Empowered by Innovation NEC

This guide explains the installation, configuration and operation of the EXIFU-A1 and EXIFU-B1 option cards for the XN120 Telephone System.
Further information will be supplied with any optional equipment that you have purchased.
Refer to the Getting Started Guide supplied with the XN120 main unit for further detail and Administrator User Guide.
Please keep all information supplied for future reference.

Regulatory Notice.
Refer to the Getting Started Guide (991409-5) supplied with the XN120 Main Unit for the Declaration of Conformity related to the product.
Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

XN120

EXIFU Guide

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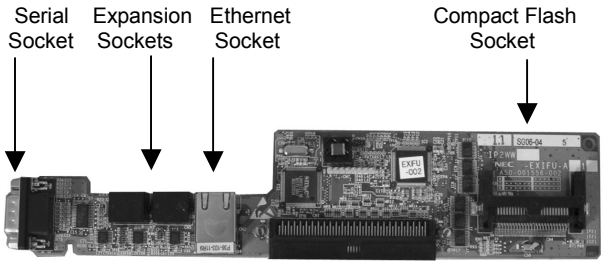
What is the EXIFU?

There are two types of EXIFU card available for the XN120 system.
Note that only one EXIFU card can be installed.

The EXIFU-A1 option card provides:

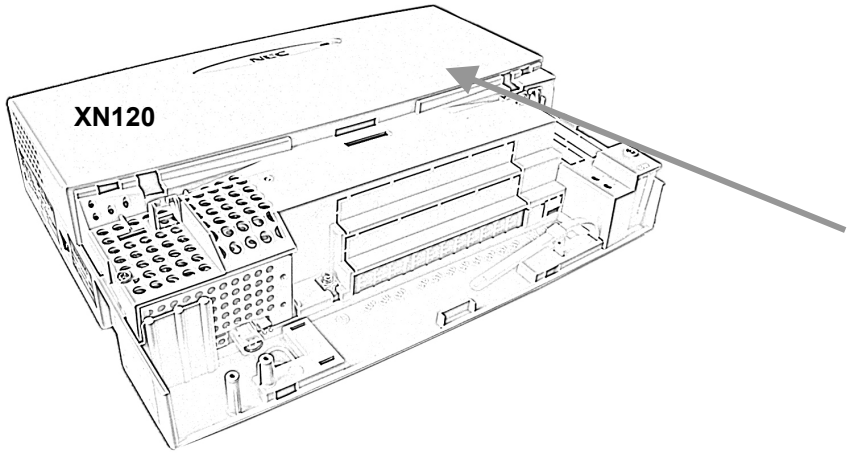
- Ethernet port
- Expansion Unit Connections
- Serial RS232 port
- Compact Flash socket



The EXIFU-B1 option card provides:

- Serial RS232 port

System Connection Diagram



EXIFU fits onto the base board of the XN120 main unit

Installation Procedure

Unpack the EXIFU card

Power off the XN120 and install the card

You will also need to power off any expansion units if they are installed.

Power on the XN120

Test the EXIFU

Configure the EXIFU

1- Unpack the Card.

There are no cables supplied with the EXIFU.

Additional Items Required:

- Cross head screwdriver.

The EXIFU-A1 card will require:

- LAN Cross Cable (or LAN Straight cable connected to a hub) for PC Programming.
- Serial Null Modem Cable (9 pin female to 9 pin female) for SMDR.
- Compact Flash card for saving the system configuration/upgrading the system software.

The EXIFU-B1 card will require:

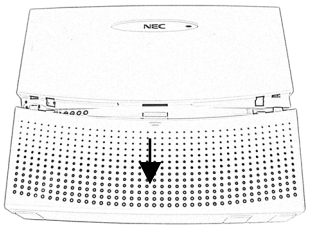
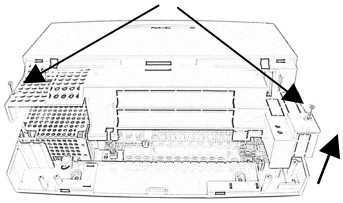
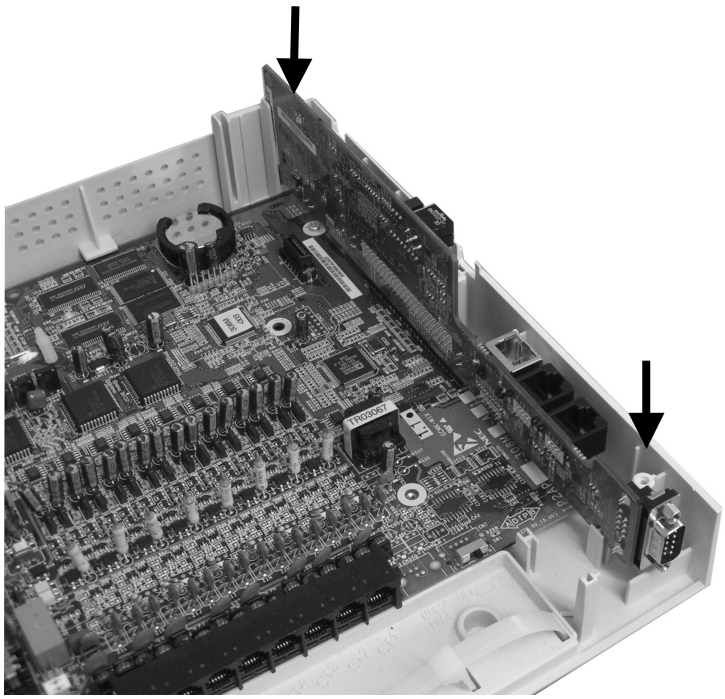
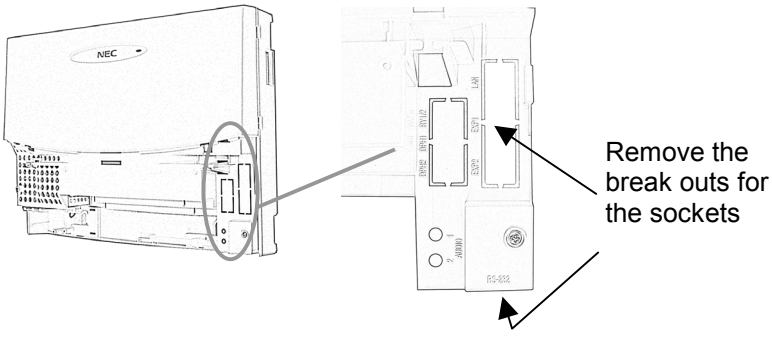
- Serial Null Modem Cable (9 pin female to 9 pin female) for SMDR.

2- Install the EXIFU

! Observe anti-static precautions when handling the EXIFU card.

- Wear a suitable anti-static strap connected to an Earth point.

One EXIFU card is installed onto the base board within the XN120 main unit.
The EXIFU will be automatically assigned when the system is powered on, after the card is installed.

1	Power off the XN120 system	You must also power off each XN120 expansion unit if you have any installed.
2	Remove the sub cover and main cover of the XN120 unit that will have the card installed.	 Remove the sub cover  Loosen the 2 screws Lift off the main cover
3	Fit the EXIFU card. The card is installed onto the connector CN2 on the right side of the base board within the XN120 main unit. Ensure the connector is in line before pushing on the card.	
4	Refit the main cover and the sub cover.	Remove the breakouts for the Ethernet/Expansion sockets and the RS-232 socket before refitting the main cover.  Remove the break outs for the sockets

5 Power on the XN120 system	If you have any expansion units installed you must power these on first. The EXIFU card will be automatically configured. ***!*** **System Start Up – Retain Customer Configuration** This is the normal operation for powering the XN120 on. Before you power on the system check that the NORMAL switch is set to ON. This will ensure that the system memory retains your configuration. The NORMAL switch is located to the right of the MOH/Page connector on the main unit; refer to the Getting Started Guide supplied with the XN120 for further information.

3- Test the EXIFU

1	Test the Ethernet port See later in this guide for cable connections of the Ethernet socket.	You will need to connect the Ethernet port of the XN120 to a Network Interface Card (NIC) on your PC. Connect directly via the LAN cross cable. Set your NIC card to the following fixed IP address. IP Address = 172.16.0.11 SubNet Mask = 255.255.0.0 Test the XN120 EXIFU Ethernet port with the PING command. The default IP address of the XN120 is 172.16.0.10 Example. **PING 172.16.0.10** If the Ethernet port is working correctly you will see several replies from the XN120, as shown below. **Reply from 172.16.0.10: bytes=32 time=2mS TTL=30** If you do not get a correct reply: Check your NIC card and settings Check the LAN cross cable is plugged in correctly Check the IP address and Sub Net Mask of the XN120, see the Ethernet Port section later in this guide.
2	Test the Serial port See later in this guide for cable connections of the Serial socket.	You will need to connect the serial port of the XN120 to a COM port on your PC. Connect via a null modem serial cable (serial cross cable). Set your COM port to the following: Baud rate = 19200 Data bits = 8 Parity = None Stop bits = 1 Flow control = None You will a Terminal Application (eg Windows HyperTerminal) running to view the output from the XN120. Test the XN120 Serial port by outputting the system report. Using Program 90-13-01 set the Output Type to 1 (serial) Press HOLD to confirm. The display will show OUTPUT COMMAND Enter 1 and press HOLD The system report will be output to the serial port of the EXIFU and will be displayed by the Terminal Application, as shown below.

```
<< System Information >>
14/02/2004  04:34

 slot location  type   assign port  condition   note
-----------------------------------------------------
   1    1-1     008/308    1-  8    Running
                           1-  3          Trunk port
   2    1-2     008/308    9- 16    Running
                           4-  6          Trunk port
   3    1-3    -none-     -none-    Not Install
   4    1-4    -none-     -none-    Not Install
   5    1-5     BRIU      17- 20    Running  Station
                                              port
                           7- 14              Trunk
```

```
                                                          port
 6     1-6     -none-      -none-     Not Install
 7     2-1     -none-      -none-     Not Install
 8     2-2     -none-      -none-     Not Install
 9     2-3     -none-      -none-     Not Install
10     2-4     -none-      -none-     Not Install
11     2-5     -none-      -none-     Not Install
12     2-6     -none-      -none-     Not Install
13     3-1     -none-      -none-     Not Install
14     3-2     -none-      -none-     Not Install
15     3-3     -none-      -none-     Not Install
16     3-4     -none-      -none-     Not Install
17     3-5     -none-      -none-     Not Install
18     3-6     -none-      -none-     Not Install
```

3 Test the Expansion ports	There is no specific method of testing the Expansion ports. They can only be tested by connecting the XN120 expansion unit. Refer to the separate guide supplied with the XN120 Expansion unit.
4 Test the Compact Flash socket	There is no specific method of testing the compact flash socket. Refer to the Compact Flash section in this guide for instructions on using the socket.

4- Configure the EXIFU

Before you configure your system it is important that you:

- Ensure the power will not be turned off to the XN120, otherwise you will lose any changes you have made that were not previously saved to battery backed memory.
- Ensure that the NORMAL switch is set to ON before you commence, otherwise you could lose your entire configuration. Refer to System Start Up for information.
- Have a diagram of your exchange lines and telephones.
- Plan your requirements before you start.

While you configure your system it is important that you:

- Exit configuration mode periodically, this will save your changes into battery backed memory. They will not be lost if the power is removed.
- Fill out the configuration sheets as you go so that you have a record of your configuration.
- Make small changes, exit configuration mode and test the changes. Do not make all your changes at once as this can make testing very difficult.
- Record your changes as you can only 'undo' them by re-entering the previous values.
- Do not unplug the phone. If it is unplugged by mistake then plug it back in, wait for the display to show time and date and then press HOLD to return to the configuration mode. Your changes will not be lost.

The XN120 consists of exchange lines and telephones connected into the main unit.
Within the XN120 configuration the exchange lines are referred to as trunks and the telephones as extensions.

How to change the XN120's Configuration
The configuration is stored in battery-backed memory within the XN120. You can change the configuration via any XN120 system phone that has an LCD display.
When you have made your changes the XN120 will automatically save the configuration into memory.

Check the User Guide for other options
There are some options that are set via normal service codes, for example:
Function Keys – with service codes 851 & 852.

XN120 Configuration Mode

Entering Configuration Mode

- You will need an XN120 system phone with an LCD display.
- The phone should be idle (no call in progress).

1	Press SPK (do not lift the handset)	You will see -	MON 27 16:28PM 200 EXT200
2	Dial Service Code # * # *	You will see -	Password
3	Dial password 12345678	You will see -	Password@@@@@@@@
4	Press HOLD	You will see -	_Program Mode

Selecting the Program Number

- Each configuration setting within the XN120 is identified by a Program Number (eg 22-05-01).

1	Ensure the LCD display shows:	_Program Mode
2	If it is not displayed press the DC key several times.	
3	Now enter the Program Number e.g 22 05 01 with the numeric keys of the XN120 phone.	22-05-01 Trunk1 Mode1 IRG =1

Using the System Phone Keys to Make Changes

- During configuration mode use the keys at the system phone to select the program item and change its value etc.
- The LCD display will show the current program item, the editing point is shown by a flashing curser.

SPK	Save changes and exit configuration mode.
Numeric keys 1 to 9 * and #	Alphanumeric entry keys. Entered at the curser location.
HOLD	Confirm the entry and step on to the next.
DC	Step back one level. Current entry is not confirmed.
DND/CONF	Delete one character to the left of the curser.
CLEAR	Delete all characters to the right of the curser.
LND	Move the curser one character to the left.
OPAC	Move the curser one character to the right.
Vol. up	Confirm the entry and step to the next item shown at the top right of the display.
Vol. down	Confirm the entry and step to the previous item shown at the top right of the display.
FLASH	Move the curser to the next entry point.

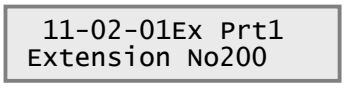
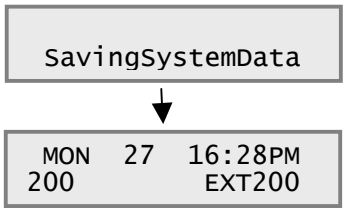
Making Changes

- With the Program Number entered and the curser positioned at the first entry you can change the value by entering the new one with the numeric keys of the XN120 phone.
- When you have entered the new value press HOLD to confirm it and move to the next entry.
- You can also press HOLD to step on to the next if you did not make any changes to the entry.

Exiting Configuration Mode

- When you exit configuration mode your changes will be saved into the battery-backed memory.

! Until you exit any changes you have made are stored in temporary memory and will be lost if the power is switched off to the XN120.

1	Press HOLD to confirm your current entry.	
2	Press DC several times.	
3	Press SPK. When the save is complete the phone returns to normal operation.	

Ethernet Port

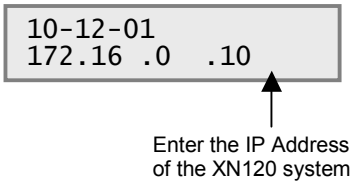
The Ethernet port of the XN120 is used for the following feature.
PC Programming – PC based application used to configure the XN120 system

The Ethernet port will operate when the EXIFU-A1 card is installed, there is no configuration required in order to use PC Programming.
The Ethernet port is assigned the following fixed IP address and subnet mask.
IP Address = 172.16.0.10
Sub Net Mask = 255.255.0.0

This guide shows the configuration required to connect the XN120 to the customers Ethernet LAN. This will enable you to access PC Programming from another PC connected to the customers LAN.

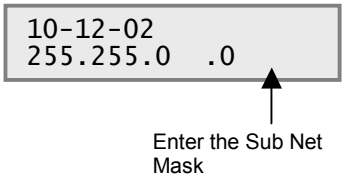
***!* You will need a fixed IP address and the appropriate Sub Net Mask for the XN120, this must be specified by the Network Administrator responsible for the customers LAN.**

1 **Program 10-12-01**
Enter the IP Address of the XN120 system.



- Enter the IP Address, you must enter three digits for each field. Example 172 016 000 010 you do not need to enter the decimal points.
- Press HOLD to confirm the entry.

Enter the Sub Net Mask.



- Enter the Sub Net Mask, you must enter three digits for each field. Example 255 255 000 000 you do not need to enter the decimal points.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

You must power the XN120 system off/on for the new IP address to take effect.

Configuration Sheet : Ethernet port

Program 10-12-01	IP Address =
Program 10-12-02	Sub net mask =

Ethernet Port Specification

Standard	IEEE802.3 10Base-T and 100Base-TX compliant	
Access	CSMA/CD	
Interface	Speed	10Mbps/100Mbps Auto Negotiation
	Cable	CAT5 or better Straight/Cross

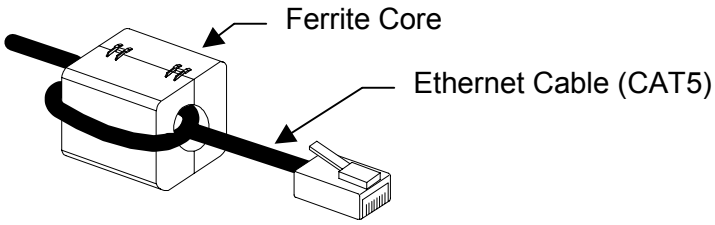
Ethernet Cable

The connections of the Ethernet cable depend on the device that you connect. When connecting to an Ethernet hub you would normally use a straight cable (some hubs will take either a straight or cross cable)
When connecting directly to the NIC card in your PC you must use a cross cable.

RJ45 Ethernet socket on the EXIFU-A1	RJ45 colour code	Ethernet Straight Cable	Ethernet Cross Cable
1	White/Orange	1	3
2	Orange/White	2	6
3	White/Green	3	1
6	Green/White	6	2

Fit the Ferrite Core to the Ethernet Cable

Ensure that you make 1 turn of the Ethernet cable through the ferrite core supplied with the EXIFU-A1 card.
The diagram shows 1 turn of the cable through the ferrite.



Maximum Cable Length

The maximum cable length is 100 metres for straight and cross cables.

Serial Socket - Call Logging (SMDR)

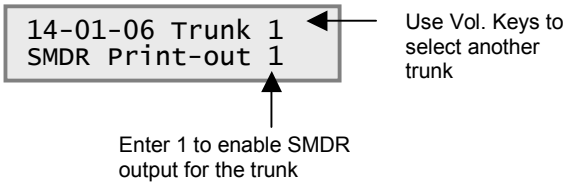
The serial port of the EXIFU-A1 or EXIFU-B1 can be used to output call information for the telephones connected to the system.
You would normally collect the call information with a compatible call logging application loaded onto a separate PC.

You must enable call logging on the XN120 system before the information will be output via the serial port of the EXIFU.

Which trunks will output to the call logger.

You must enable SMDR output for each trunk on the XN120 with program 14-01-06.

1 **Program 14-01-06**
Enable SMDR for each trunk.

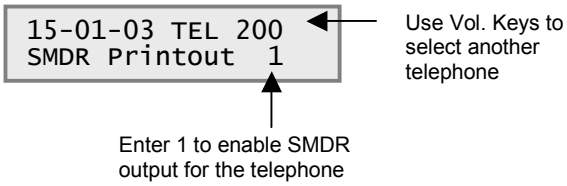


- Enter 1 to enable SMDR (enter 0 to disable).
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Which telephones will output to the call logger.

You must enable SMDR output for each telephone on the XN120 with program 15-01-03.

1 **Program 15-01-03**
Enable SMDR for each telephone.



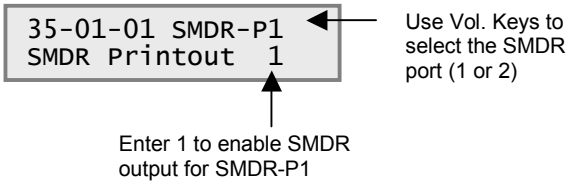
- Enter 1 to enable SMDR (enter 0 to disable).
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Enable the call logger output for the system.

You must enable SMDR output for the XN120 with program 35-01-01.

1 **Program 35-01-01**
Enable SMDR for the system.

! Ensure that you set SMDR-P1

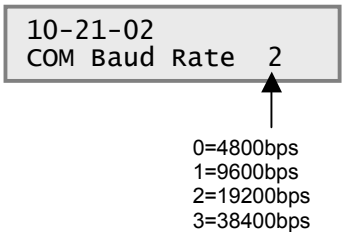


- Enter 1 to enable SMDR (enter 0 to disable).
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Set the Baudrate for the serial port.

You must set the Baudrate of the XN120 serial port to the same as the COM port of the PC connected to it with program 10-21-02.

1 **Program 10-21-02**
Set the Baudrate of the serial port of the EXIFU card.



- Enter 0-3 for the Baudrate.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Configuration Sheet: SMDR

Serial port Baud rate **Program 10-21-02**	Default=2	0=4800bps 1=9600bps 2=19200bps 3=38400bps
SMDR output **Program 35-01-01**	Default=0	0=Not output 1=Output

SMDR output for each trunk **Program 14-01-06**				**SMDR output for each telephone** **Program 15-01-03**			
Trunk port	**0=Not output** **1=Output** Default=1	**Trunk port**	**0=Not output** **1=Output** Default=1	**Telephone**	**0=Not output** **1=Output** Default=1	**Telephone**	**0=Not output** **1=Output** Default=1
1		36		200			
2		37		201			
3		38		202			
4		39		203			
5		40		204			
6		41		205			
7		42		206			
8		43		207			
9		44		208			
10		45		209			
11		46		210			
12		47		211			
13		48		212			
14		49		213			
15		50		214			
16		51		215			
17				216			
18				217			
19				218			
20				219			
21				220			
22							
23							
24							
25							
26							
27							
28							
29							
30							
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32							
33							
34							
35							

Change the telephone numbers if they are different on your system.
Fill in additional telephone numbers if necessary.

Sample SMDR Report

```
                                                          09/01/03 PAGE 001
    CLASS  TIME    LINE    DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01 POT   10:44 LINE 001   00:00:30 STA 224    12039265400        8841
02 POT   10:46 LINE 001   00:00:45 STA 224    18874521              0
03 POT   10:47 LINE 001   00:00:29 STA 218    12039265441           0
04 PIN   10:48 LINE 002   00:01:39                                  NO ANSWER
05 ALB   10:50 02         00:01:40
```

Definitions

Call Record Number	SMDR record number (consecutive)
CLASS	Type of call (see Class Definitions below)
TIME	Time call placed or answered. (For Transferred calls, shows time user picked up Transfer.)
LINE	Trunk number used for call
DURATION	How long call lasted. (For Transferred calls, shows how long user was on call after answering the Transfer.)
STATION	Extension number of call "owner" (i.e., extension that first placed or answered call) (For Transferred calls, there can be more than one owner - depending on how many extensions shared the call.)
DIALLED No./CLI	For outgoing calls, the number dialed or, for incoming calls, the Caller ID information
RD/COST	For outgoing calls, the cost if enabled. For incoming calls, the ring duration.
ACCOUNT	Account Code number entered by extension user
Class Definitions	
POT	Outgoing trunk call
POTA	Outgoing trunk call placed using Toll Restriction Override
PIN	Incoming trunk calls
ALB	All lines in group are busy (group number follows TIME field)
BRD	Call blocked due to Toll Restriction
PTRS	Transferred call
IVIN	Incoming ISDN trunk call
IVOT	Outgoing ISDN trunk call

SMDR Report Format	
Character Position	Field Definition
Header Line	
1-60	Spaces
61-70	MM/DD/YYYY
71	Space
72-75	PAGE
76	Space
77-79	Report page number (e.g., 001)
CR & LF	
Header Line 2	
1-3	Spaces
4-8	CLASS
9-10	Spaces
11-14	TIME
15-18	Spaces
19-22	LINE
23-26	Spaces
27-34	DURATION
35-36	Spaces
37-43	STATION
44-46	Spaces
47-53	DIALLED
54	Space
55-61	No./CLI
62-63	Spaces
64-70	RD/COST
71	Space
72-78	ACCOUNT
CR & LF	Carriage return and line feed
SMDR Record	
1-2	Call record number 01-55
3	Space
4-8	Call type (e.g., POT for outgoing)
9	Space
10-14	Time in 24 hour clock (HH:MM)
15	Space
16-25	Line number (e.g., 001)
26	Space
27-34	Call Duration (HH:MM:SS)
35	Space
36-45	Station number (STA, space, nnnn) or name
46	Space
47-61	Number dialed (15 digits maximum)
62-63	Spaces
64-70	Ring duration for incoming. Cost for outgoing
71	Space
72-80	Account number or NO ANSWER

Conditions

1. The SMDR report does not include Intercom calls.
2. The SMDR call buffer stores calls records when the SMDR device is unavailable. When the buffer fills, each new call is not recorded. The alarm display telephone assigned in Program 90-11-01 shows “SMDR Buffer Full,” indicating that the buffer is full. To clear the buffer, the SMDR information must be output. When not using SMDR, make sure Program 90-13-01=0 or Program 90-11-01=0 otherwise the SMDR alarm will display to the extension in Program 90-11-01 or to the operator’s extension.
3. SMDR requires a connection to the EXIFU via a COM port.

SMDR Output Options

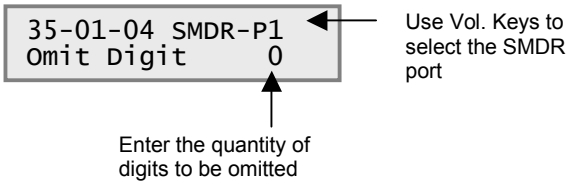
You can change the information output via the SMDR. The following options are available.

Omit dialed digits

The SMDR will replace the dialed digits with an X character.
This will prevent the administrator seeing the exact number dialed but will not prevent any billing operation of the call logging application.

```
    CLASS  TIME    LINE    DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01 POT   10:44 LINE 001   00:00:30 STA 224    120392654XX       8841
```

1 **Program 35-01-04**
Omit digits.
Ensure you set the value for SMDR-P1

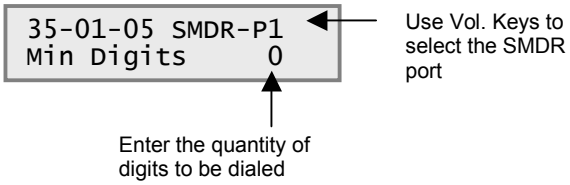


- Enter the quantity of dialed digits to be omitted (0-24).
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Minimum quantity of dialed digits

The SMDR will only output the call record if the minimum quantity of digits are dialed for an outgoing call.

1 **Program 35-01-05**
Minimum digits.
Ensure you set the value for SMDR-P1

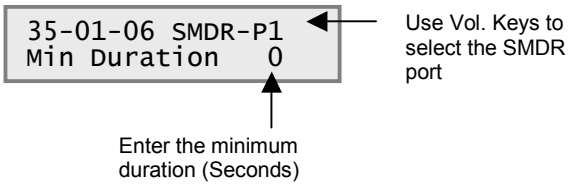


- Enter the quantity of dialed digits the user must dial (0-24). 0 means all calls will be output.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Minimum call duration

The SMDR will only output the call record if the minimum call duration is reached for incoming and outgoing calls.

1 **Program 35-01-06**
Minimum call duration.
Ensure you set the value for SMDR-P1

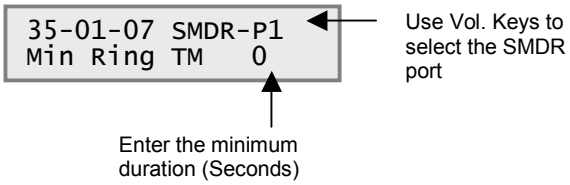


- Enter the minimum duration (0-65535). 0 means all calls will be output.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Minimum ring duration

The SMDR will only output the call record if the minimum ring duration is reached for incoming abandoned calls. An abandoned call is shown as NO ANSWER on the SMDR.
This timer does not affect calls that are answered.

1 **Program 35-01-07**
Minimum ring duration.
Ensure you set the value for SMDR-P1



- Enter the minimum duration (0-65535). 0 means all calls will be output.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Trunk name or number

The SMDR can either enter the trunk name or trunk number in the LINE field for each call record.

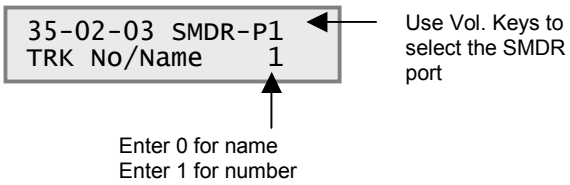
The trunk name is set in program 14-01-01.

```
    CLASS  TIME    LINE     DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01  POT    10:44  Line 001  00:00:30 STA 224    120392654XX        8841
```

The trunk number is from 001 to 051.

```
    CLASS  TIME    LINE     DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01  POT    10:44  001       00:00:30 STA 224    120392654XX        8841
```

1 **Program 35-02-03**
Trunk name or number.
Ensure you set the value for SMDR-P1



- Enter 0 or 1.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Extension name or number

The SMDR can either enter the extension name or extension number in the STATION field for each call record.

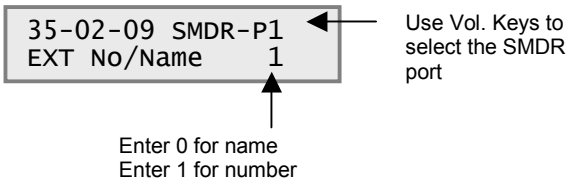
The extension name is set in program 15-01-01.

```
    CLASS  TIME    LINE    DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01  POT    10:44 001        00:00:30 P.Jones   120392654XX        8841
```

The extension number is set in program 11-01-02.

```
    CLASS  TIME    LINE    DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01  POT    10:44 001        00:00:30 224       120392654XX        8841
```

1 **Program 35-02-09**
Extension name or number.
Ensure you set the value for SMDR-P1



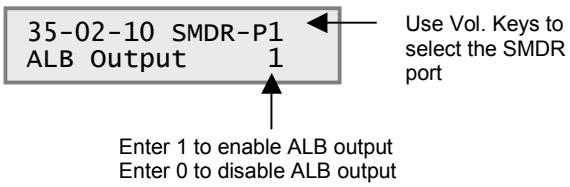
- Enter 0 or 1.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

All Lines Busy

The SMDR will output a call record each time a trunk group has all lines busy simultaneously.
The LINE field will show the trunk group number that is busy.
The DURATION field shows how long all lines were busy.

```
    CLASS  TIME    LINE    DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
05  ALB    10:50 002        00:01:40
```

1 **Program 35-02-10**
All Lines Busy output.
Ensure you set the value for SMDR-P1



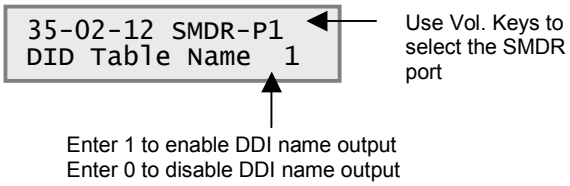
- Enter 0 or 1.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

DDI Name output

The call records for incoming ISDN DDI calls can show the name assigned to the DDI in the LINE field.
The DDI names are assigned in program 22-11-03 for each DDI number.

```
   CLASS  TIME    LINE     DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01 IVIN   10:44  Main No    00:00:30 STA 224    01765768691
```

1 **Program 35-02-12**
DDI name output.
Ensure you set the value for SMDR-P1



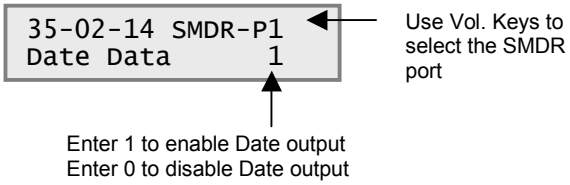
- Enter 0 or 1.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Date output for each call record

The call records can include the date in the LINE field.
The date is output as dd/mm followed by a space and then three digits to indicate the line number.
Note. When you enable date output the following options are ignored.
Program 35-02-03, Trunk name or number
Program 35-02-12, DDI name output

```
   CLASS  TIME    LINE     DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01 IVIN   10:44  09/03 001  00:00:30 STA 224    01765768691
```

1 **Program 35-02-14**
Date output for each call record.
Ensure you set the value for SMDR-P1



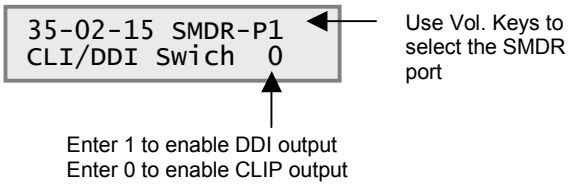
- Enter 0 or 1.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

DDI or CLIP number output

The call records for incoming ISDN DDI calls can show the DDI number instead of the CLIP number in the DIALLED No./CLI field.

```
    CLASS  TIME    LINE    DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01 IVIN  10:44 001        00:00:30 STA 224    643111
```

1 **Program 35-02-15**
DDI number output instead of the CLIP number.
Ensure you set the value for SMDR-P1



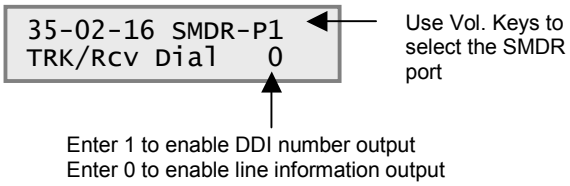
- Enter 0 or 1.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

DDI number or Line information output

The call records for incoming ISDN DDI calls can show the DDI number instead of the line name or number in the LINE field.

```
    CLASS  TIME    LINE    DURATION  STATION   DIALLED No./CLI  RD/COST ACCOUNT
01 IVIN  10:44 643111     00:00:30 STA 224    01765768691
```

1 **Program 35-02-16**
DDI number output instead of the line name/number.
Ensure you set the value for SMDR-P1



- Enter 0 or 1.
- Press HOLD to confirm the entry.
- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

Configuration Sheet: SMDR Options

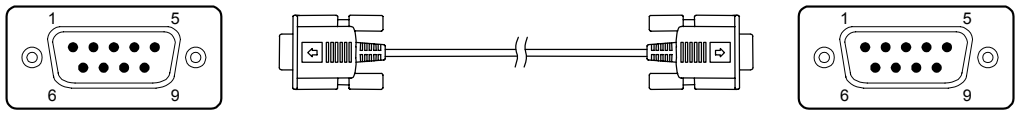
Program	Description	Setting	Options
35-01-04	Omit dialed digits	Default=1	0 = None 1-24 = Number of digits omitted
35-01-05	Minimum dialed digits	Default=0	0 = No minimum 1-24 = Number of minimum digits
35-01-06	Minimum call duration	Default=0 seconds	0 = No minimum 1-65535 = minimum duration
35-01-07	Minimum ring duration	Default=0 seconds	0 = No minimum 1-65535 = minimum duration
35-02-03	Trunk name or number	Default=1	0 = Name 1 = Number
35-02-09	Extension name or number	Default=0	0 = Name 1 = Number
35-02-10	All Lines Busy output	Default=0	0 = Not output 1 = Output
35-02-12	DDI Name output	Default=0	0 = Not output (Line name/number is output) 1 = Output
35-02-14	Date output for each call record	Default=0	0 = Not output 1 = Output (35-02-03 & 35-02-12 are ignored if this option is enabled)
35-02-15	DDI number output instead of the CLIP number	Default=0	0 = CLIP number output 1 = DDI number output
35-02-16	DDI number output instead of the line name/number	Default=0	0 = Line name/number output 1 = DDI number output

Serial Cable

The serial cable used to connect the EXIFU card to the PC must be a null modem type (cross cable).
The following connections are required.
The EXIFU card has a 9 pin male D-Type connector.
The cable must not exceed 15 metres long.

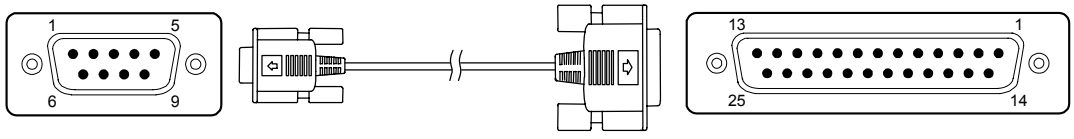
9-Pin to 9-Pin Cable

System		SMDR Device	
Signal Name	Pin No.	Pin No.	Signal Name
RXD	2	2	RXD
TXD	3	3	TXD
DTR	4	4	DTR
SG	5	5	SG
DSR	6	6	DSR
RTS	7	7	RTS
CTS	8	8	CTS



9-Pin to 25-Pin Cable

System		SMDR Device	
Signal Name	Pin No.	Pin No.	Signal Name
RXD	2	2	TXD
TXD	3	3	RXD
DTR	4	4	RTS
SG	5	5	CTS
DSR	6	6	DSR
RTS	7	7	SG
CTS	8	20	DTR



Compact Flash Socket

The compact flash socket of the EXIFU-A1 card can be used for either saving/re-loading the system configuration or upgrading the XN120 main unit's firmware.

Saving the system configuration

You can save a copy of the customer configuration that can be re-loaded in the event of system failure.
You will need a compact flash card with at least 4MByte of free capacity.
The XN120 will save the configuration in a folder named DATA on the flash card. If the flash card already has a DATA folder it will be overwritten each time the configuration is saved.

To save the customer configuration.

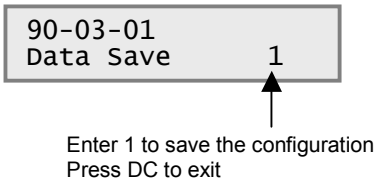
CAUTION
The XN120 operation may be effected during the data save.
Do not perform a save when the system is under load.

1 Remove the sub and main covers of the XN120 main unit.

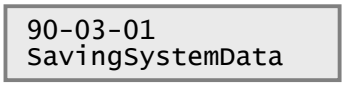
2 Insert the compact flash card into the socket on the EXIFU

You do not need to power off the XN120 to insert the card.

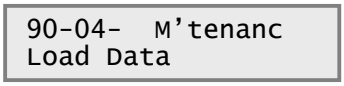
3 **Program 90-03-01**
Save configuration.



- Enter 1.
- Press HOLD to confirm the entry.
  The display will show the following while saving.



When complete the display will show the next program number.



- Press DC several times when you are done to return to the Program Mode.
- (Press SPK to save changes and exit if you are finished).

4 When the save is complete you can remove the compact flash card

You do not need to power off the XN120 to remove the card.
Unsure you hold the EXIFU card when removing the flash card – see caution below.

CAUTION
You must ensure that the EXIFU card is not unplugged when you remove the compact flash card otherwise the system will reset.
If the EXIFU card is unplugged DO NOT plug it back in until you have powered off the XN120 system.

System Report

It is recommended that you also output the XN120 system report. This will show the cards installed in each slot and the ports assigned.
You will need to connect the serial port of the EXIFU card to a COM port of your PC, refer to Testing the EXIFU earlier in this guide for details.
Below is an example of a system report.

```
<< System Information >>                        14/02/2004  04:34

 slot location  type   assign port  condition       note
-------------------------------------------------------------------------------
   1    1-1     008/308    1-  8    Running        **-**---           Connect:*
                           1-  3                   Trunk port
   2    1-2     008/308    9- 16    Running        --------           Connect:*
                           4-  6                   Trunk port
   3    1-3    -none-     -none-    Not Install
   4    1-4    -none-     -none-    Not Install
   5    1-5     BRIU      17- 20    Running        Station port
                           7- 14                   Trunk port

   6    1-6    -none-     -none-    Not Install
   7    2-1    -none-     -none-    Not Install
   8    2-2    -none-     -none-    Not Install
   9    2-3    -none-     -none-    Not Install
  10    2-4    -none-     -none-    Not Install
  11    2-5    -none-     -none-    Not Install
  12    2-6    -none-     -none-    Not Install
  13    3-1    -none-     -none-    Not Install
  14    3-2    -none-     -none-    Not Install
  15    3-3    -none-     -none-    Not Install
  16    3-4    -none-     -none-    Not Install
  17    3-5    -none-     -none-    Not Install
  18    3-6    -none-     -none-    Not Install
```

This report shows that the XN120 main unit has a 308 card and a 4BRIU card installed.
Slots 1-6 are in the Main unit
Slots 7-12 are in Expansion unit 1
Slots 13-18 are in Expansion unit 2

Loading the system configuration

The customer configuration can be re-loaded from the compact flash card into the XN120 main unit.
Note. The configuration on the compact flash card will contain the card type and port assignment of all slots in the system. You must ensure that the card type and port numbers are identical on both the XN120 and the saved configuration on the flash card. Use the system report to confirm the cards installed and ports assigned on the XN120.

To load the customer configuration from the flash card.

CAUTION
The XN120 operation may be effected during the data load.
Do not perform a load configuration when the system is under load.

1	Remove the sub and main covers of the XN120 main unit.
2	Insert the compact flash card into the socket on the EXIFU

You do not need to power off the XN120 to insert the card.

3 **Program 90-04-01**
Load configuration.

```
90-04-01
Data Load      1
```

Enter 1 to save the configuration
Press DC to exit

- Enter 1.
- Press HOLD to confirm the entry.
  The display will show the following while loading.

```
90-04-01
Loading Data
```

When complete the display will show the next program number.

```
90-05-  M'tenanc
Slot Control
```

- Press DC several times when you are done to return to the Program Mode.
- Press SPK to save changes and exit.

! It may take a few minutes to save the configuration to memory– Do not remove the flash card or power off the system until completed.

4	When the data save to memory is complete ***you must power off/on the XN120 system***

Power the system off/on in order for the loaded configuration to take effect.

Remove the flash card while the system is powered off. Ensure the EXIFU card is not unplugged when you remove the flash card.

Upgrade the XN120 Main Unit Software

The operating system software of the XN120 system can be upgraded by installing a compact flash card into the socket of the EXIFU card.
The compact flash card has the new revision of XN120 system software copied onto it.

You can confirm the revision of the XN120 system software at any XN120 telephone with a display.
With the phone idle press OPAC and dial 3
The top row of the display will show the software revision (example below is Version 01.30)

```
Main Ver:  01.30
0-Cf-80-D0-13-2A
```

The display will revert to normal after 3 seconds.

Flash card type

You will need a compact flash card of 16Mbytes or larger.

CAUTION

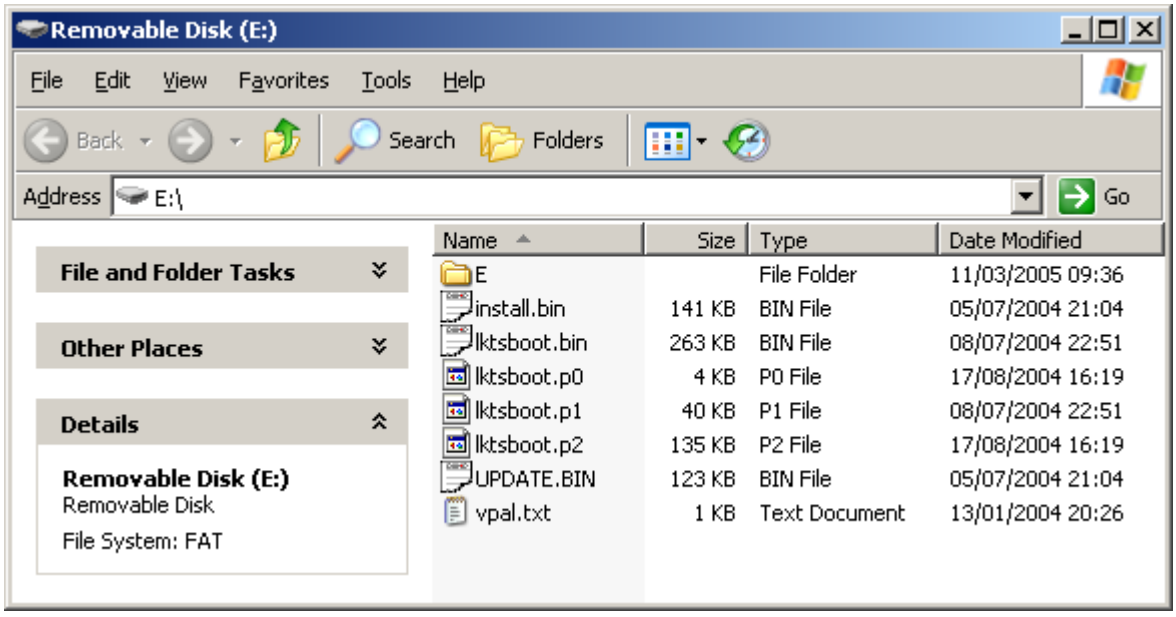
In the event that the upgrade is not successful you may need to use another compact flash card.
We recommend that you test your compact flash card by upgrading a test XN120 before you use it for the first time.
Do not use an untested compact flash card at a customer's system.

How to build the compact flash card for the XN120 system software.

- The files on the compact flash card must be taken from the XN120 Technical CD.
- Ensure there are no other files on the compact flash card.
- The compact flash must be formatted in FAT. The XN120 will not read the files if the compact flash card is formatted in another type e.g FAT32.

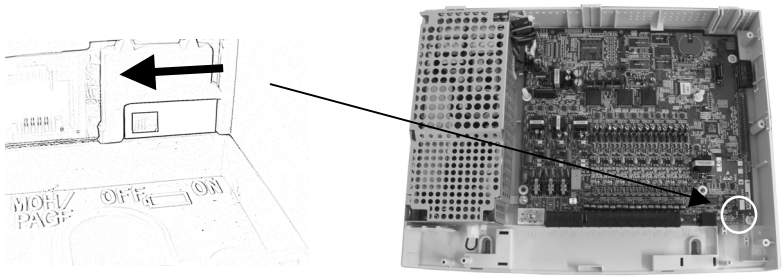
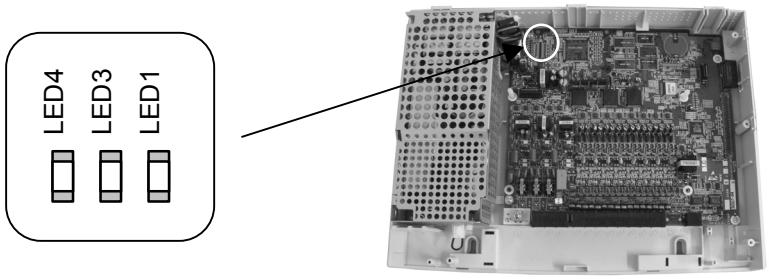
To build the compact flash card you will need the XN120 system software from the XN120 Technical CD.

1. Insert the blank compact flash card into your PC.
2. Insert the CD into your PC and from the main menu screen select the XN120 System Software link.
3. You will see each version of XN120 software in separate folders.
4. Double click the folder that contains the version of XN120 software you want to use.
5. Within the folder select ALL files then copy them onto the compact flash card.
6. The structure of the compact flash card will look similar to the screen shot below.
7. The compact flash card is now ready to be inserted into the EXIFU card to perform the software upgrade.



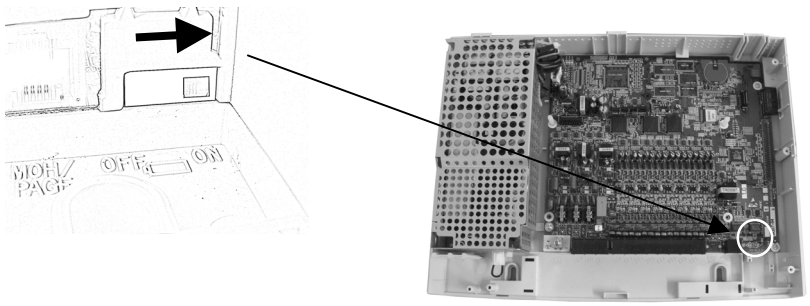
To upgrade the XN120 system software.

It is recommended that you save the system configuration to the compact flash card before you perform the upgrade; see Saving the System Configuration above.

1	Remove the sub and main covers of the XN120 main unit.	
2	Insert the compact flash card into the socket on the EXIFU	Ensure the lamp LED1on the EXIFU card comes ON, this confirms the compact flash card is inserted correctly.
3	Power off the XN120 system	You must also power off any expansion units if they are installed.
4	Set the NORMAL switch to OFF. With the compact flash card inserted the system will not perform a cold start; you will not erase the customer configuration.	The NORMAL switch is located on the right side of the MOH/PAGE socket on the XN120 main unit. 
5	Power on the XN120 main unit	The new system software will be copied from the compact flash card to the XN120 main unit. Lamp LED4 will flash during the upgrade. 
6	When LED4 stops flashing power off the XN120 main unit	The upgrade will take 1-2 minutes.
7	Remove the compact flash card	

8	**Set the NORMAL switch to ON** ***!*** If you do not set the NORMAL switch to ON you will erase the customer configuration when you power on the system

The NORMAL switch is located on the right side of the MOH/PAGE socket on the XN120 main unit.



9	Power on the XN120 system

10	Confirm the XN120 system software has upgraded by pressing OPAC 3 at any display phone.

<u>If the Upgrade fails.</u>

Check that the compact flash card contains all the files from the XN120 Technical CD.

Check the compact flash is formatted in FAT. This is shown in the properties when you insert the card into your PC.

Try another compact flash card.

Expansion Socket

Refer to the guide supplied with the expansion unit.