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ISDN-E1 APPLICATION app-version 4.1.02 18-11-2013  
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### SYSTEM PARAMETERS IN THE ISDN-E1 APPLICATION

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The System Parameters can be accessed with the keyboard as follows:

- 1) Press Settings then SYSTEM (or Recorder on desktop model).
- 2) Press the >>> key a few times, until "System Parameters".
- 3) Press softkey START.

Inside System Parameters the following functions are available:

- To jump to the next parameter without change, press NEXT.
- To enter a number, use the numeric keys, then press NEXT.
- To enter 'Yes' or 'No' press softkey YES or NO, then NEXT.
- To enter 'Off' press \* (star), then NEXT.
- To stop, press softkey STOP, then select YES or NO to store.
- The >>> key acts the same as softkey NEXT.
- It is not possible to step backwards to the previous parameter.

-----

> 'Service Password (OFF/<max.8>)' [OFF]

-----

This password can be used to prevent the normal user from entering the installation menu. In that case, the installation must be done by a system or service manager.

If activated, it overwrites the user password. The user password is then only used for playback and for the disk menu.

A numeric string of maximal 8 numbers can be filled in. Setting the string to "OFF" (use \* from the keypad) will disable the service password again.

> 'Call Recorder ID (OFF/<max.2>)' [xx]  
> 'Rename All Recordings (Y/N)' [No]

-----

This ID is used by the PC archive software and is therefore very important.

It may not be changed without consulting the system or archive manager!

After entering a 2 digit number, the next question must be answered with Yes.

> 'CryptoCard Number 1 (OFF/<max.6>)' [OFF]  
> 'CryptoCard Number 2 (OFF/<max.6>)' [OFF]

-----

A card number can be entered here to personalize a Call Recorder.

A group of cards can be selected by entering a 2nd number; all cards between (and equal to) these numbers are accepted.

If the number is used, card-recordings are only made with a valid card.

In combination with 'CryptoCard' set to 'On' (in the normal install menu), the Call Recorder can be closed for usage by other users.

See also 'No Card Disables Menu' below.

> 'Channels Available (0-32)' [0]

-----

This parameter is for test purposes!

It can only set the number of available lines/channels that is smaller or same than the actual recorder-model (press left-most softkey).

So, it sets the biggest channel-number that must be recorded.

Limiting the available channels will also limit the maximum number of calls that can be recorded simultaneously.

The value 0 will use the maximum number of channels (model dependant).

> 'Change Channel Buffers (Y/N)' [No]

-----

This parameter only has effect if 'Available Channels' has been changed.  
It controls the amount of RAM used by all the active channels.  
Channel-record-buffers become bigger if the number of channels is smaller.  
Normally the RAM is divided by 30, but it can also be 15 or 20. The buffer  
for each channel will be bigger then.

> 'Take Clock from Line-IN (Y/N)' [Yes]

-----  
The internal clock (date & time) can be synchronized with the clock from  
the public network.  
Only the clock coming from Line-IN is used and it is done once per day.

> 'Switched Cables IN<>OUT (Y/N)' [No]

-----  
If cables are switched on the ISDN inputs then this parameter should be  
set to Yes. Otherwise the synchronization on the E1 line is wrong and  
faxes are not working properly, for example. The E1 clock must be  
taken from the NT side (network provider) not from the TE side (PBX).  
Setting this parameter will see that NT/TE clock operation is switched.  
Setting this parameter from Yes back to No needs a hard reset.

> 'Reversed Rx/Tx Operation (Y/N)' [No]

-----  
If the used cables have reversed Rx/Tx connections then this parameter can  
be set to solve it with software. No cable switching !  
This parameter can also be set when in In-Line mode if PSTN & PBX are  
switched on the IN & OUT inputs.  
The D-channel Mode, the DTMF detection and B-channel Sound Control will  
all operate in reversed mode then.

> 'Reversed D-channel Mode (Y/N)' [No]

-----  
The D-channel can operate in reversed mode (commands IN & OUT switched).  
This parameter is not available if 'Reversed Rx/Tx Operation' is set.

> 'Voice Detection Mode (Y/N)' [No]  
> 'Voice Start Period (1-1000/10ms)' [20]  
> 'Voice Silence Period (1-32000/10ms)' [600]

-----  
If voice detection is enabled then the D-channel is not monitored anymore.  
Recordings are started & stopped using an internal voice detect algorithm.  
This is done per channel. The threshold can not be set, only timeouts.  
Default, a recording is stopped after 6 seconds of silence  
This way of recording is ment for PCM30 lines.  
Voice detection is only possible if the codec chips are fitted!

> 'CAS Signaling Mode (Y/N)' [No]  
> 'CAS Control Byte (0-255)' [3]  
> 'CAS ABCD for Idle (0-15)' [11]  
> 'CAS ABCD for Active (0-15)' [10]

-----  
Channel Associated Signaling (CAS) Control Byte:  
bits2-7 =0= reserved  
bit1 =1= CAS data is taken only from line OUT else line IN  
bit0 =1= Must be set to enable CAS mode

Start/stop recording on MRD-lines (Manual Ring Down) is not possible!  
For ARD-lines (Automatic Ring Down) the ABCD values below can be used.

	Idle	, Active
DC5 by BT	= 11	, 10
DC5 Alcatel	= 8	, 11
DC5 Wcom	= 10	, 11
Etrarail	= 11	, 10
R2 by ITU	= 9	, 8
NEC PBX	= 9	, 8

Recording always is possible on MRD-lines. For standard DC5 protocol the values 0/11 or 10/11 for Idle/Active can be used then.

```
> 'Channels in PCM Mode                (Y/N)' [No]
> 'PCM Control Byte                    (0-255)' [3]
```

-----  
With these parameters a PCM30 bus can be tested together with the speaker line-monitor. The control byte has the following meaning:

bits3-7 =0= reserved  
bit2 =1= Store raw bytes from line IN & OUT as Stereo, else Mono  
bit1 =1= Raw mono data is taken from line OUT only, else line IN  
bit0 =1= Must be set to enable PCM channel mode (=channel mixing off)

If PCM is enabled then the CODEC's are automatically disabled.  
The WAVE header of the files will be G.711 A-Law.

```
> 'Reversed Bit-order                  (Y/N)' [No]
```

-----  
This can be set if the bytes in the B-channels have reversed bit-order.

```
> 'Detect DISC from Network            (Y/N)' [Yes]
```

-----  
If a DISC frame from the network (IN) is detected then all recordings are stopped and all channels are free again.

```
> 'Stereo Recording                    (Y/N)' [No]
```

-----  
All recordings can be stored in stereo mode. Files are twice as big then. Stereo and compression both enabled does not work correctly at the moment (G.723 Stereo WAV files are not valid).

```
> 'Disable CODEC's                    (Y/N)' [No]
```

-----  
This parameter is used for test purposes.  
If the CODEC's are disabled, all recordings are stored in G.711 format.  
It is recommended that compression is also disabled in that case.

```
> 'Detect DTMF with CODEC              (Y/N)' [No]
```

-----  
If no CODEC chips are fitted on the board then the DTMF detection is done by the ISDN/HFC chips. This is less reliable and only \* can be detected. In a 30 channel recorder both CODEC chips are used for the detection. This is done by default automatically, except if the CODEC's are disabled. In a 8 or 16 channel recorder probably only one CODEC chip is on board. In that case it will only work if the ISDN line is partial; active on channels 1 thru 16 only.

```
> 'Notification Beep Interval (0-300/sec)' [0]
```

-----  
If set to non-zero then system message 47 is played at the set interval. This message is standard included and contains a short beep that can be heard at both sides. The beep can be changed by overwriting the file "MESS347.6" with ftp. It must be a small wave file of max 8 kB with the format G.711 A-Law, 8 kHz, Mono.  
Default this file contains a beep of 1400 Hz with a length of 180 ms.  
The notification beep works independant of the notification message, but is only heard if 'In-Line' is set to 'On'.  
The value zero disables the beep again.  
Note:  
If no CODEC chips are fitted on the board or when the CODEC's are disabled, the notification beeps are NOT included in the recording (silence instead)!

```
> 'Disable Notification                (Y/N)' [No]
```

-----

The notification message function can be disabled completely.

> 'Disable ChipCard (Y/N)' [No]

-----  
The chipcard interface can be disabled completely.

> 'Disable Encryption (Y/N)' [No]

-----  
Encryption can be disabled here. The chipcard number is still stored as part of the recording file name in that case.  
Also, the chipcard can still be used to protect the menu's.

> 'No Card Disables Menu's (Y/N)' [No]

-----  
All menu functions can be disabled if no card is inserted.  
By entering the chipcard numbers above, the machine can be closed for all other persons not owning these cards.

> 'Use Card with Fax Files (Y/N)' [No]

-----  
Recorded faxes (from fax numberlist) can also be stored encrypted.  
Default, fax files are not encrypted and stored in G.711 A-Law format.

> 'Use Compatible Card Mode (Y/N)' [No]

-----  
Compatible mode means that encryption is done in the same way as a single line Call Recorder (or ISDN-S0 recorder). Compression must be disabled then.  
It also means that only 8 recordings can be stored at the same time!

> 'Search Card Number only (Y/N)' [No]

-----  
If set to 'Yes' and a CryptoCard is inserted, the Call Recorder will only search for recordings with a matching card number. If no card is inserted, only the no-card-recordings are shown in that case.

> 'Search Date thru Last (Y/N)' [No]

-----  
This parameter has effect on how the date is treated when searching for playback files. Default, the system searches for the entered date only.  
If set to Yes, the system searches for files from that date and onwards.

> 'Possibility to Erase (Y/N)' [Yes]

-----  
The possibility to erase the recorded files in the playback menu can be disabled or enabled.  
Erasing a recording is done by overwriting it with zero-bytes and then the file is renamed. So, no disk space comes free.

> 'Disable Error Log (Y/N)' [No]

-----  
Default, all errors and resets are stored in the file "ERROR.LOG".

> 'Disable STOP on Keyboard (Y/N)' [Yes]

-----  
The keyboard code to directly jump to system mode can be enabled here.  
Only used for debug purposes.

> 'Save Call Copies to CD (Y/N)' [No]

-----  
If set to Yes the call will be copied to CD after a save call action.  
'CD Copy' must be on 'Off' and '['\*\*] Action' must be on 'Save call'.

> 'Dialing \*99 Erases Call (Y/N)' [Yes]

-----  
When dialing '\*99' and the extension phonenumber is known, then the last call is erased. The feature '['\*\*] Dialing' must be enabled.

A notification beep is heard if any last call is found.  
An erased recording can not be restored!

> 'Use DTMF \*0# for Action (Y/N)' [No]

-----  
The DTMF sequence \*0# can be used for the '[\*\*] Action'.  
This is only possible if CODEC chips are fitted on the board.  
With two CODEC chips it is always possible. With one CODEC chip the  
parameter 'Detect DTMF with CODEC' must be set to Yes (see above).

> 'Use DTMF # for Action (Y/N)' [No]

-----  
DTMF # can be used in stead of DTMF \* for the '[\*\*] Action'.

> 'Single DTMF Action (Y/N)' [No]

> 'Tripple DTMF Action (Y/N)' [No]

-----  
Default DTMF \* must be pressed twice for '[\*\*] Action' during the call.  
This can be changed here to single or tripple detection (\* or \*\*\*).  
It does not apply to '[\*\*] Dialing'.

> 'Start Numberlist Allowed (Y/N)' [Yes]

-----  
Numbers inside a blacklist or outside a whitelist can start a recording with  
DTMF \*\* by default, if '[\*\*] Action' is set to 'Start'.  
This can be disabled here. In which case the numbers inside the blacklist or  
outside the whitelist are never recorded.  
This parameter can also be used to start recordings from a whitelist only.  
It must be on No then AND the numberlist must be on White AND '[\*\*] Action'  
must be set to 'Start only' or 'Start+Stop'. In that case, only the numbers  
inside the whitelist can start a recording.

> 'Numberfilter & Numberlist (Y/N)' [No]

-----  
If set to Yes then the numberfilter will use the numberlist.  
If the list is set to White, only numbers in the list are filtered.  
If set to Black or Off, then the numbers in the list are NOT filtered.

> 'Disable Connected Number (Y/N)' [No]

> 'Disable Remote Number (Y/N)' [Yes]

-----  
These parameters are used in combination with the black/white list.  
When disabled, the connected and/or remote number are not used.  
The local number is always used for descission. The local number is the  
extension number that the PBX outputs to the isdn line.

> 'Switch Local<>Connected (Y/N)' [No]

-----  
The Local and Connected numbers can be switched in the file name.  
This is only done for Incoming calls.  
It may be needed if a user-dependent ftp download is done.

> 'Strip 0's from Numberlist (Y/N)' [Yes]

> 'Strip 0's from File Code (Y/N)' [Yes]

-----  
Leading 0's are stripped from numbers longer than 7 digits by default.  
Maintaining the numberlists (black/fax list) and searching for numbers  
later on in any archiving software is easier that way.

> 'Report Lost Calls (Y/N)' [Yes]

-----  
A 'Lost Call' is a call that was not recorded because the maximum  
recorder-channels were exceeded.  
If this parameter is set to 'No' then lost calls are not considered an  
error anymore. No email is sent and no message is displayed.  
Still a beep is heard on the line and an empty recorder file is stored.

This must be used with care!

> 'Store Lost Calls (Y/N)' [Yes]

-----  
This parameter is only available in the Pre-Notification Message version of the application. If set to 'No' then no beep is heard on the line and also no empty recorder file is stored. This makes it possible to use the notification as a sort of welcome message (no recorder-channels needed). This must be used with care!

> 'Record Incoming Calls (Y/N)' [Yes]

> 'Record Outgoing Calls (Y/N)' [Yes]

-----  
Only incoming or only outgoing calls can be recorded.

> 'Record Notification (Y/N)' [Yes]

-----  
The notification message is default included in the recording.  
If set to No, the recording is started after the message has finished.  
Note:  
If no CODEC chips are fitted on the board or when the CODEC's are disabled, the notification message is NOT included in the recording (silence instead)!

> 'Record during Ringing (Y/N)' [No]

-----  
If set to Yes, the recording is started as soon as the phone starts ringing. Also on the remote side, for outgoing calls.

> 'Record Audio/Speech only (Y/N)' [Yes]

> 'Record 64k Rate only (Y/N)' [Yes]

> 'Record A-Law/u-Law only (Y/N)' [Yes]

-----  
Optionally, these parameters in the ISDN protocol are checked and starting a recording can depend on them.

> 'Audio is always u-Law (Y/N)' [No/Yes for E1/T1]

-----  
This parameter determines what type of audio data is in the B-channels. For an E1-OS it is on No, which means that G.711 A-Law data is expected. For a T1-OS it is on Yes, which means that G.711 u-Law data is expected.

> 'Start B-channels Early (Y/N)' [No]

-----  
This parameter is only active in special conditions and must not be changed.

> 'Store Ringing Time (Y/N)' [No]

-----  
The card number in the file name can be used to store the ringing time. This is the time between the phone is ringing and the call is taken. The value can be used in statistics software on the PC. For not-connected calls this time is always stored. If the cryptocard is enabled, this parameter is ignored.

A special feature is enabled when "Store Ringing Time" and all "Store Not-connected" and "Store Non-speech Calls" are set to "Yes". In that case Call Logging is done for all calls. Also when they are part of the black list or not recorded for other reasons. An empty file is stored on the disk that can be used by other software.

> 'Store Not-connected Inc. (Y/N)' [No]

> 'Store Not-connected Out. (Y/N)' [No]

> 'Store Non-speech Calls (Y/N)' [No]

> 'Store with Number only (Y/N)' [Yes]

-----  
If a speech call is not-connected, an empty file can be created to report this call in playback mode.

This is separately installable for incoming and outgoing speech calls. Also if a call is a data connection, an empty file can be created. Additionally for these types of calls, the empty file is only created if there is a phonenumber available.

> 'Process Facility (Y/N)' [Yes]

-----  
The Facility message on the D-channel is sometimes used by the PABX to show a connect thru action at the internal side of the PABX. If the message includes a number, then a new recording is started (except if it exists in the blacklist). This feature can be disabled here. The Facility message is ignored then.

> 'Transmit Receiver Ready (Y/N)' [Yes]

-----  
In D-channel link/control mode, the recorder transmits low level RR frames to prevent frame retransmission if the system is busy for some time.

> 'E-mail Unknown to System (Y/N)' [No]

-----  
If the phonenumber (extension) is not found in the e-mail list, the recording is mailed to the system address from install LAN. This applies to e-mail generated with '\*\* Action' or '\*\* Dialing' or in combination with "E-mail All Calls" below.

> 'E-mail All Calls (Y/N)' [No]

-----  
The phonenumber (extension) is searched in the e-mail list and if found, a WAV file is sent as an attachment after the call has finished. If the number is not found in the e-mail list the recording is not mailed, except if "E-mail Unknown to System" is also enabled. A big e-mail list or when "E-mail Unknown to System" is enabled may only be used if the system is not heavily loaded or in combination with a white list. If '[\*\*] Action' is set to Start+Stop an e-mail is sent each time the recording is started and stopped again.

> 'Recording Start Time 1 (OFF/<HH:MM>)' [OFF]  
> 'Recording Stop Time 1 (OFF/<HH:MM>)' [OFF]  
> 'Recording Start Time 2 (OFF/<HH:MM>)' [OFF]  
> 'Recording Stop Time 2 (OFF/<HH:MM>)' [OFF]  
> 'Recording Week Days (1=sunday)' [1234567]

-----  
Timed starting and stopping of recordings can be installed here. The recording days will only work if the start-stop time is used! To record working hours only for example:  
start1=09:00 , stop1=17:00 , start2=off , stop2=off , days=2345  
Or start1=08:30 , stop1=12:00 , start2=13:00 , stop2=17:30 , days=23456

> 'Disable CRC-4 Multiframe (Y/N)' [No]

-----  
To disable CRC-4 multiframe mode on the E1 bus (doubleframe format instead).

> 'Line IN Connect Timeout (sec)' [60]  
> 'Line OUT Connect Timeout (sec)' [60]  
> 'Line IN Disconnect Time (sec)' [1]  
> 'Line OUT Disconnect Time (sec)' [3]

-----  
Important timeouts for E1-bus connect and disconnect. Values 0 will disable the corresponding timeout and detection.

> 'Receive Status Connect (0-255)' [7]  
> 'Receive Status Mask (0-255)' [15]  
> 'Jitter Status Connect (0-255)' [96]  
> 'Jitter Status Mask (0-255)' [96]

-----  
If these parameters are all set to 0, then no line disconnect is detected.

```

> 'Elastic Buffer Size          (0-255)' [6]
-----
This parameters must not be changed.

> 'Receiver Configuration      (0-65535)' [0]
-----
Bits0-7  are for Rx config 0 register (default 01H).
Bits8-15 are for Rx time slot 0 config register 0 (default 06H).
If left to 0 then the default is therefor 0601H=1537.
For register bits see PRI-RXTX.DOC (or the HFC-E1 data sheet).

> 'Transmitter Configuration   (0-65535)' [0]
-----
Bits0-7  are for Tx config 0 register (default 81H=129).
Bits8-15 are for Tx config 1 register (default 40H=64).
If left to 0 then the default is therefor 4081H=16513.
For register bits see PRI-RXTX.DOC (or the HFC-E1 data sheet).
Special bits to set a D-channel feature:
Bit11=1 (+2048)= use HDLC flags as the D-channel interframe fill.
Bit12=1 (+4096)= use all 1's as the D-channel interframe fill.
If bits11+12 are both 0 then the OS default is used (=flags).

> 'Transmitter Pulse on PWM0    (0-255)' [0]
-----
This will alter the ISDN transmit pulse shape level (tx line level).
If left to 0 then the default from OS is used, which is 100.
A higher value will give a higher level (from 1 till 255).
A lower value can improve the receiver situation also!

> 'Receiver Sensitivity PWM1    (0-256)' [0]
-----
This will alter the sensitivity on the ISDN receiver input.
If left to 0 then the default from OS is used, which is 96.
A higher value will give a higher sensitivity (1 till 255).
The value 256 will set the value 0 (lowest).
The special value 1024 will enable Auto Gain Control on the receiver!

> 'Protocol Discriminator       (1-255)' [8]
-----
This value is used during the interception of * commands ([**] Dialing).
It is a replacement when sending an empty/dummy message to the network.
Normally it is set to 8, according to Q.931.

> 'D-channel Poll Timer        (0-320/0.1ms)' [0]
> 'D-channel Error Count       (0-32767)' [4]
-----
These parameters must not be changed.

> 'B-channel Message Config     (0-255)' [3]
> 'B-channel Sound Config      (0-255)' [83]
-----
'Message' is the Notification message.
'Sound' is the beep after DTMF * action (stop/save recording).
The following values are possible:
    3 = Message/Sound heard on both Line-IN and Line-OUT.
    19 = as 3 plus DTMF detection during message possible.
    67 = Message/Sound heard on Line-IN/PSTN only.
    83 = Message/Sound heard on Line-OUT/PBX only.

> 'Minimum Call Time           (0-1800/sec)' [0]
-----
If the recording is smaller then the installed time, it is deleted.

> 'Maximum Part Time           (1-7200/min)' [240]
> 'Maximum Parts per Call      (0-1000)' [6]

```



-----  
This parameter is important and will effect all recordings.  
After the Maximum Part Time a recording is closed and a new file is  
opened automatically. Long calls are divided into parts.  
The default part size is 2 hours.  
The Maximum Parts per Call is build in for savety reasons.  
Default, a call can be maximal 24 hours long. After that it is closed.

> 'Pre-recording Time (0-32767/25ms)' [10]  
-----

Before the recorded data is stored in a file, it is stored in a buffer.  
At the time the file is opened (start of call) some 'pre-recorded' data  
can be taken from that buffer.  
For G.723 modes (compression on) the value is per 25 ms (max 40 secs).  
For G.711 modes (compression off) the value is per 30 ms (max 4 secs).

> 'Record Service Time (0-255/10ms)' [0]  
-----

This parameter must not be changed.

> 'Compression Quality (0-15)' [4]  
-----

This parameter only applies to models with software compression (no CODEC).  
Compression is default on G.723 High Rate then. Compression is done after  
the call finishes and takes just as long as the call duration itself.  
So, software compression is only usable on recorders with a few recorder  
channels installed on them.  
Setting the quality to 0 is a special case: The voice files are renamed  
after recording, not compressed.  
Other formats are:

Quality 1	= DigiTalk	= 1062.5 bytes/sec	
Quality 2	= G.729	= 1000 bytes/sec	
Quality 3	= G.728	= 2000 bytes/sec	
Quality 4	= G.723 Low	= 800 bytes/sec	(default)
Quality 5	= G.723 High	= 662.5 bytes/sec	
Quality 6	= G.711 A-Law	= 8000 bytes/sec	(compression off)
Quality 7	= G.711 u-Law	= 8000 bytes/sec	(T1 models only)

> 'Microphone Quality (0-15)' [6]  
-----

Microphone recordings are used for the notification message.  
The microphone input is only available on older Call Recorder models.  
Only G.711 A-Law is supported (quality 6 above), because the E1-lines are  
using this format (u-Law for T1 models).

> 'Microphone Gain (0-3)' [3]  
-----

A lower value gives a less sensitive microphone.

> 'DTMF Control Byte (0-255)' [2]  
-----

This will set the way the system behaves when detecting DTMF:

bit0	=1=	DTMF detection on data coming from line-IN/PSTN
bit1	=1=	DTMF detection on data coming from line-OUT/PBX (default)
bit2	=1=	Disable DTMF detection/filtering (bits0+1 are set to 0!)
bit3	=0=	reserved (Stereo recording)
bit4	=0/1=	ISDN data on PCM bus is A-Law/u-Law
bit5	=0=	(used in BRI recorder)
bit6	=0/1=	Use Rx/Tx channels in HFC chips for DTMF detection
bit7	=1=	Disable DTMF detection with CODEC's (HFC chips are used instead)

> 'DTMF Validation Time (0-32767)' [0]  
-----

Detecting DTMF is only used if '[\*\*] Action' is enabled.

The value 0 will take the default from OS, which is 550 = 55 ms.  
This value is per 0.1 ms. Bigger values will give a less sensitive DTMF detection. Smaller values, a more sensitive detection.

```
> 'DTMF Samples 1                (0-255)' [0]
> 'DTMF Samples 2                (0-255)' [0]
> 'DTMF Threshold 1             (0-65535)' [0]
> 'DTMF Threshold 2             (0-65535)' [0]
> 'DTMF RAM Address 1           (0-65535)' [0]
> 'DTMF RAM Address 2           (0-65535)' [0]
```

-----  
These parameters can be used to change the DTMF detection with the ISDN/HFC chips. The DTMF \* can be changed to DTMF #, for example. Also the detection can be fine-tuned; more or less sensitive. The value 0 means that the OS default is used.

```
> 'Disable Key-Click              (Y/N)' [No]
```

-----  
Beeps on the speaker when entering a number or name can be disabled.

```
> 'Timeout for Code Keys         (30-300/10ms)' [66]
```

-----  
This timeout is used when entering a searchcode. It defines the maximum time between pressing a key on the keypad more than once, to enter a character.

```
> 'Serial Baud Rate              (1-31)' [0]
```

-----  
The baud rate is used to enter the machine locally with a terminal:  
(If 16 is added to the baud rate, the start-bits are set to 2.)

```
baud rate = 0 = 57600 default
baud rate = 2 = 300
baud rate = 3 = 600
baud rate = 4 = 1200
baud rate = 5 = 2400
baud rate = 6 = 4800
baud rate = 8 = 9600
baud rate = 10 = 19200
baud rate = 11 = 38400
baud rate = 12 = 57600
baud rate = 13 = 115200
baud rate = 14 = 230400
```

In a 19inch rack model this baud rate is also used for communication with the serial keyboard (9600,19200,38400,57600 only)!

```
> 'Serial Keyboard ICG Trim      (0-255)' [0]
```

-----  
This value can be used to fine-tune the internal clock of the serial keyboard. The value 0 will use the default from the keyboard OS.

```
> 'Display Light Control         (0-32767/sec)' [10]
```

-----  
The 16bit value is as follows:

```
bits0-7 = active-to-inactive delay in seconds
bit10=1 => bits8+9 = active value 0-3 for rack model
bit13=1 => bits11+12= inactive value 0-3 for rack model
```

Examples:

```
10 = 10 secs, active=medium, inactive=low
0 = light always low
255 = light always medium
9216 = light always off (rack only)
9482 = 10 secs, active=low , inactive=off (rack only)
9738 = 10 secs, active=medium, inactive=off , ,
12042 = 10 secs, active=high , inactive=low , ,
```

```

> 'Temperatur Warning' (Y/N)' [Yes]
-----
Setting this parameter to 'No' prevents that the system detects overheating.
Disabling the temperatur-check is not recommended.

> 'Hard Disk Free Hours' (0-30000)' [0]
-----
If set then the directory starts rotating if the free space on disk
becomes less then this value.
Rotating in this way is done at night, after the directory mirror has
been made.
The value 0 will calculate a number that is depending on the maximum number
of simultaneously recorded channels for 12 hours per channel per day.
During normally operation, rotating also happens if the free space on disk
becomes less then the 'Maximum Part Time' (see above).

> 'Hard Disk Full Warning' (0-1000/MB)' [0]
-----
If set (non-zero), the system checks for the hard disk to become full.
If found almost full, it is shown in the display and beeps are heard.
1 MB is about 20 minutes of speech storage in G.723 mode and 2 minutes
in G.711 mode (uncompressed).

> 'Hard Disk Park Time' (0-1275/sec)' [600]
-----
After 10 minutes of no action, the disk stops spinning and low power mode
is entered automatically. The value can only be set in steps of 5 seconds.
The value 0 will disable this feature, but is not recommended.

> 'Hard Disk Start Early' (Y/N)' [Yes]
-----
Default, the hard disk starts spinning as soon as a call is detected.
Otherwise, it is started as soon as a recording is opened.

> 'Enable Hard Disk Restore' (Y/N)' [No]
> 'Enable Hard Disk Seek' (Y/N)' [Yes]
> 'Enable Hard Disk Errors' (Y/N)' [No]
-----
These parameters must not be changed.

> 'Predict Disk Failure' (Y/N)' [Yes]
> 'Autosave Disk Failure' (Y/N)' [No]
-----
Failure prediction is a feature of the hard disk (S.M.A.R.T. standard).
If enabled in the application (by default) and a problem is found, a
warning message will be display on the LCD.
The disk's failure-status is checked after each recording and when entering
the disk menu.

> 'Automatic Mirror Time' (OFF/HH:MM>)' [03:00]
-----
If the power is left on, the system automatically makes a copy (mirror)
of the directory on the hard disk at the installed time.
If problems are encountered later on, the latest mirror can be retrieved.
At this time, the hard disk is also checked for other problems and repaired
if possible. If the Auto Delete functions is used old files are deleted at
this time, after saving the mirror.
Do not set this parameter to 'OFF'.
A special case is defined when the last minute of the Mirror Time is set to
a "3" (for example "03:03" or 06:43"):
After the mirror stuff is done, the system hard resets (as power off/on).
Normally the system runs file BOOT again without notice. A reset will close
and open the relays on the ISDN line during restart when In-Line mode is on.

> 'Enable SCP Sleep Mode' (Y/N)' [Yes]

```

-----  
The Speech Codec Processor chip, used for monitoring and playback, is put into sleep mode if not used.

> 'Display SCP Chip Error (Y/N)' [No]  
-----

If no SCP chip is found, an error is displayed and beeps are heard.  
This can be disabled and recordings can continue normally.  
Playback or channel-monitoring thru the speaker is not possible then.

> 'Available Memory (KB)' [0]  
> 'Wait States CS0 = SCP+LCD (0-8)' [0]  
> 'Wait States CS1 = RAM (0-8)' [0]  
> 'Wait States CS2 = HFC (0-8)' [0]  
> 'Wait States CS3 = CODEC (0-8)' [0]  
> 'Wait States CS4 = HD+CD (0-8)' [0]  
> 'Wait States CS5 = LAN (0-8)' [0]  
-----

These parameters must not be changed!!!

\*\*\*\*\* End of System Parameters \*\*\*\*\*

=====

#### NETWORK PARAMETERS IN THE CALL RECORDER ISDN-E1

=====

The Network Parameters can be accessed with the keyboard as follows:

- 1) Press Settings then SYSTEM (or Recorder on desktop model).
- 2) Press the >>> key a few times, until "Network Parameters".
- 3) Press softkey START.

Further control is the same as System Parameters (see above).  
Most of these parameters can also be changed in the normal Install-LAN menu.

-----  
> 'Service with LAN (Y/N)' [No]  
-----

This will set 'Network active' in the normal LAN menu.

> 'Service Timer (0-255/10ms)' [0]  
-----

The value 0 is the same as 'Auto' in the normal LAN menu. Other values:

Slow: S1=1 , S2=2 , S3=3 , S4=4 , S5=5 (slowest)  
Fast: F1=65 , F2=129 , F3=193  
Ultra: U1=33 , U2=97 , U3=49 (fastest)

> 'Display 'Not Connected' (Y/N)' [No]  
-----

If the network is enabled and the cable is removed an error can be displayed and beeps are heard.

> 'Enable 100 Mbps (Y/N)' [Yes]  
-----

If disabled, the network interface is fixed to 10 Mb.  
In that case, also 'Autonegotiation' must be disabled.

> 'Enable Full Duplex (Y/N)' [Yes]  
-----

If disabled, the network interface is fixed to half duplex operation.  
In that case, also 'Autonegotiation' must be disabled.

```

> 'Enable Autonegotiation          (Y/N)' [Yes]
-----
This enables or disables low level negotiation (10/100 Mb).

> 'Enable Re-Init                  (Y/N)' [No]
-----
This enables automatic periodic initiation of the network interface.
With a fixed IP address this is done each minute. With a DHCP server it is
done each 5 minutes. Only done if there is no ftp connection at that time.

> 'Edge Triggered FIQ              (Y/N)' [No]
-----
This control the way the Fast Interrupts from the LAN chip are served.

> 'Enable TelNet                    (Y/N)' [No]
-----
This can be enabled for remote maintainance.
After connecting with TelNet, the user must enter "ATMENU" at the remote
site to get the system menu.

> 'Enable FTP                      (Y/N)' [No]
> 'FTP User ID                     (OFF/<max.31>)' [0000]
> 'FTP Password                    (OFF/<max.31>)' [0000]
> 'FTP Server Port                 (0-65535)' [0]
-----
See normal manual.

> 'FTP Failure Timeout             (0-32767/sec)' [0]
-----
The default ftp overall timeout is 150 seconds.
The default ftp no-data-transfer timeout is 40 seconds.
Settings the failure timeout will set both these timeouts.
Settings the failure timeout to an odd value (bit0=1) disables the
no-data-transfer timeout, but not the overall timeout.

> 'FTP Erase Recordings            (Y/N)' [No]
-----
If set to 'Yes', the archived recordings can be erased using ftp.

> 'FTP List Open Files             (Y/N)' [No]
-----
If set to 'Yes', all open files (busy recordings) are included in the
ftp list. The PC Access Software must be a compatible version!

> 'E-mail Destination              (OFF/<max.63>)' []
> 'E-mail Source/Reply             (OFF/<max.63>)' []
> 'E-mail Server Address           (OFF/###.###)' [OFF]
> 'E-mail Server Name              (OFF/<max.47>)' [OFF]
> 'E-mail Server Port              (0-65535)' [0]
> 'E-mail Send Tries                (0-9)' [3]
> 'E-mail Delete after Fail        (Y/N)' [No]
> 'Use SMTP Login                  (Y/N)' [No]
> 'SMTP User ID                    (OFF/<max.47>)' []
> 'SMTP Password                   (OFF/<max.47>)' []
> 'Domain Name                     (OFF/<max.47>)' [...]
> 'DNS Server Address              (OFF/###.###)' [OFF]
-----
E-mail stuff.

> 'NTP Server Address              (OFF/###.###)' [OFF]
> 'NTP Server Name                 (OFF/<max.47>)' [OFF]
> 'NTP Server Port                 (0-65535)' [123]
> 'GMT Correction                   (minutes)' [60]
> 'Disable Summer Time             (Y/N)' [No]
-----
Network Time Protocol stuff (automatic clock update).

```

```
> 'UDP Tx Address          (OFF/###.###.###)' [OFF]
> 'UDP Rx/Tx Port         (0-65535)' [2375]
> 'UDP Tx Source Port     (0-65535)' [2376]
```

-----  
User Datagram Protocol. Used to exchange data with an external computer.  
The Rx/Tx Port is used for receiving AND transmitting data.  
The Tx Source port is used only when transmitting.  
Only used in special apps!

```
> 'Use DHCP Server         (Y/N)' [Yes]
> 'IP Source Address       (OFF/###.###.###)' [OFF]
> 'IP Subnet Mask          (OFF/###.###.###)' [OFF]
> 'IP Gateway Address      (OFF/###.###.###)' [OFF]
> 'IP Name                 (OFF/<max.47>)' [...]
```

-----  
See normal manual.

```
> 'IP Packet Size         (0-1518)' [0]
```

-----  
The default packet size is the maximum.  
A value of 1024 or 512 can be tried if there are problems.

```
> 'Enable Voice Monitor   (Y/N)' [No]
> 'Voice Monitor Password (OFF/<max.31>)' [0000]
```

-----  
See normal manual.

```
> 'Voice Monitor on Display (Y/N)' [Yes]
```

-----  
A voice monitor connection is shown on the display as 'LAN-MON' in stead  
of the day-of-the-week.

```
> 'Voice Monitor Mode     (0-255)' [0]
```

-----  
Mode 0 means that the LAN-monitor-data is taken directly from the channel  
buffers. This can be G.723 High or G.711 A-law.  
Modes 1 till 5 means that the G.711 channel data is compressed using the  
SCP chip and then send over the LAN. This is the old method as used in the  
ISDN-S0 recorder. Mode 1 is DigiTalk and mode 4 is G.723 High.  
If no CODEC's are fitted then mode 1 is the default.

```
> 'Ethernet Address       (OFF/hhhhhhhhhhhh)' [...]
```

-----  
This parameter must not be changed!

```
> 'Enable LAN Chip Error   (Y/N)' [Yes]
```

-----  
If the LAN hardware fails an error occurs on the display and beeps are  
heard over the speaker. All recording continues normally in that case.

\*\*\*\*\* End of Network Parameters \*\*\*\*\*

# ===== CD PARAMETERS IN THE CALL RECORDER ISDN-E1 =====

The CD Parameters can be accessed with the keyboard as follows:

- 1) Press Settings then SYSTEM (or Recorder on desktop model).
- 2) Press the >>> key a few times, until "CD Parameters".
- 3) Press softkey START.

Further control is the same as System Parameters (see above).

```

-----
> 'Disable Eject Button' (Y/N)' [Yes]
-----
The CD Eject Button can be disabled here. In that case, a CD can only be
ejected from the disk menu.

> 'Disable Audio CD's' (Y/N)' [Yes]
-----
Playing Audio CD's in the menu can be enabled/disabled here.

> 'Audio Volume' (0-14)' [9]
-----
This is the default volume setting for playing back Audio CD's.

> 'Copy Delay per Second' ' [2]
-----
After a call/recording has finished, this delay is waited before the file
is copied to CD. The actual delay can be 1 second less.
Setting this value to 0 will disable automatic copy to CD.

> 'Disc Load Time per Second' ' [60]
-----
After opening the tray, this time is waited for the drive to recognise a
newly inserted disc.
After that, the 'Please insert CD' message is displayed.

> 'Disc Double Space per MB' ' [333]
-----
This value is used when double copy is installed in the normal menu.
It defines how much space must be used on a CD to store double copies.

> 'Disc Full per Minute' ' [120]
-----
A warning message is displayed if there are 120 minutes left free on CD.

> 'Directory Size per Block' ' [1024]
> 'Directory Search flags' ' [0]
> 'Read/Write Options' ' [0]
> 'Data Block Type' ' [0]
> 'Read Buffer Size' ' [0]
-----
These Parameters must not be changed!

> 'Read Speed' ' [0]
> 'Write Speed' ' [0]
-----
R/W Speed: 4 x = 706 (= default)
            8 x = 1411
            16 x = 2822
            24 x = 4234
            optimal = 65535

> 'Write Busy Timeout' ' [0]
> 'Error Recovery Parameters' ' [0]
> 'Read Retry Count' ' [0]
> 'Write Retry Count' ' [0]
> 'Volume Label' (OFF/<max.20>)' [.....]
-----
These Parameters must not be changed!

> 'Enable CD Drive Error' (Y/N)' [Yes]
-----
If no CD Drive is found, an error message is displayed.
This can be disabled for debug purposes only.

```

> 'Enable Drive Sleep Mode (Y/N)' [No]

-----  
If the CD Drive is not used, it can be put into sleep mode for lower power consumption. The eject button will not work either then.

\*\*\*\*\* End of CD Parameters \*\*\*\*\*