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NEC

KTS Technical Assistance Centre
Service Information Bulletin

XEN IPK Version 2.00 CPU Software

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Introduction

This Service Information Bulletin applies to Xen IPK Key Telephone Systems.

Version 2.00 CPU software, for the XEN IPK Key Telephone System, is now commercially available from NEC Business Solutions Pty. It incorporates some enhancements to existing features, and some new features that make the XEN IPK Key Telephone System more flexible, versatile, and exciting.

New Xen IPK Hardware

Five new cards will be introduced with the release of Xen IPK CPU software version 2.00.

Two cards will support new features. These cards are:

1. IAD (8) – U13 ETU which can operate in three possible operation modes. SIP trunks and Megaco extensions, which were introduced late in phase 1.00, and release 2 this cards will also be able to operate as an 8 port Tie Line using K-CCIS.

2. SLI (4/8) – U33 ETU will replace the existing SLI (4/8) – U13 ETU due to obsolete components and improvement in technology.

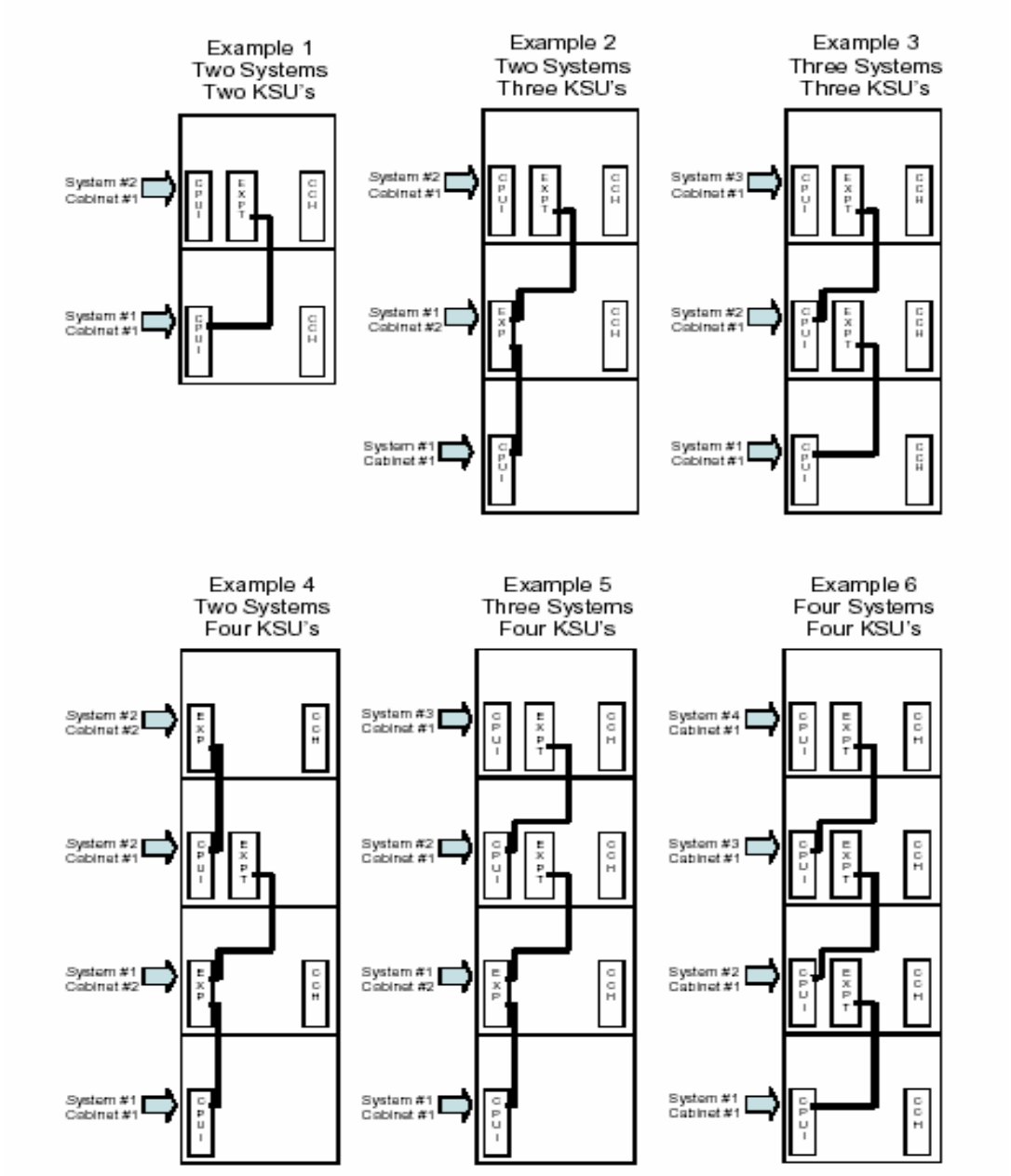
With the introduction of the Cascade CPU feature, 2 new cards are also available. These are used to increase the number of port capacity as you will see later in this Bulletin.

1. EXPT(2) – U13 ETU is used as an interface card between expanding systems.
2. CCH(4) – U13 ETU. This is a Common Channel Handler to manage the signal and connection between two systems.

To further enhance the access into the Key Telephone System, a new card has been released:

1. SPE –U13 ETU card which operates in a similar fashion to the MIFM card is now available. This card also supports access to the Xen Mail, BSU, and system programming using an Ethernet port.

The introduction of the EXPT(2) – U13 ETU, and the CCH(4) – U13 ETU, will see the increase of the Xen IPK port capacity. The maximum port capacity will depend on the various system configurations, which are shown below:



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Example	Number of KSU's	Number of CPU's	Number of EXPT(2)-U( ) ETU's	System Number	Number of Available IF Slots (Note 1)	Maximum Number of Usable Trunks (Note 2)	Maximum Number of Usable Stations (Note 3)
#1	2	2	1	1 →	7	40	80
				2 →	6	40	80
				Total(s) →	**13**	**80** *	**160** *
#2	3	2	1	1 →	15	40	120
				2 →	6	40	80
				Total(s) →	**21**	**80** *	**200** *
#3	3	3	2	1 →	7	40	80
				2 →	6	16	80
				3 →	6	40	80
				Total(s) →	**13**	**96** *	**160** *
#4	4	2	1	1 →	15	40	120
				2 →	14	40	120
				Total(s) →	**29**	**80** *	**240** *
#5	4	3	2	1 →	15	40	120
				2 →	6	16	80
				3 →	6	40	80
				Total(s) →	**27**	**96** *	**280** *
#6	4	4	3	1 →	7	40	80
				2 →	6	16	80
				3 →	6	16	80
				4 →	6	40	80
				Total(s) →	**25**	**112** *	**320** *

Version 2.00 CPU Software: New and Enhanced Features

The following new features have been introduced into the Xen IPK v2.00 Key Telephone System:

1. K-CCISS on IP, this feature allows using 8 channels for Tie Line operations using Common Channel Signaling on the IAD card. The features supported are as listed below:
   (a) Call forwarding - Busy/No Answer
   (b) Call Transfer – All Calls
   (c) Call Name Display
   (d) Call Number Display
   (c) Direct Inward Dialing
   (d) Dual Hold
   (e) Elapsed Time Display
   (f) Flexible Numbering of Stations
   (g) Handsfree Answerback
   (h) Hot Line
   (i) Link Reconnect
   (j) Multiple Call Forwarding – All Calls
   (k) Multiple Call Forwarding – Busy /No Answer
   (l) Station-to Station Calling
   (m) Uniform Number Plan

(n) Voice Calls
(o) Voice mail Integration (Centralize Voice Mail)
(p) Centralized Attendant (Dial 0 for Attendant)
(q) Centralized Day/Night switching
(r) External Speaker paging
(s) Meet-Me
(t) Centralized BLF
(u) Virtual Look Ahead Routing
(v) CCIS Internal Paging
(w) Park and Retrieve across K-CCIS
(x) Quick Transfer to VM across K-CCIS
(y) Centralized BLF Enhancement
(z) IPCCH-NEAX connectivity

2. Barge-in Conference LED.
3. No limit Caller ID – All MLT can display Caller ID and SMDR records all abandon calls.
4. Call Monitoring – Always Barge-in operation without a tone or indication.
5. SLT trunk to trunk transfer – Using the Hook flash on the SLT phone.
6. Call Forward setting store on MAT – All call forward types and DND settings.
7. Flexible timeouts – Timers are entered instead of selection from line keys.
8. CID Missed call, missed calls are stored – Missed calls with caller ID is now stored and can be display using the scroll feature. The missed number is displayed with a M.
9. Caller ID to SLT, requires new SLI card and phones capable of providing CLI information.
10. User Programming FA keys (16D) using <Feature><2><7> follow by desired display.
11. SPE (Single Point of Entry) for remote/direct access and for system programming and maintenance.
12. Cascade CPU used to increase the system port capacity using the EXPT(2)-U13 and CCH(4)-U13 cards.

Please note: that additional information about the new feature available on the IPK v2.00 can be found within the Features & Specifications Manual or the System Hardware Manual. These Manuals are available from the KISS website http:/www.kts.nec.com.au and can be downloaded.

Version 2.00 CPU Software: New and Enhanced Memory Blocks

The following is a table of the Memory Blocks that have been added and/or modified because of the enhancements in Version 2.00 CPU software:

Data No.	Modify	Function Name	Default	Programming Value
1-1-03	(Modified)	Hold Recall Timer Selection (Non-Exclusive Hold)	60sec.	000 sec ~ 255 sec, 000 = No Limit (4 classes)
1-1-05	(Modified)	Start Timer Selection	2 sec.	00 sec ~ 99 sec, 00 = No Limit (4 classes)
1-1-06	(Modified)	CO/PBX Incoming Ringing Alarm Time Selection	No Limit	000 sec ~ 255 sec, 000 = No Limit
1-1-07	(Modified)	Tie/DID Line Delay Ringing Timer Selection	No Limit	000 sec ~ 255 sec, 000 = No Limit (4 classes)
1-1-12	(Modified)	Station Transfer/Camp-On Recall Timer Selection	60sec.	000 sec ~ *999* sec, 000 = No Limit (4 classes)
1-1-37	(Modified)	Trunk Queuing Timeout Selection	10sec	00 sec ~ 99 sec, 00 = no limit (4 classes)
1-1-63	(Modified)	Hold Recall Time Selection (Exclusive)	60 sec	000 sec ~ 999 sec, 000 = No Limit (4 Classes)
1-1-64	(Deleted)	Attendant Add-On Console Transfer/Camp-On Recall Timer Selection	60 sec	000 sec ~ 999 sec, 000 = No Limit (4 Classes)
1-1-76	(New)	Barge-in Alert Tone Assignment	Yes/No	Yes
1-1-78	(Deleted)	Caller ID Display Assignment for System Mode	Not Specified	Combination No. =01~15 Selectable Tel No. = 01~120
1-1-81	(Modified)	ISDN Dial Interval Timer	4 sec	01 sec ~ 99 sec
1-1-86	(New)	Call Monitoring Alert Tone Assignment	Yes	Yes/No
1-2-00	(Modified)	Internal Paging Timeout Selection	90 sec	000 sec ~ 255 sec, 000 = No Limit (4 Classes) CCIS Network – Class 1 use
1-2-02	(Modified)	Automatic Callback Release Timer Selection	30 min	00 min ~ 99 min, 00 = No Limit (4 Classes)
1-2-03	(Modified)	2 ~ 7 Digit Station Number Selection	3-digit	2-digit, 3-digit, 4-digit, 5-digit, 6-digit, 7 digit
1-2-22	(Modified)	Call Forward No Answer Timer Selection	12 sec.	01 sec ~ 99 sec, (4 Classes)
1-2-23	(Modified)	System Call Park Recall Time Selection	60 sec	001 sec ~ 999 sec, (4 Classes)
1-2-34	(New)	Expanded Station Number Assignment	Blank	0 ~ 9, Depends on MB 1-2-3
1-3-03	(Modified)	First Digit PBR Release Timer Selection	10 sec	01 sec ~ 99 sec
1-3-11	(New)	SLT/Drover Talk Start Timer	01 sec ~ 99 sec	10 sec
1-4-01	(Modified)	Automated Attendant First Digit PBR Release Timer Selection	20 sec	01 sec ~ 99 sec
1-4-02	(Modified)	Automated Attendant Transfer Delayed Ringing Time Selection	No Limit	00 sec ~ 99 sec, 00 = No Limit (4 Classes)

Data No.	Modify	Function Name	Default	Programming Value
1-4-03	(Modified)	Automated Attendant No Answer Disconnect Time Selection	120 sec	001 sec ~ 255 sec
1-7-01	(Modified)	Door Phone Display Time Selection	10 sec	01 sec ~ 99 sec
1-7-06	(Modified)	External Paging Timeout Selection	300 sec	000 sec ~ 999 sec, 000 = No Limit (4 Classes) CCIS Network – Class 1 use
1-8-49	(New)	New AA-Info Yes/No Selection	Yes	No, Yes
1-11-00	(New)	Signal Format Selection	ESF(24)	SF(12), ESF(24)
1-11-01	(New)	Clear Channel Selection	ZCS	B8ZS, ZCS
1-11-02	(New)	Line Length Selection	1 (0~131Feet)	1 (0~131Feet), 2 (132~262Feet), 3 (263~393Feet), 4 (394~524Feet), 5 (525~655Feet)
1-11-03	(New)	CCIS over IP Selection	Deny	Allow, Deny
1-11-05	(New)	T1 Channel Selection	No	Yes, No
1-11-06	(New)	Signalling Selection	Loop Start	Loop Start, Ground Start
1-11-07	(New)	DTI Trunk Type Selection	CO	CO, E&M TIE, DID, ANI
1-11-08	(New)	Number of Deleting Digits for ANI	No Digit Deletion	No Digit Deletion, 1~9 Digit Deletion
1-14-07	(New)	ACR Max Digit Assignment	24	0~24, for 00 refer to MB 1-1-81 for ISDN Interval Time Selection
1-15-00	(New)	CCIS Main/Satellite Office Selection	Not Specified	Not Specified, Main Office, Remote Office
1-15-02	(New)	Common Signalling Channel Assignment	00	1~4 CCH channel, 00 to 24
1-15-03	(New)	Originating Point Code Assignment	<Space> Not Specified	<Space> Not specified, 00001 ~ 16367 (Point Code)
1-15-04	(New)	Destination Point Code Assignment	<Space> Not Specified	<Space> Not specified, 00001 ~ 16367 (Point Code)
1-15-05	(New)	Destination Point Code Transfer Assignment	Not Specified	Point Code: 00001 ~ 16367 Channel 1~4 and i
1-15-06	(New)	Originating Office Number Assignment	Not Specified	Point Code: 00001 ~ 16367
1-15-07	(New)	CCIS Message Response Time Assignment	30 seconds	01 ~ 99 seconds, 00 = infinite
1-15-08	(New)	Link Reconnection Allow/Deny Selection	Allow	Allow, Deny
1-15-09	(New)	Count of Call Forwarding over CCIS Assignment	5 Times	1Time, 2 Times, 3 Times, 4 Times, 5 Times, 6 Times, 7 Times
1-15-10	(New)	Calling Name Display Allow/Deny Selection	No	No, Yes: 4 CCH Channels
1-15-11	(New)	Centralized Billing Allow/Deny Selection	Deny	Allow, Deny
1-15-12	(New)	Centralized Billing Centre Office Assignment	1st Data: 0 2nd Data: <space>	1st Data: 0 (not assign), 1~4 CCH channel 2nd Data: <Space> Not Specified 00001 ~ 16367 (Point Code)
1 –15- 13	(New)	Centralized Day/Night Switching for Remote Office Assignment	No	No, Yes
1–15-14	(New)	Centralized Day/Night Switching for Main Office Assignment	1st Data: 0 2nd Data: <Space>	1st Data: 0 (not assign), 1~4 CCH channel 2nd Data: 00001 ~ 16367 Point Code, <space> = not assign Table1~16
1–15-15	(New)	Centralized BLF Send Point Code Assignment	<space> Not Specified	<Space> Not specified, 00001 ~ 16367 (Point Code)

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Data No.	Modify	Function Name	Default	Programming Value
1–15-16	(New)	Centralized BLF Send Extension Number Assignment	1st Data: <Space> 2nd Data: <Space>	1st Data: Station Number 2nd Data: Send Group1~8
1–15-17	(New)	Centralise BLF Send Time Assignment	4sec	4sec, 8sec, 12sec, 16sec
1–15-18	(New)	Centralized BLF Receive Extension Number Assignment	All tables = <space>	Station Number: Max 4 digits, <space> not specified Table 1 ~ 120
3-44	(Deleted)	Caller ID Display Assignment for CO/PBX Line	Not Specified	Telephone Port 01~96
3-57	(Added)	ISDN Dial-out sending Selection	Overlap	Overlap, En block
3-61	(Modified)	DIT/ANA Delay Answer Timer Selection	Trunks 01~64 = 0 sec	00 sec ~ 99 sec, 00 = no limit
3-70	(New)	CIC Number assignment	000	001 ~ 127 (CIC number), 000 = Not specified
4-49	(Deleted)	Caller ID Display Assignment for Call Arrival Key	Not Specified	Tel Port No. 01~120
4-71	(New)	Timer class Assignment for Telephone Mode	1 = Tel 1, 2 2 = Tel 3 ~ 120	1 (Class 1) ~ 4(Class 4)
5-04	(New)	LCR Class Selection to Trunk Group Assignment	0	1 ~ 4 Class, 0 = not assigned
5-05	(New)	Common Signalling Channel Route Assignment	0	1 ~ 4 CCH channel, 0 = not assigned
5-06	(New)	Trunk Group Outgoing Priority Selection	High -> Low	High -> Low Low -> High

Disclaimer

This document provides all of the necessary information to upgrade the Xen IPK system software from v1.00 to v2.00. The Xen IPK Maintenance Access Terminal (MAT) v2.00 must be used to perform this upgrade procedure. The MIFM-ETU is required for PC Programming and must be installed to complete this process.

Section 1 of this document details the procedure for downloading the system database from a v1.00 KTS and converting it into a version 2 database using MAT. MAT v2.00 must be used to complete this process.

Section 2 details the procedure for upgrading the CPUI-ETU to v2.00 software.

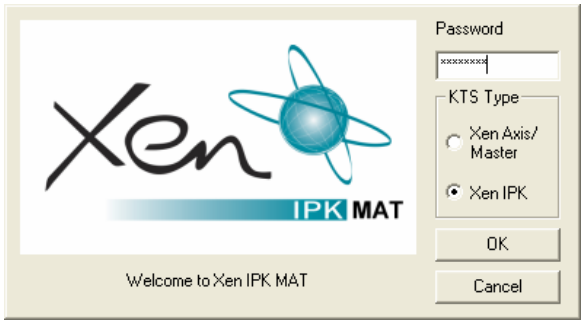
With the introduction of Xen IPK v2.00 software some caller ID enhancements have been implemented. To take advantage of these enhancements the MIFM firmware needs to be upgraded to v6.10.

Section 3 details the procedure for upgrading the firmware of the MIFM-ETU. For more information on the features supported in Xen IPK v2.00 software refer to the "Xen IPK Features and Specifications manual."

Section 1: Saving the System Database and Converting to v2.00

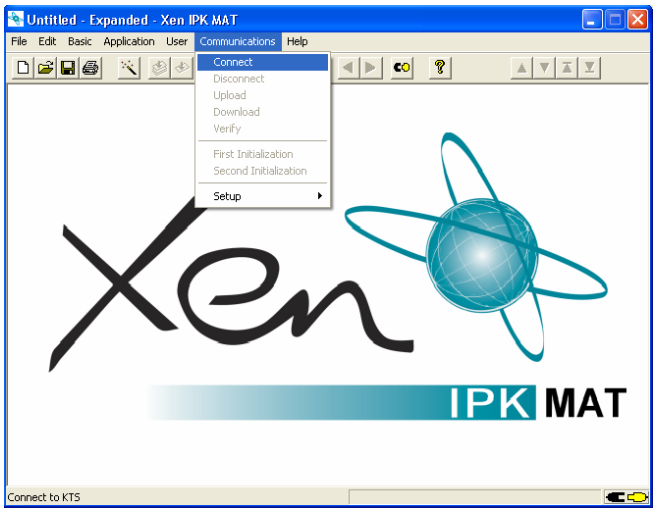
1. Install MAT v2.00 onto your PC.

2. Startup MAT, select Xen IPK and enter the password. "PASSWORD" by default.

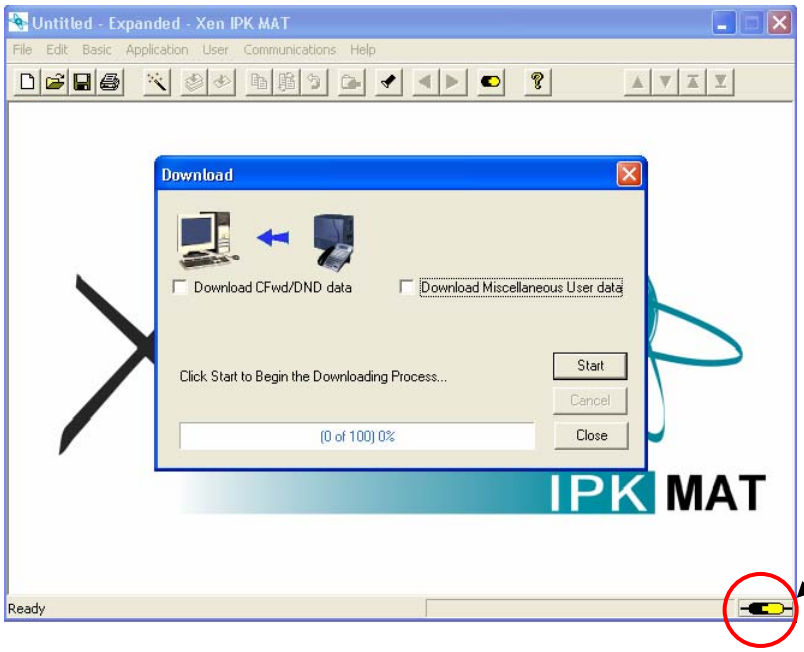


3. Ensure that a MIFM-ETU card is installed onto the system either in S1, S2 or AP Slot of the KSU.

4. From the communications menu, select Connect.



5. From the communications menu, select download to download the current system database.



6. When the download is complete, select File - Save As and specify the file name. (E.g. site_1_version1.rdf)
Ensure that the “Save as type” is set to Xen IPK V1.00.

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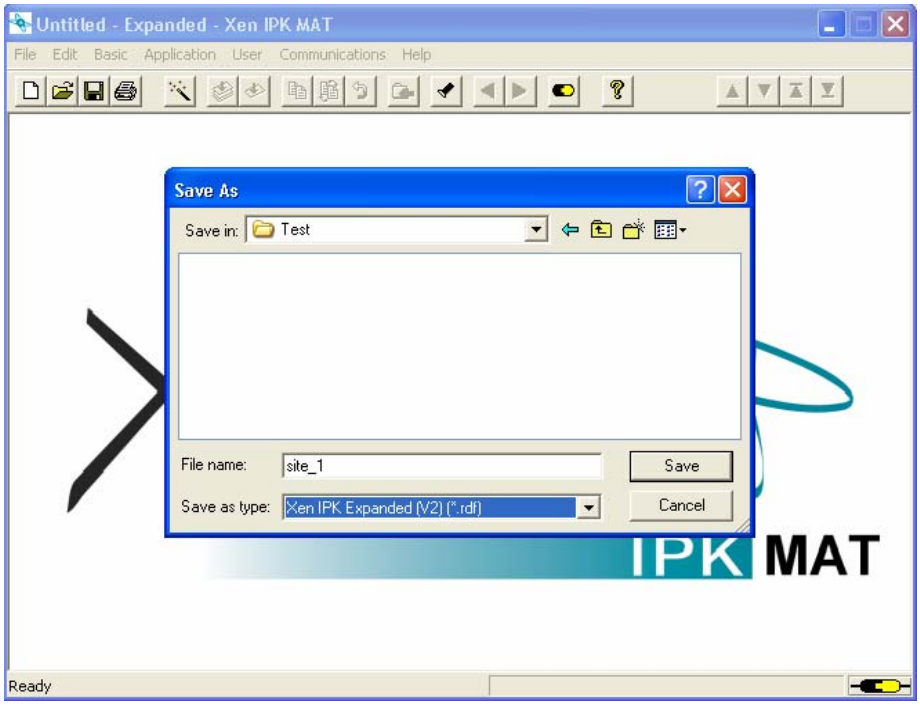


7. Select File - Save As and change the “Save as type” to Xen IPK V2.00. Specify different file name to that above and save the file. (E.g. Site1_version2.rdf). This database is the converted database that will be used for upload to the KSU once the CPU has been upgraded to version 2.00.

8. Disconnect from the KSU by selecting communications – Disconnect.

9. Make a note of all other system settings that are not captured in the download so that these can be reset after the upgrade. E.g. Call Forward settings etc.

Please Note:

If MAT is being used to create a new system database such as in the case of a new install, then care must be taken to ensure that the assignment of the MIFM-ETU is correct. If MB7-1 in system programming does not contain a MIFM-ETU then do not assign a MIFM-ETU in the MAT under the Interface slot assignment tab. If a MIFM-ETU is assigned under the Interface slot assignment tab in MAT (but the system does not have a MIFM assigned) then an upload to the KSU will not be successful. The table below shows the upload result based on the different combinations. “NO MIFM” = no MIFM assigned in MB7-1 but card inserted in KSU.

MB7-1 in System programming	Interface Slot assignment (MB7-1) in MAT	Upload result
NO MIFM	NO MIFM	OK
NO MIFM	**MIFM-ETU**	FAIL
MIFM-ETU	NO MIFM	OK
MIFM-ETU	**MIFM-ETU**	OK

Section 2: CPU Upgrade Procedure

The Xen IPK system uses Flash ROM to store the system main software. This allows convenient upgrade of its ability in terms of features. The following instructions are for main software upgrade of the CPUI( ) – ETU.

This section describes the upgrade procedure required for Xen IPK v1.00 systems upgrading to v2.00 main software.

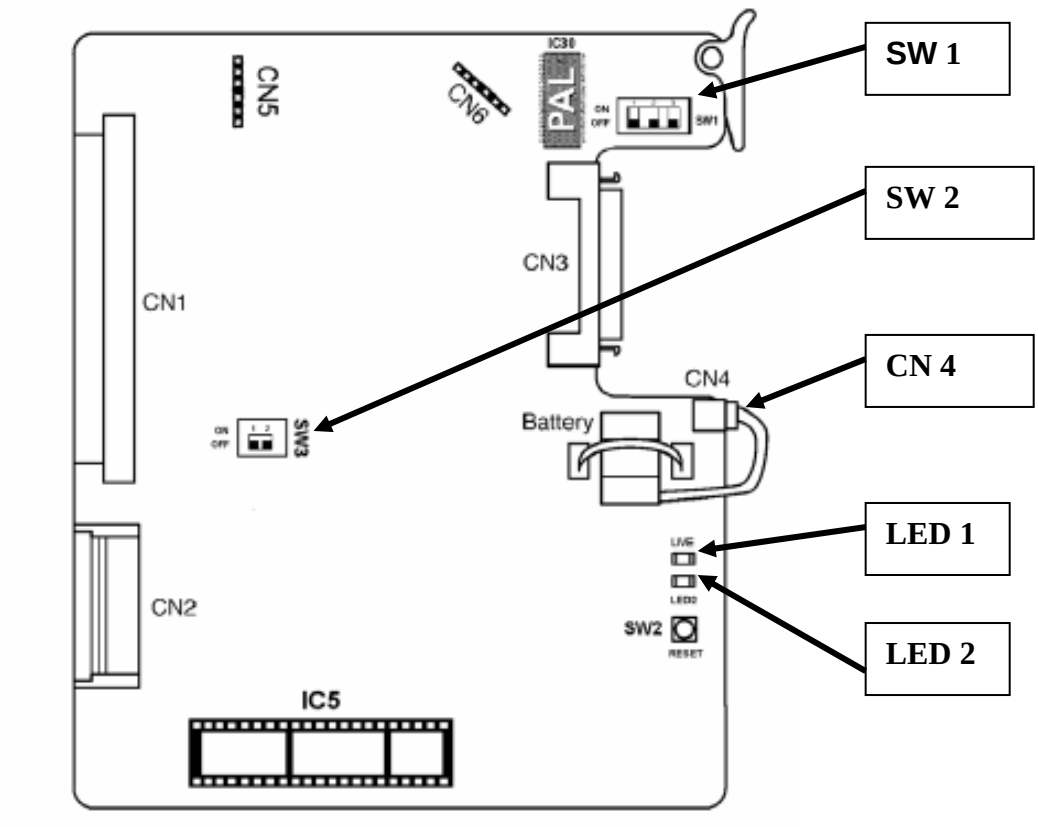


Figure 1. CPUI( ) – ETU

1. Download and store the current database using MAT v2.00 as per the instructions in section 1 of this document.

2. Ensure that the memory backup battery is disconnected on the CPUI( ) – ETU (CN4 connector).

3. Power off the system and remove the CPUI( ) – ETU from the KSU.

Please Note:

Two EPROM chips are required for this upgrade process, and are labeled as EPROM 1 and EPROM 2.

Loading the EPROM 1 Chip

1. Insert EPROM 1 into the IC socket (IC5).
2. Set the following Dip Switches settings:

   SW1-1 : ON
   SW1-2 : ON
   SW1-3 : OFF

   SW3-1 : ON
   SW3-2 : OFF

3. Insert the CPUI( ) – ETU into the Xen IPK cabinet, and then turn ON the power. LED 1 will begin flashing while LED 2 remains solid red.
4. Once the software has been transferred, LED 1 stops flashing. Then switch off the KSU and remove the CPUI( ) – ETU from the KSU.
5. Then remove the EPROM 1 from the IC5 socket.

Loading the EPROM 2 Chip

1. Insert EPROM 2 into the IC socket (IC5).
2. Set the following Dip Switches settings:

   SW 1-1 : ON
   SW 1-2 : ON
   SW 1-3 : OFF

   SW 3-1 : OFF
   SW 3-2 : ON

3. Insert the CPUI( ) – ETU into the Xen IPK cabinet, and then turn ON the power. LED 1 will begin flashing while LED 2 remains solid red.
4. Once the software has been transferred, LED 1 stops flashing. Then switch off the KSU and remove the CPUI( ) – ETU from the KSU.
5. Then remove EPROM 2 from the IC5 socket.

Running the New Main Software

1. Move both dip switches SW 3-1 and SW 3-2 to the 'OFF' position.
2. Move both dip switches SW 1-1 and SW 1-2 to the 'OFF' position.
3. Insert the CPUI( ) – ETU into the Xen IPK cabinet.
4. Power ON the KSU.

5. Confirm that the software has been upgraded to v2.00 simply press Feature + 3 on a MLT station.

Section 3: MIFM Firmware Upgrade Procedure

Use the following procedure for firmware upgrade of the MIFM-U( ) ETU.

1. Remove the MIFM-U13 ETU from the KSU.

2. Mount the EPROM labeled “MIFM v 6.10” onto the MIFM-U13 card (IC8 socket). Please refer to Figure 2 below, for the diagram of the MIFM-U13 ETU.

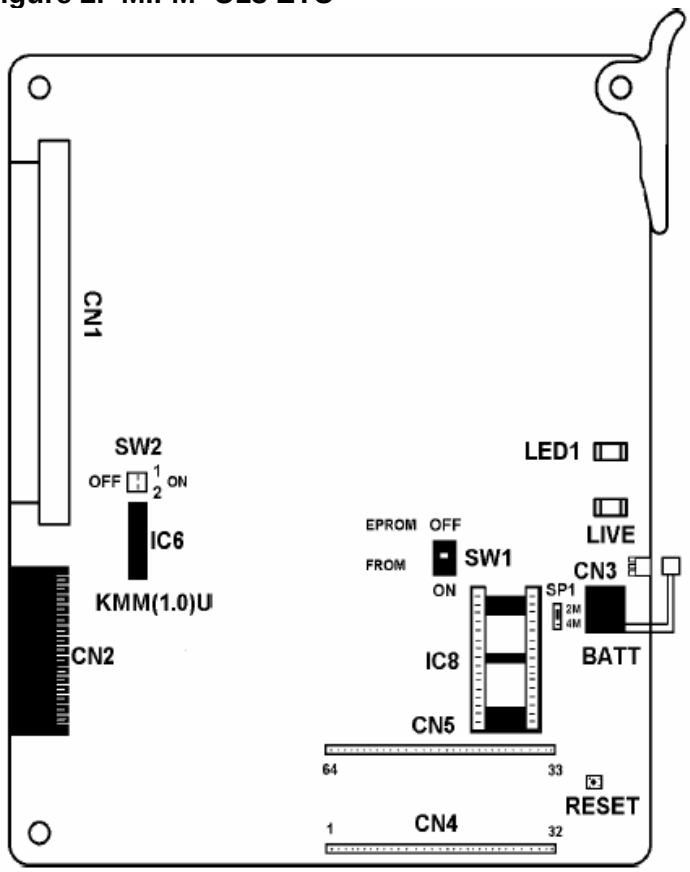
3. Set the switch SW1 to the **OFF** position (EPROM), and then set DIP SW2-1 to the **ON** position.

4. Install MIFM-U13 ETU into the same slot from Step 1 of the KSU. Note that LED 1 is flashing.

5. Once the software has been transferred, LED 1 stops flashing and then goes off. Remove the MIFM-U13 card from the KSU.

6. Remove the EPROM, and set the switch SW1 to **ON** position (FROM), and then set DIP SW2-1 to the **OFF** position.

Figure 2. MIFM- U13 ETU



To verify the current software version installed on the MIFM-U13 ETU perform the following:

1. Insert the MIFM-U13 ETU into the same slot of the KSU, and then power ON the KSU.

2. Enter into programming mode.

3. Press LK8 + LK1 to access Memory Block 8-1.

4. Press transfer to locate the MIFM-U13 ETU.

5. Verify that the current software revision number is displayed.

MAT & CAT Availability and Pricing

Maintenance Administration Terminal (MAT)

Maintenance Administration Terminal (MAT) Version 2.00 software can be downloaded Free-Of-Charge* from the KISS website http://www.kts.nec.com.au/

*** Please Note**: At least one copy of the software must have been purchased by each Dealer for access to the software on the KISS website to become available. This includes any previously purchased version of the IPK MAT software.

Additional copies of the IPK MAT software on CD are available from NEC Channel Sales by sending an order through to them and quoting the following details:

Description: XEN IPK MAT Version 2.00 Software
Stock No: 8502597

Please contact your NEC Business Solutions Pty Channel Sales Account Manager, or refer to your NEC Pricelist for pricing details.

Client Administration Terminal (CAT)

Client Administration Software (CAT) Version 2.00 software can be purchased on CD through NEC Channel Sales by send an order through to then and quoting the following details:

Description: XEN IPK CAT Version 2.00 Software
Stock No: 8502598

Please contact your NEC Business Solutions Pty Channel Sales Account Manager, or refer to your NEC Pricelist for pricing details.

Availability and Pricing

Version 1.00 IPK system can be upgraded to version 2.00 CPU Software by purchasing the corresponding EPROM Chip's 1 & 2 and PAL chip if required, from NEC Spare Parts by quoting the following information:

Description: XEN IPK Release 2.00 CPU Software
Stock Number: 4529261

Inserting a PAL chip (PKU 192-U13) on the new CPUI( )-U13 ETU converts the XEN IPK Basic into the XEN IPK Expanded.

Description: XEN IPK 192 PKU-UA PAL Chip
Stock Number: 8502574

Please contact your NEC Business Solutions Pty Channel Sales Account Manager, or refer to your NEC Pricelist for pricing details.