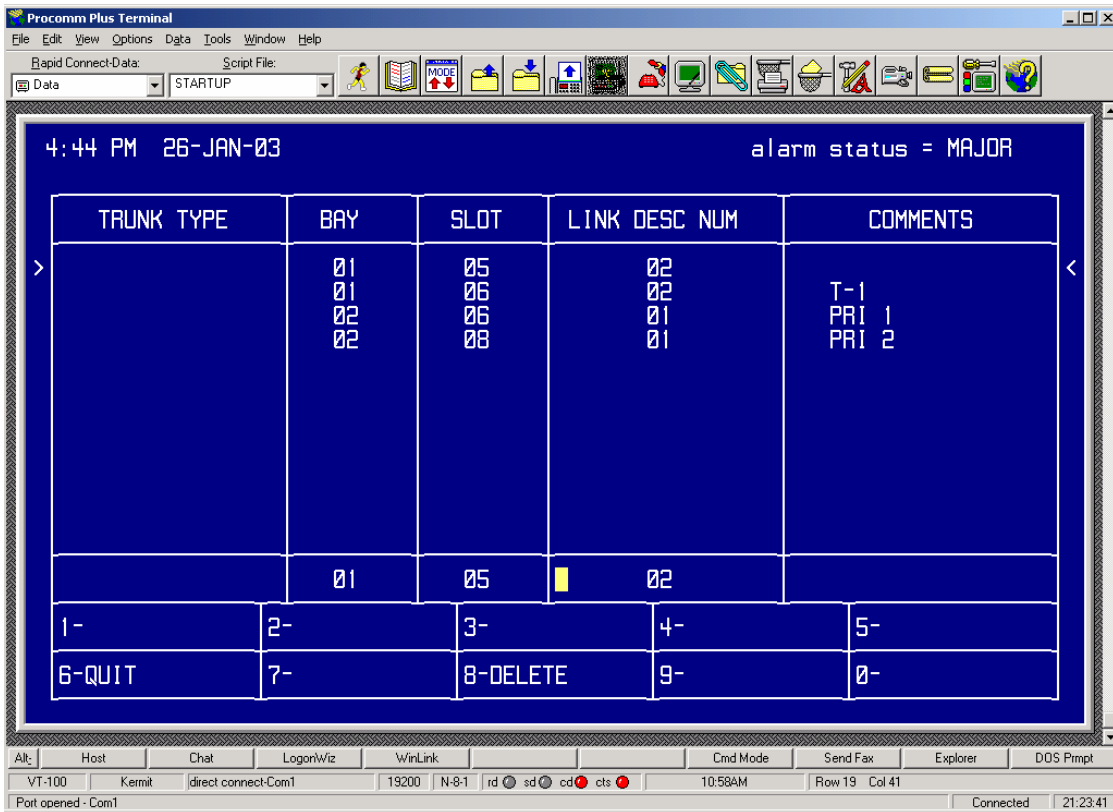
Alt Host Chat LogonWiz WinLink Cmd Mode Send Fax Explorer DOS Prmpt

VT-100 Kermit |direct connect-Com1 19200 N-8-1 rd sd cts 10:06AM Row 19 Col 68

Port opened - Com1 Connected 20:32:25



Assign the ISDN link descriptor to slot 6 and/or slot 8 on the PRI card bay, Form 43

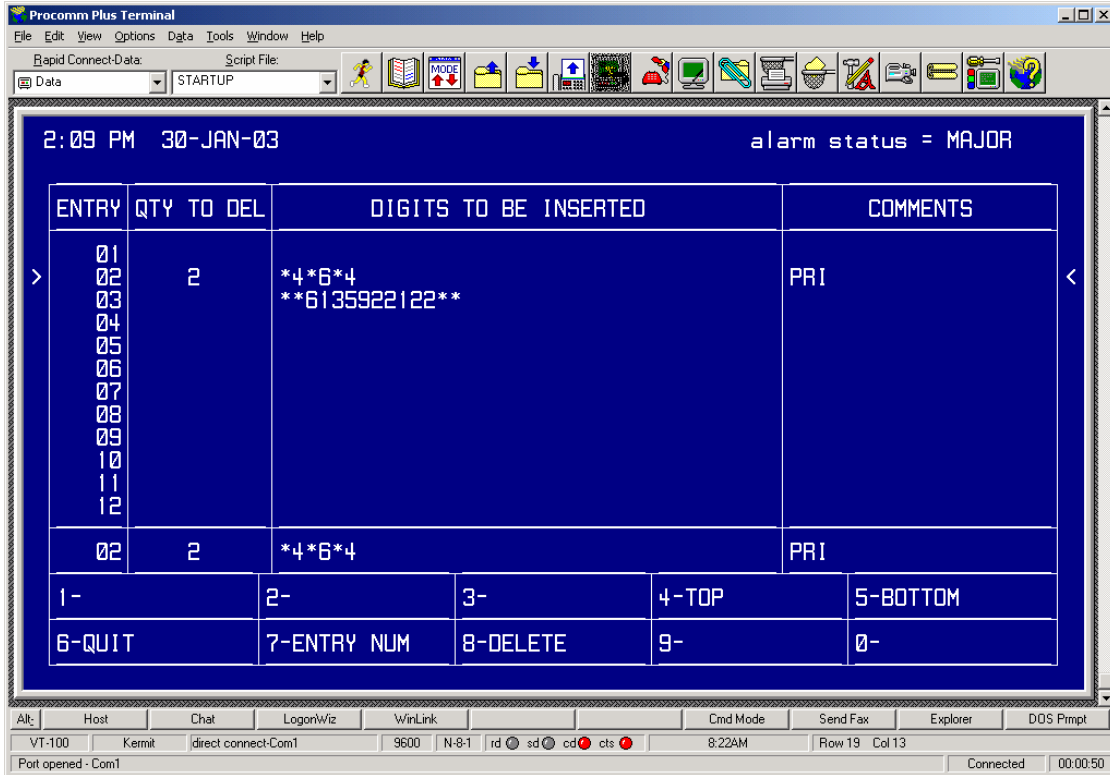


Form 44, Network Sync - To be determined by qualified Technician

### ***SX200 with T1/D4***

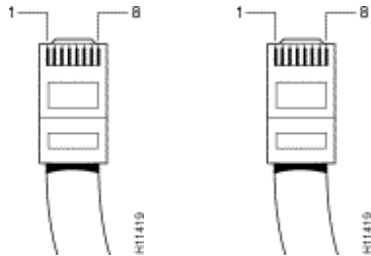
- Attach VCon IGC server to SX200 with cross over cable.
- Program trunks for T1/D4. All values are default.
- Program ARS so that a single four digit number accesses the IGC system
  - See SX200 Technician's Handbook for more information
  - Send simulated ANI down trunk using Digit Modification Table, form 22 as shown below with digit mod number 3. The Dialogic card in the IGC expects ANI, and there will be a 10– 15s delay accessing the server unless such a string is sent down the trunk.





### T1 Crossover cable wiring Specifications [RJ45 Connector]

Supplied with RemoteAbility system.



Connector A Pin	Connector B Pin
1	4
2	5
4	1
5	2

## **Addition & Corrections**

The change I had to make was with the ANI/DNIS insertion in digit mod with T1/D4 trunks:

The doc says above to insert **\*\*6135922122\*\*** The correct format for this string is :

**\*ANI\*DNIS\***

We used this at for fixed ANI at Pyramid:

**\*3125551212\*7900\***

For caller's ANI:

**\*<E>\*7900\***

