ISDN CALLER ID

Receiving Name and number…….2

Sending Number on Trunk basis……...2

Sending Number on Station basis…….2

Sending Name on System basis…….3

Sending Name on Station basis…….3

Sending Incoming Caller ID as Outgoing Caller ID……..3

Receiving Caller ID at Single Line port…….4

Incoming Caller ID Routing……..4

Sending Caller ID Blocking……..5

Sending Different CPN for 911……5

Miscellaneous Notes for ISDN Caller ID……5

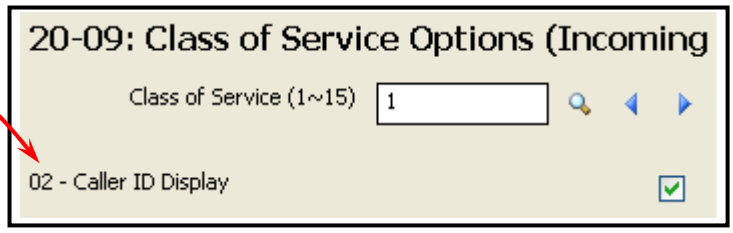
Trouble Shooting (how to prove it's a Telco issue)……..6

HEX Name Display Character Map……9

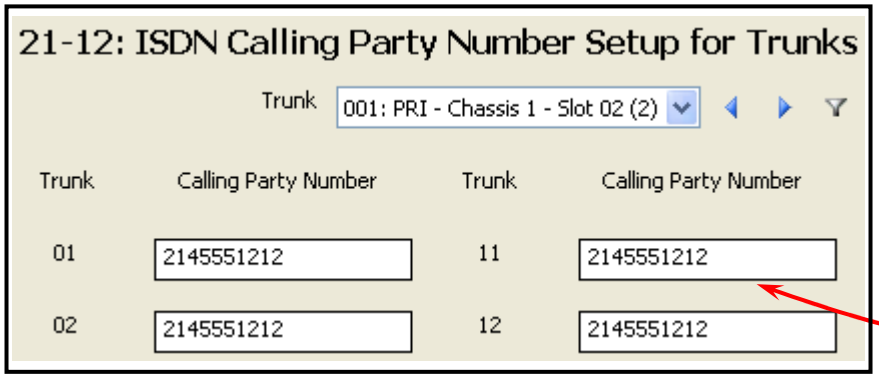
Programming

Receiving Name and Number

Both incoming name and number is controlled by **20-09-02** on a COS basis. Name and number cannot be separated on digital sets and both are either **ON** or **OFF** based on this CM.



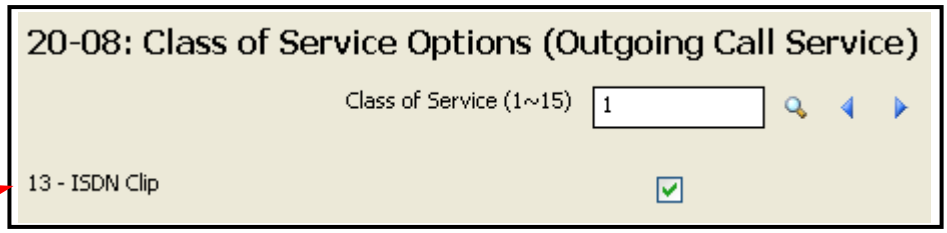
Sending Number on Trunk basis

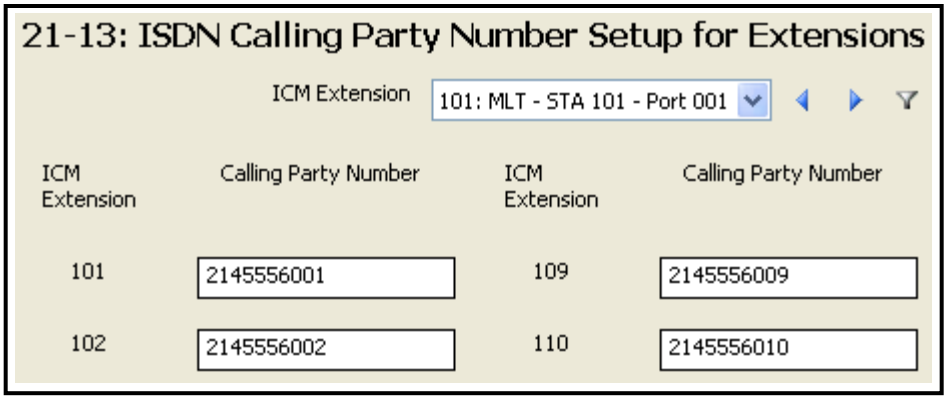


Assign a 10 digit number to **CM 21-12**. This number will be sent on all calls made out the ISDN PRI. Most carriers will reject a call sending more or less than 10 digits.
Also some carriers will reject calls if the number assigned here is not a number belonging to the ISDN span.

Sending Number on Station basis

Sending **CPN** on a station basis must first be enabled in the station COS with **CM 20-13-08**.

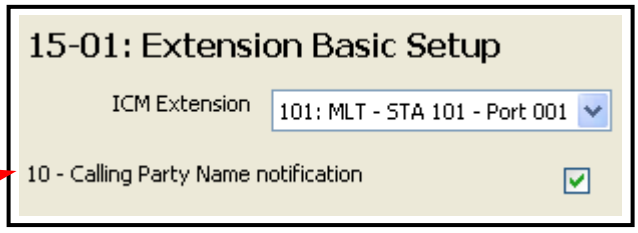


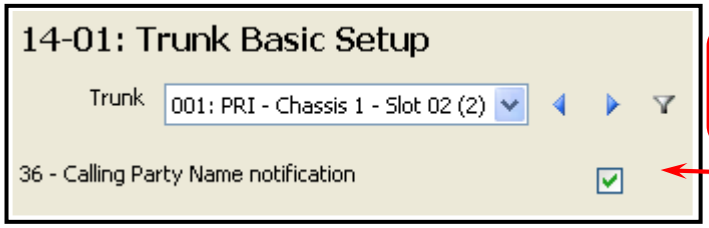


Assign a 10 digit number on a station basis with **CM 21-13**. This number will be sent on all calls made out the ISDN PRI from that station. **CM 21-13** takes priority over **CM 21-12** if both are assigned. Some carriers will reject calls if the number assigned here is not a number belonging to the ISDN span.

Sending Name on System basis

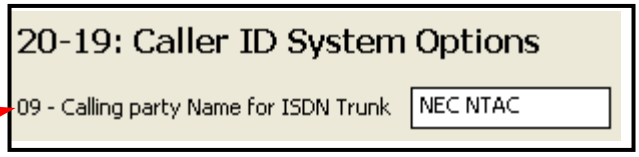
First enable **CM 15-01-10** on a station basis.



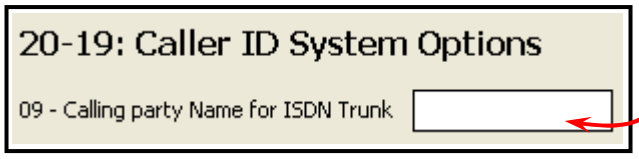


Enable **CM 14-01-36** for each B channel trunk. If you have a full PRI **DO NOT** enable for the D-Channel trunk.

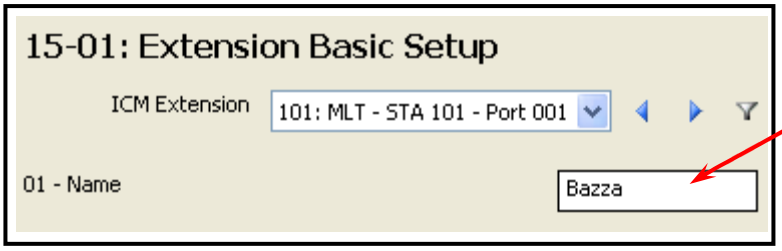
CM 20-19-09 is the name that will be sent out on all calls over the ISDN PRI. This is a maximum of 12 characters.



Sending Name on Station basis



To send the station name perform the same assignments as **Sending System Name** except **20-19-09**. This MUST be blank to send the station Name from **CM 15-01-01**

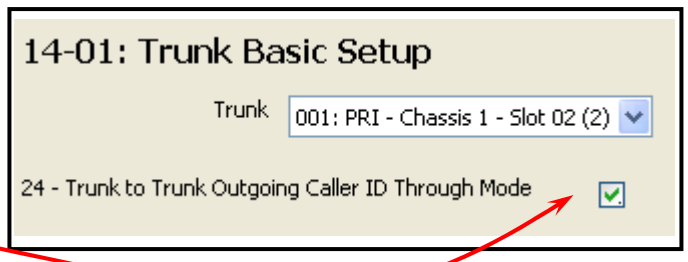


Sending Incoming Caller ID as Outgoing Caller ID

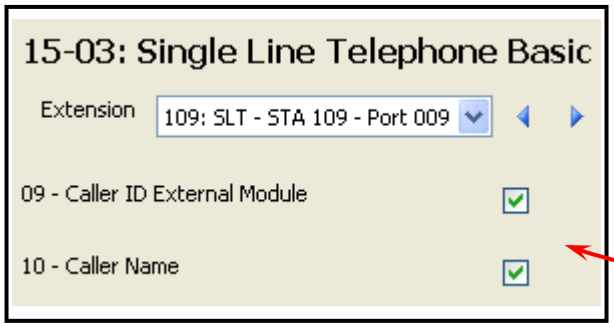
When an incoming CID call is sent back out of the SV8100 the incoming CID can be used in the outgoing call. This happens when users set

- Off Premise Call Forward
- A call routes over CCIS and out the PRI in another networked site.
- Mobile Extension is utilized.

The incoming CID will be passed to the outgoing with **CM 14-01-36** set for each B channel trunk. Do not assign to the D channel **NOTE:** Some carriers **DO NOT** this feature.



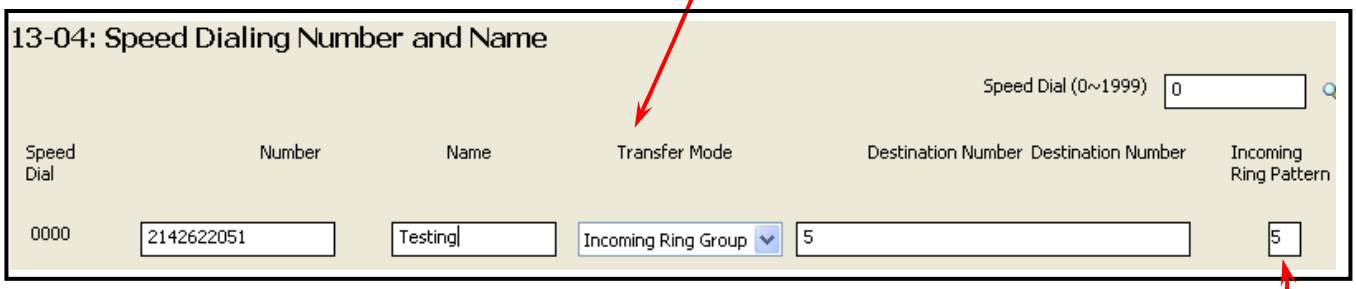
Recieving Incoming Caller ID to Single Line port



Caller ID to a Single Line station can be set on a station by station basis with **CM 15-03-09**.
With the Single Line station you can elect to disable the Name portion of the CID message using **CM15-03-10**.

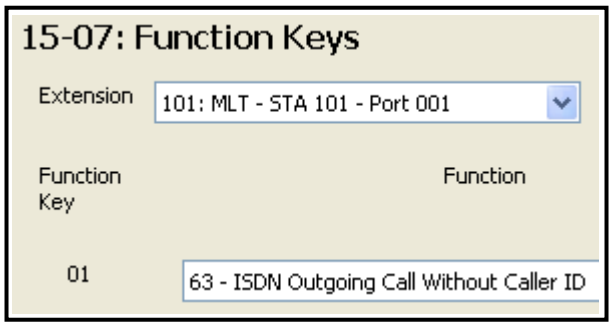
Incoming Caller ID Routing

Calls can be routed based on the incoming Caller ID. You can route on the entire number or just part of it such as the area code only. To route one particular number assign it (10 digits as it would display on the phone) to a SPD bin and set **CM 13-04-03** (Transfer Mode) to either Ring Group or Internal Dial.
CM 13-04-04 is the Destination **Ring Group** or **Internal** Ext number.
If you wish to play a ***Busy*** back to the caller set the Mode to **Internal** and leave the Destination Blank.
If you assign a partial number such as an area code (e.g. 214) to **13-04-01** then all incoming calls from that area code will be routed to the selected destination. This is handy for pointing calls to the correct Sales Department or an ACD group based on what part of the country the caller is calling from.



When the call reaches the destination **CM 13-04-05** allows a different Ring Pattern to be assigned to help identify the CID routed call.

Outgoing Caller ID Blocking



Blocking your outgoing Caller ID can be done by depressing the 63 key on the MLT. When this key is lit, calls out the ISDN will have the Presentation byte set to ***Presentation Restricted***. Also the Calling party number from **CM 21-12** or **21-13** is removed from the Calling Party Information Element in the setup message of the outgoing call.

Sending Different CPN for 911

With R4 and higher a call can send the **C**alling **P**arty **N**umber from CM 21-13 on an outbound 911 call but send trunk CPN (CM 21-12) on all other calls. Use the following programming……

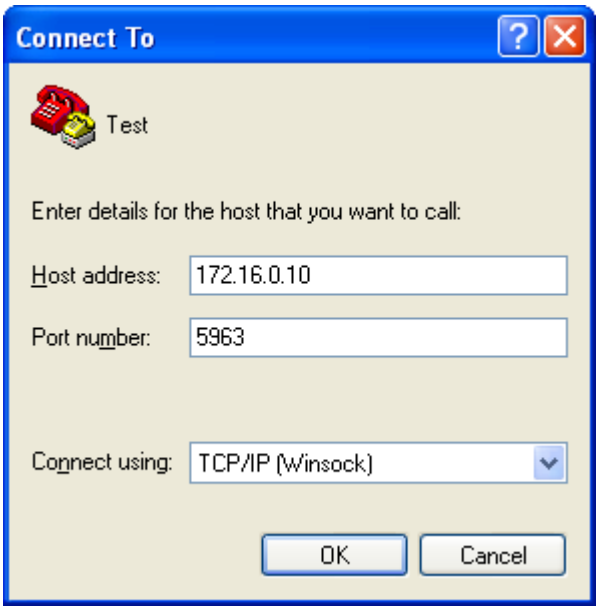
1. **CM 20-08-13** for the COS of the station set to a **0** (off).
2. **CM 21-13** for the station assign the CPN to be sent on a 911 call.
3. **CM 21-12** assign the CPN to be sent on non-911 calls.
4. **CM 99-01-58** set to a **1** (assign through telephone programming).

Miscellaneous Notes for ISDN Caller ID

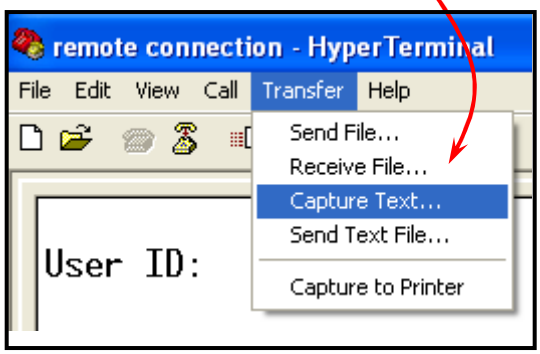
1. ***Sending*** name display is only supported on NI2 protocol with R3 software and higher. It is ***NOT*** supported on ISDN BRI.
2. You ***cannot*** send Station name from some ext's and System name for others on the ISDN call. Once **CM 20-19-09** is assigned ***all*** calls will send this name data.
3. ***Incoming*** calls can be routed on the caller ID but cannot be routed on the incoming name.
4. ***Incoming*** number display is only supported on the following ISDN Protocols….
    a. NI2
    b. AT&T 5ESS Custom (41459 protocol)
    c. DMS-100 Custom (Nortel Spec A211-1)
    d. DMS-100 National (Nortel Spec A233-1)
5. ***Outgoing*** name is only supported on NI2 protocol.
6. ***Incoming*** name display will be on the LHS of the display while the number will appear on the RHS of the display.
7. ***Sending*** CID when a station is call forwarded off premise or using Mobile Extension will use the CID assigned to the outgoing ISDN trunk in **CM 21-12**.
8. ***Sending*** the CID of the incoming call on a related outgoing call (E.g. CF off premise), with **CM 14-01-24**, is not supported in some areas and by some carriers.
9. ***Incoming*** name and number display is supported on all versions of the SV8100.
10. ***Incoming*** name and number display is only supported to digital telephones with a display.
11. ***Incoming*** call with CID that is answered by the InMail Auto Attendant. If the call is transferred to a Single Line with CID you MUST flag **CM 15-03-14** to a **1** (Forwarding Number) for the InMail ports to see the CID.

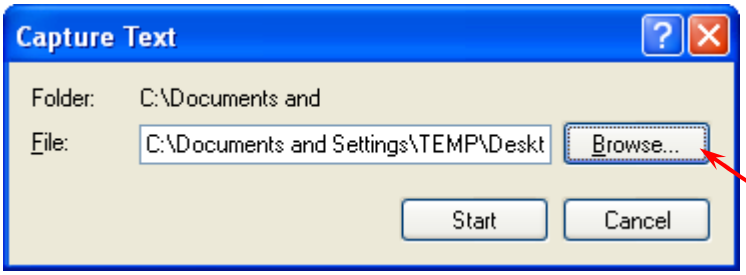
Trouble Shooting (Proving it's a Telco issue)

The sending and receiving of name and number can easily be verified by running a DIM capture of the ISDN messaging.
To connect you will need an IP Terminal Emulator such as **Hyper Terminal**.
Make a new connection and set as shown. The ***Host address*** will be the IP Address of the SV8100.

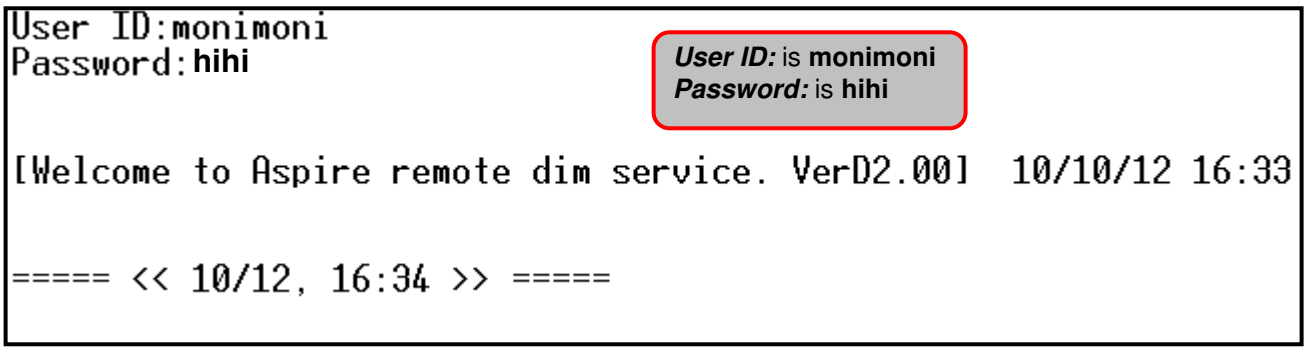


The data collected will pass quickly on the screen. To ensure you capture the trace for later review the session should be saved to a text file.
With HyperTerminal select ***Transfer*** and then ***Capture Text…***

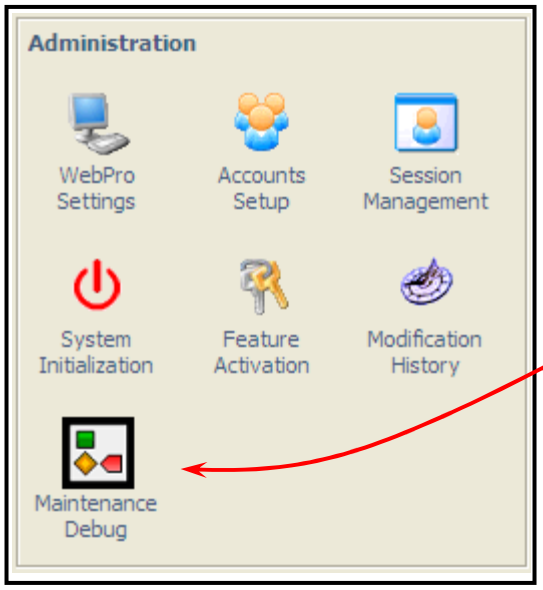




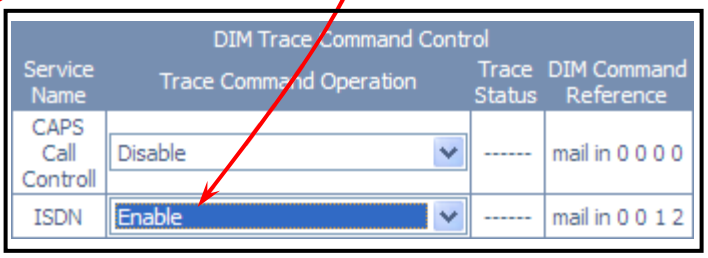
Select the ***Browse…*** button and browse to your Desktop so that the file can be easily located later. Type in a file name and then select ***Save…*** and then the ***Start*** button.



User ID: is **monimoni**
Password: is **hihi**



Connect to the CP00 with Web-Pro and select the ***Maintenance Debug*** option under the Administration box.
Then set ISDN to ***Enable***.



Incoming Call Trace

R ISDN : <<<<<<<<<<<<<<<<
42 0B A1 04 01 01 00 USL(6,1),SETUP IND
08 02 02 3A 05 **Callref:ORG(570)**,SETUP
04 03 80 90 A2 Bearer capability [speech]
18 03 A9 83 82 Channel identification
1C 15 9F 8B 01 00 A1 0F Facility
+02 01 01 06 07 2A 86 48
+CE 15 00 04 0A 01 00
6C 0C 21 80 32 31 34 32 **Calling party number [2142626111]**
+36 32 36 31 31 31
70 05 80 33 37 31 35 **Called party number [3715]**

S ISDN : >>>>>>>>>>>>>>>>
00 A1 02 01 01 00 USL(6,1),PROCEEDING REQ
08 02 82 3A 02 **Callref:DES(570)**,CALL PROCEEDING
18 03 A9 83 82 Channel identification

R ISDN : <<<<<<<<<<<<<<<<
2B 0B A1 1F 01 01 00 USL(6,1),MESSAGE RECEIVED IND
08 02 02 3A 62 **Callref:ORG(570)**,**FACILITY**
1C 1D 9F 8B 01 00 A1 17 Facility
+02 01 01 02 01 00 80 0F
+**4E 45 43 20 4E 54 41 43**
+**20 20 20 20 20 20 20**

R ISDN : <<< Received ISDN message.
S ISDN : >>> Sent ISDN message.
Callref:ORG(XXX) Call reference number. This identifies the messages in a particular call sequence.
Calling party number. The incoming Caller ID sent by the Telco/Carrier.
Called party number The called number (this example shows incoming call to DID 3715).
FACILITY The Facility message contains the name information. It can be part of the initial setup message or, as in this example, can be sent as a separate incoming message.
+**4E 45 43 20 4E 54 41 43**
+**20 20 20 20 20 20 20** This is the name information in HEX. The actual name is in the last line or last 2 lines of the FACILITY message. In this example you can break out ***NEC NTAC*** as the name display received. See the Character Code chart on page nine of this doc to decipher the HEX name display.

Outgoing Call Trace

S ISDN : >>>>>>>>>>>>>>>>
00 A1 04 01 01 00 USL(4,1),SETUP REQ
08 02 00 05 05 **Callref:ORG(5)**,SETUP
04 03 80 90 A2 Bearer capability [speech]
18 03 A9 83 81 Channel identification
1E 02 81 83 Progress indicator
6C 0C 21 80 32 31 34 32 **Calling party number [2142628000]**
+36 32 38 30 30 30
70 0B 80 32 31 34 32 36 **Called party number [2142622051]**
+32 32 30 35 31
1C 13 9F 8B 01 00 A1 0D **Facility**
+02 01 01 02 01 00 80 05
+42 61 7A 7A 61

R ISDN : <<<<<<<<<<<<<<<<
11 0B A1 02 01 01 00 USL(4,1),CALL PROCEEDING IND
08 02 80 05 02 **Callref:DES(5)**,***CALL PROCEEDING***
18 03 A9 83 81 Channel identification

R ISDN : <<<<<<<<<<<<<<<<
10 0B A1 01 01 01 00 USL(4,1),ALERTING IND
08 02 80 05 01 **Callref:DES(5)**,***ALERTING***
1E 02 81 88 Progress indicator

R ISDN : <<< Received ISDN message.
S ISDN : >>> Sent ISDN message.
Callref:ORG(XXX) Call reference number. This identifies the messages in a particular call sequence.
Calling party number. The outgoing Caller ID sent to the Telco/Carrier.
Called party number The called number (this example shows an outgoing call to 214-262-2051).
Facility The Facility message contains the name information. It can be part of the initial setup message or, can be sent as a separate incoming message. The SV8100 will always send Facility in the Setup message.
+42 61 7A 7A 61 This is the name display information sent to the Telco in HEX. The actual name is in the last line or last 2 lines of the FACILITY message. In this example you can break out ***Bazza*** as the name display sent. See the Character Code chart on the next page of this doc to decipher the HEX name display.

The ***ALERTING*** message is an indication from the Telco or the PBX that the device the call was sent to is ringing. The Telco or PBX can then turn around and provide a ringing signal to the calling party.

A ***CALL PROCEEDING*** message will always follow the Sent or Received Setup message. This is confirmation by the Telco or the PBX that the Setup message *HAS* been received and they are preceding with the routing of the call.

Other Trace Notes:

- The actual trace collected will show a lot more additional CPU messaging. The above example is the ISDN messages removed from the captured file. To find the ISDN call in a large capture file use the "Find" command (Ctrl F) and search for the dialed number on an outgoing call or the received number for an incoming call.
- The first line of each ISDN message is actually CPU messaging. The **USL(X,Y)** is the slot number and system number of the ISDN PRI. In the above example you can see the PRT the call came in on is in Slot 4 System 1. The ISDN messaging received on the PRI D-Channel (Q931 signaling) is on the 2nd line starting with ***08***. If forwarding the capture to the Telco it is recommended to remove the first line of each message as this is non-ISDN messaging and may confuse the issue.
- Always disable the ISDN trace when finished by going to **Maintenance Debug** and setting **ISDN** to **Disable**.

Character Map

E.g. **NEC** is represented as **4E 45 43**

X: Upper digit Y: Lower digit

Y \ X	2	3	4	5	6	7
0		0	@	P	\	p
1	!	1	A	Q	a	q
2	”	2	B	R	b	r
3	#	3	C	S	c	s
4	$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	’	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
A	*	:	J	Z	j	z
B	+	;	K	[	k	{
C	,	<	L	¥	l	|
D	-	=	M	]	m	}
E	.	>	N	^	n	~
F	/	?	O	_	o	←