



NetLink e340/h340/i640 Wireless Telephone
SIP User Agent: Features and Standards

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Issue D

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1. User Agent Features

Feature	Support
Registration:	
Number of proxies	Up to three
Number of contacts	Up to five registered contact names
Voicemail subscription	Yes, specified contact per proxy
Emergency Proxy Support	No
Configuration:	
Local admin menus	Yes, for basic handset setup and network configuration
File download	Yes, TFTP for handset code updates, SIP configuration
Telnet	No
Dialing Support:	
Phone directories	
Contact list	Yes, through OAI application
Incoming calls	No
Outgoing calls	No
Missed calls	No
Redial last contact	Yes (last dialed contact)
Last Call Return	No (return last incoming call)
Message Center contact	Yes (configured per proxy)
Numeric dialing	Yes
Alphanumeric dialing	Yes
Phone resident dial plan	No
Speed dial contacts	No
Hot Line	No
Presence support	No
Text messaging	No
Time server support	No
Line Appearances:	
Number	Up to five
Calls per line (per registration)	Two
Max simultaneous calls	10, one with audio flowing
Security:	
User Authentication	Yes, MD5 per RFC 1321
Proxy Authentication	Yes, MD5 per RFC 1321
TLS transport level security	No
NAT Support:	
Symmetric trans/rcv signaling port	Yes
Symmetric trans/rcv audio port	Yes
Signaling port keepalives	No
Audio port keepalives	No
STUN support	No
External Applications Support:	
OAI support	Yes

2. Telephony Features

Feature	Support
Basic call support:	
Hold	Yes
Held call reminder	No
Mute	Yes
Do-not-disturb [Local]	Yes, busy indication to calling party
Call waiting	Yes, audio signal + displayed caller ID + line icon blinking
Distinctive ringing	No
Auto-answer	No
Multi stage digit collection	Yes
Caller ID display	Yes
Missed call notification	No
Call Forwarding [Local]	Yes, per line basis. Unconditional.
Call Transfer [Local]	Yes, per RFC3515 and draft-ietf-sipping-service-examples-06
Conferencing [Local]	No
Centralized Conferencing	Yes, control through RFC 2833 or dtmf-relay content
Message Waiting Indication	Yes, per line appearance. Either Subscribed or unsolicited Notifications.
Call Park / Pickup [Local]	No
Group Park / Group Pickup [Local]	No
Automatic Call Distribution (ACD)	No

[Local] indicates a feature managed by the handset rather than the PBX.

3. RFC 3261 Compliance

Feature	Supported?
Transport:	
UDP	Yes
UDP retransmit timers	Yes
UDP multicast	No
TCP	Yes
TLS	No
IPv6	No
Fatal transport errs treated as 503 responses.	No, 30 second timeout instead.
Loop detection	No, From tag, callId, and Cseq match but no dialog match. – 482 resp.
Method processing:	
Unsupported method response	Yes, 501
Include “Allow” with all INVITEs	Yes
Include “Supported” with all INVITEs	Yes
Include “Accept” with all INVITEs	Yes
Forked calls per RFC 3264	Yes
405 response to recognized but unsupported method.	No
OPTIONS method resp should have Accept header.	Yes
INVITE keep alive if no final response (resend provisional response).	No.
All requests can be challenged.	Partial, REGISTER and INVITE only can be challenged.
Header processing:	
Compact forms	Yes
Repeated headers	Yes for Via, Contact, Record-Route, Route, Proxy-Authenticate. Not for WWW-Authenticate.
Case sensitivity	Yes for quoted strings, tags
Case insensitivity	Yes for header names, methods, tokens, parameters.
Line wrapping	Yes
UTF8 char set	No, UTF8 strings are handled as identifiers, only US ASCII chars are displayed.
Via header in all responses	Yes
Via header sent by in IP format	Yes
Ignore unsupported headers	Yes
Reject response with more than one via header.	No
Allow whitespace in header parsing	Yes
Via header support maddr and ttl	No
URIs:	
Name/Address forms	Yes
sips: forms	No
tel: forms	No
user=phone forms	No
Escape/unescape URIs as parameters	Yes only for Refer-To: parameters.
Security:	
User Authentication	Yes, Digest
Proxy Authentication	Yes, Digest credentials are not yet cached
Transport level security (TLS)	No
SIP Proxies:	
Proxy discovery methods	No

4. SIP Extensions

Extension	Supported?
RFC 3262 Reliability of provisional responses (PRACK, RSEQ, RACK)	Yes
“Require” header, 421 responses draft-ietf-sip-serverfeatures-05	No
“Diversion” header, diversion indication. Draft-levy-sip-diversion-04	No
SIP session timer. Session-Expires, Min-SE, “Refresher=”. draft-ietf-sip-session-timer-13	No
UPDATE method. RFC 3311	No
REFER method, “Replaces” header, call transfer, RFC 3515. draft-ietf-sipping-service-examples-06	Yes
Message waiting indication. NOTIFY, SUBSCRIBE, draft-mahy-sip-message-waiting-04. draft-ietf-sipping-mwi-02.	Yes, simple-message-summary is processed per proxy.
Dialog event package. Draft-ietf-sipping-dialog-package-03.	Partial. No subscription to dialogs.
Caller identity and privacy. “Remote-Party-Id” header. Draft-ietf-sip-privacy-04	No
SIP Privacy. “Privacy”, “P-Asserted-Identity”, “P-Preferred-Identity” headers. RFC 3325, RFC 3323	No
“Reason” header. RFC 3326	No
SIP Offer-Answer model. RFC 3264	Yes
Locating SIP servers. RFC 3263	No
Specific Event Notification. SUSCRIBE, NOTIFY methods. “Event” header. RFC 3265	Yes. Does not accept SUBSCRIBE requests for dialog events. Implicit subscriptions only for call transfer.
Basic network media services. Draft-burger-sipping-netann-08	No
Third-party call control 3pcc best current practice. RFC 3725	Partial
Registration event package. RFC 3680	No
Presence event package. RFC 3586. Presence Info Data Format. RFC 3863	No
“Replaces” header. draft-ietf-sip-replaces-05	Yes
Multi-MIME support. RFC 2387	No

5. Media Support

Feature	Received?	Transmitted?
Session Description Protocol:		
v, o, s, t, m, c lines	Yes	Yes
Reject session if any lines unrecog v=0	No, unrecognized lines are ignored Value is ignored	Yes
Session id is NTP timestamp	Accepted	No, random integer
IP=0.0.0.0 as hold indicator	Yes	Yes, optional
'sendonly' as hold indicator	Yes	Yes
'rcvonly' response to 'sendonly'	Ignored	Yes
IPv6	No	No
Telephone Event Signaling:		
RFC 2833	Yes	Yes, optional
RFC 2833 dynamic payload type	Payloads ignored	Yes
Inband DTMF	Not detected, heard as audio	No
Events signaled	Ignored	0-9, #, * (Not A-D, hookflash)
INFO message signaling	Ignored	Yes, optional
Audio Codecs:		
G.711 u-law (10, 20, 30, 60)	10, 20, 30, 60 msec frames	20 msec frames
G.711 A-law (10, 20, 30, 60)	10, 20, 30, 60 msec frames	20 msec frames
G.729 (10, 20 30)	No	No
G.723.1 (30)	No	No
Silence suppression	Ok	No
Comfort Noise for G.711	Ok	Yes
Comfort Noise per RFC3389	Ok	No
RTCP	Socket not open - unreachable	No
S RTP	No	No
Offer / Answer Model:		
INVITE without attached SDP	Yes	No
ACK with attached SDP	Yes	No
On-the-fly codec changes	No	No
Early audio cut-through for 183 call progress responses	Yes	No
Re-INVITE to change codec	Yes	No
Re-INVITE to change address	Yes	No
Multipart MIME	No	No
S/MIME	No	No

6. Supported Methods

Method	Received?	Transmitted?
ACK	Yes	Yes
BYE	Yes	Yes
CANCEL	Yes, only for INVITE method	Yes, only for INVITE method
INFO	Yes, body ignored	Yes, for dtmf-relay
INVITE	Yes	Yes
MESSAGE	No	No
NOTIFY	Yes	Yes
OPTIONS	Yes	Yes
PRACK	Yes	Yes
REFER	Yes	Yes
REGISTER	No	Yes
SUBSCRIBE	No, implicit subscriptions only	Yes, implicit and mail center only
UPDATE	No	No

7. Supported Responses

Response	Received?	Transmitted?
100 Trying	Yes	Yes
180 Ringing	Yes	Yes
181 Forwarded	Treated like 100	No
182 Queued	Treated like 100	No
183 Session Progress	Treated like 180	No
200 OK	Yes	Yes
202 Accepted	Yes	Yes
300 Multiple Choices	Yes, terminates call, reissues INVITE to new contact	No
301 Moved Permanently	Treated like 300	No
302 Moved Temporarily	Treated like 300	Yes
305 Use Proxy	Treated like 300	No
400 Bad Request	Yes, terminates call	Yes
401 Unauthorized	Yes, terminates call. reissues INVITE or REGISTER request	No
403 Forbidden	Treated like 400	No
404 Not Found	Treated like 400	Yes
405 Method Not Allowed	Treated like 400	Yes
407 Proxy Authentication Required	Yes, terminates call, reissues INVITE or REGISTER request	No
408 Request Timeout	Treated like 400	No
415 Unsupported Media	Yes, does not yet reissue request	Yes
420 Bad Extension	Yes, does not yet reissue request	No
480 Temporarily Unavailable	Yes, does not yet reissue request	Yes
481 Call Leg Does Not Exist	Treated like 400	Yes
482 Loop Detected	Yes, ignored	No
483 Too Many Hops	Yes, ignored	No
484 Address Incomplete	Yes	No
486 Busy Here	Yes, terminates call	Yes
487 Request Terminated	Treated like 400	No
491 Request Pending	Yes, does not yet reissue request	Yes
500 Server Internal Error	Yes, does not yet reissue request	Yes, for INVITE if INVITE is already in progress
501 Not Implemented	Yes, but ignored	Yes, if request method unrecog.
503 Service Unavailable	Yes, terminates a call setup	No
600 Busy Everywhere	Yes, terminates a call setup	No
603 Decline	Yes, terminates a call setup	Yes

8. Supported Headers

Header	Received?	Transmitted?
Accept	Ignored	Yes
Accept-Encoding	Ignored	No
Accept-Language	Ignored	No
Alert-Info	Ignored	No
Allow	Ignored	Yes
Allow-Events	Ignored	No
Also	Ignored	No
Authentication-Info	Ignored	No
Authorization	Ignored	No
Call-ID	Yes	Yes
Call-Info	Ignored	No
Contact	Yes	Yes
Content-Disposition	Ignored	No
Content-Language	Ignored	No
Content-Length	Yes	Yes
Content-Type	Yes	Yes
Content-Encoding	Ignored	No
Cseq	Yes	Yes
Date	Ignored	No
Diversion	Ignored	No
Error-Info	Ignored	No
Event	Yes	Yes
Expires	Yes, register only	Yes
From	Yes	Yes
In-Reply-To	Ignored	No
History-Info	Ignored	No
Max-Forwards	Ignored	Yes
Min-Expires	Ignored	No
Min-SE	Ignored	No
MIME-Version	Ignored	No
Organization	Ignored	No
P-Asserted-Identity	Ignored	No
Priority	Ignored	No
Proxy-Authenticate	Ignored	Yes
Proxy-Require	Ignored	No
RAck	Yes	No
Record-Route	Yes	Yes
Referred-By	Yes	Yes
Refer-To	Yes	Yes
Remote-Party-ID	Ignored	No
Replaces	Yes	Yes
Reply-To	Ignored	No
Requested-By	Ignored	No
Require	Ignored	No
Retry-After	Yes, ignored currently	Yes
Route	Yes	Yes
Rseq	Yes	Yes
Server	Ignored	No
Session-Expires	Ignored	No
Subject	Ignored	No
Subscription-State	Yes	Yes
Supported	Ignored	Yes
Timestamp	Ignored	No

Header	Received?	Transmitted?
To	Yes	Yes
Unsupported	Ignored	No
User-Agent	Ignored	Yes
Via	Yes	Yes
Warning	Ignored	No
WWW-Authenticate	Ignored	Yes