

- Compressed Output Format for Call Details – Output via Application Programming Interface (V.24)

Explanation of the sample entries shown on Page 10-20:

- (1) Outgoing connection from stn 16 on trunk 4 using the MSN "902725". End of call at 8:23:23 on 12/11/00. Duration of the call: 5 minutes, 23 seconds. Number called: 02317324856. Accrued call charge pulses: 12. The seizure code "841" was used for call setup.
- (2) Outgoing connection with 11-digit account code (ACCT) "12345678901". Route "2" was used for LCR.
- (3) Unanswered incoming call without station number (missing origin address, active station number suppression CLIR at calling station).
- (4) Outgoing connection with suppression of the last 4 digits.
- (5) Incoming connection with ringing and call duration.
- (6) Forwarded call.
- (7) Int/ext/ext conference:
 - (7a) Stn 12 sets up a first external call on trunk 2 ("2374844"),
 - (7b) Stn 12 sets up a second external call on trunk 3 ("5345545556"),
 - (7c) Stn 12 is involved in a conference with trunk 2 and
 - (7d) with trunk 3.
 - (7e) Trunk 3 drops out of the conference. The call on trunk 2 is treated like a normal outgoing call.
- (8) Outgoing connection (other services).
- (9) Incoming connection (other services).
- (10) Loss message: 100 records were lost.

Errors which prevent call data output on the V.24 interface can be caused by the following, for example:

 - Connected device is turned off or suffers a power failure
 - Printer is out of paper
 - Printer is offline
 - Printer has a paper jam
 - CDRC output is interrupted by CDB output
 - Interface cable is defective or incorrect

In these or similar cases, the call records accumulated during this time are buffered in the system. The first 300 (HiPath 3750 and HiPath 3700), 150 (HiPath 3550 and HiPath 3500) or 50 (HiPath 3350, HiPath 3250 and HiPath 3300 [not for U.S.]) records can be buffered.

Additional records are only counted by the system and then discarded. If the connection can be restored to the connected device, a loss message indicating the number of lost records (that is, 100 calls lost) is issued after the buffered records are output.

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- (11) Incoming call with transmitted caller station number:
 - (11a) Caller list: When the call arrives, an information line is immediately output indicating the date, time, trunk, station number, incoming external station number (if available), and information element "0" (used, for example, with a PC: start database search -> message appears on station's monitor).
 - (11b) Station 12 accepted the call after a ringing duration of 34 seconds. This line is output at the end of the call.
- (12) Call forwarding with an external destination:
 - (12a) Incoming call for station 15 on trunk 3 with transmitted station number, no ringing duration due to call forwarding (see 12b),
 - (12b) Call forwarded (12a) to trunk 4 for station number 0231471154321, 74 call charge pulses (not for U.S.) have accrued for the forwarded call.
- (13) Incoming call to subscriber group (stations 18, 32, and 16):
 - (13a) The three entered stations are called simultaneously; they are listed in the order in which they were entered in the group (the second station is listed first).
 - (13b) The call was not accepted by any group member. After the call has ended, a line is output indicating the ringing duration for the last called or entered station.
- (14) Outgoing connection attempt (CDRC outgoing without connection) from stn 16 on trunk 4 at 13:49:28 on 12.15.2000. Number dialed: 02317324856.
- (15) Output after a power failure or reset: 23 call detail units on trunk 8 were present before the power failure.

When a power failure or reset occurs, the call charges accrued for each trunk are stored in nonvolatile system memory (CDRT).

The system checks for consistency between the output and internally stored data following a power failure or system restart. The system also checks to determine whether call charges are still stored that have not yet been output via the V.24 (RS-232) interface. If this is the case, the system outputs a data line using the format illustrated in the example (15) for each affected trunk: (output does not include station number).

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Compressed Output Format for Call Details – Output via LAN Interface

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0          1          2          3          4          5          6          7          8          9          1          1
1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890
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1 Date (8 digits)
|
| 2 Time (8)
|
| 3 Trunk (3)
| 4 internal station number (6 digits)
| 5 Ring duration (5)
| 6 Call duration (8)
| 7 Station number (25)
| 8 Call charge pulses (11) (blank in U.S.)
| 9 Information element (2)
| 10 ACCT (11)
| 11 MSN (11)
| 12 b = Seizure code (5)
| 13 LCR route (2)
| ...
| ...
V      V      V V V V      V      V V V      V      V V
13.12.99;08:23:23;4;16;;00:05:23;02317324856;12;2;12345678901;902725;841;;
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Call detail records can be output via a LAN interface using two different settings:

- DOS mode (carriage return (CR), line feed (LF)) = default or UNIX mode (line feed (LF)) at the end of a call data record.
- Separators (“,” = default or “|”) between the logical elements of a call data record; the record is no longer position-oriented.

Table 10-1 Compressed Output Format—Explanation of Output Fields (Sheet 1 of 7)

Field position	Fields (V.24 output only)	Definition	Number of characters	Orientation
1	1 to 8	Date at end of call: DD.MM.YY (DD = day, MM = month, YY = year)	8	Left
2	9 to 16	Time at end of call segment or an unanswered incoming call: hh:mm:ss (hh = hours: value range 00 - 23, mm = minutes: value range 00 - 59, ss=seconds: value range 00 - 59)	8	Left
3	17 to 19	Trunk: Trunk number Value range 1 - 120	3	Right

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Table 10-1 Compressed Output Format—Explanation of Output Fields (Sheet 2 of 7)

Field position	Fields (V.24 output only)	Definition	Number of characters	Orientation
4	20 to 25	<p>Station: Internal station number</p> <p>Value range: 000000 - 999999 (missing digits are replaced by spaces.)</p> <p>In the case of unanswered calls, this is the last station called (as in a hunt group, call forwarding, call forwarding—no answer). With group call, this is the last station entered. In the case of answered calls, it is the station that accepted the call. A programmed SNO prefix (with networking only) is not output.</p> <p>If the internal numbering was converted to a maximum 6-digit numbering plan, the converted station number is output.</p>	6	Right
5	26 to 30	<p>Ringing duration of an incoming external call: mm:ss</p> <p>(mm = minutes: value range 00-59, ss = seconds: value range 00 - 59)</p> <p>The system displays all incoming calls as long as the output of ringing duration has been configured in the system. If a counter overflow occurs (duration > 59:59), “59:59” is output. A change in date or time during system operation can result in this situation.</p>	5	Left
6	31 to 38	<p>Duration of the call or call segment: hh:mm:ss</p> <p>(hh = hours: value range 00 - 23, mm = minutes: value range 00-59, ss = seconds: value range 00 - 59)</p> <p>If a connection has not been established for an incoming call, 8 spaces are output here. If a counter overflow occurs (duration > 23:59:59), “23:59:59” is output.</p>	8	Left

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Table 10-1 Compressed Output Format—Explanation of Output Fields (Sheet 3 of 7)

Field position	Fields (V.24 output only)	Definition	Number of characters	Orien tation
7	39 to 63	<p>Dialed or received external station number (if available): nnnnnnnnnnnnnnnnnnnnnnnnnnnnnnn (n = dialed or received character: value range 0 ... 9, *, #, ?)</p> <p>Output occurs for incoming and outgoing calls (if available). With outgoing calls, the dialed station number or, if available, the station number transmitted via COLP is displayed. In the case of an active data protection function, the last four digits dialed are replaced by the symbols. If no station number information is available, 25 spaces are output.</p>	25	Left

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Table 10-1 Compressed Output Format—Explanation of Output Fields (Sheet 4 of 7)

Field position	Fields (V.24 output only)	Definition	Number of characters	Orien tation											
8	64 to 74	<p>Call charge pulses for a call segment: zzzzzzzzzzz (blank spaces in U.S.) (z = digit: value range 0 - 9)</p> <p>You can select either call charge pulses or call charge amounts.</p> <p>Use the call charge factor, which is defined as a currency amount (including a mandatory surcharge) for each call charge unit or pulse, to convert call charge pulses to monetary amounts (see Section 10.11, “Call-Charge Display With Currency (not for U.S.)”).</p> <p>Setting the call charge factor:</p> <ul style="list-style-type: none">• With calculation detail: call charge factor = 100% + mandatory surcharge• Without calculation detail: call charge factor = amount/unit + mandatory surcharge <p>The system records the call charges with or without a surcharge depending on the calculation detail (Section 10.11):</p> <table><tr><th rowspan="2">Call Charge Display</th><th colspan="2">Computing accuracy</th></tr><tr><th>With</th><th>Without</th></tr><tr><td>Pulses</td><td>HiPath arithmetic units output without surcharge</td><td>Call charge pulses output without surcharge</td></tr><tr><td>Amounts</td><td>HiPath arithmetic units output with surcharge</td><td>Monetary amounts output with surcharge</td></tr></table> <p>The system outputs data whenever call charges accrue for the call segment (even with transferred calls). If no call detail information is available, these 11 characters remain blank.</p>	Call Charge Display	Computing accuracy		With	Without	Pulses	HiPath arithmetic units output without surcharge	Call charge pulses output without surcharge	Amounts	HiPath arithmetic units output with surcharge	Monetary amounts output with surcharge	11	Right
Call Charge Display	Computing accuracy														
	With	Without													
Pulses	HiPath arithmetic units output without surcharge	Call charge pulses output without surcharge													
Amounts	HiPath arithmetic units output with surcharge	Monetary amounts output with surcharge													

Table 10-1 Compressed Output Format—Explanation of Output Fields (Sheet 5 of 7)

Field position	Fields (V.24 output only)	Definition	Number of characters	Orientation
9	75 to 76	<p>Information element: additional information Value range: 0 - 9 Meaning:</p> <ul style="list-style-type: none"> • 1 = Incoming connection (voice/3.1 kHz audio call) • 2 = Outgoing connection (voice/3.1 kHz audio call) • 3 = Incoming connection (other services) • 4 = Outgoing connection (other services) • 5 = Incoming connection forwarded • 6 = Outgoing connection forwarded • 7 = Int/ext/ext conference with incoming connection/transit through external transfer • 8 = Conference with outgoing connection/transit through external transfer • 9 = Outgoing connection via call forwarding to an external destination • 0 = Call information (caller list) is output immediately when an incoming call is received (output can be suppressed). This can be used, for instance, for a database search by a PC. When multiple stations are called, a line is output for each individual station (without ring duration, call duration, call detail information). 	2	Right

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Table 10-1 Compressed Output Format—Explanation of Output Fields (Sheet 6 of 7)

Field position	Fields (V.24 output only)	Definition	Number of characters	Orientation
Continuation of 9	75 to 76	<ul style="list-style-type: none"> +20 = Offset as a code for call setup charges (connection setup without call duration) +30 (HiPath 3000/HiPath 5000 V1.0 and later) = offset as an ID for a follow-up data record in the case of <ul style="list-style-type: none"> call duration > 24 h. contiguous call segments with the same line/station number (for example, after transferring a call, after clearing a conference). Can occur in combination with offset +40. +40 = Offset for a data record with transit code (by an extension in the subsystem). Can occur in combination with offset +30. +50 = Offset as a code for DISA calls +70 = combination of offsets +30 and +40 	2	Right
10	77 to 87	Account code (ACCT) entered by the user for this call: pppppppppppp p = ACCT digit: value range 0 - 9) If an ACCT has not been entered, 11 spaces are output. If the ACCT is shorter than 11 digits, the remaining characters are filled with spaces.	11	Left
11	88 to 98	MSN used: mmmmmmmmmmm (m = MSN digit: value range 0 - 9) Information is displayed if the user has programmed an MSN key. Non-existent characters are replaced by spaces. If MSN information is not available (as in a point-to-point connection), 11 spaces are output instead of these characters.	11	Right
12	99 to 103	Seizure code used, access code: bbbbbb (b = digit of the seizure code: value range 0 - 9) Non-existent characters are replaced by spaces.	5	Right


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Table 10-1 Compressed Output Format—Explanation of Output Fields (Sheet 7 of 7)

Field position	Fields (V.24 output only)	Definition	Number of characters	Orientation
13	104 to 105	LCR route used: rr (r = digit of the dialed route: value range 0 - 9) Non-existent characters are replaced by spaces.	2	Right
14	106 to 107	PRI nodal service: nn (n = digit: value range 0 - 9) Non-existent characters are replaced by spaces.	2	Right
15	108	PRI WATS band: w (w = digit: value range 0 - 9) If no information is available, a space is output.	1	—
16	109 to 112	PRI Carrier Identification Code (CIC): cccc (c = CIC digit: value range 0 - 9) Non-existent characters are replaced by spaces.	4	Right
14	106 to 107	U.S.-specific fields are filled with blanks in other countries.	2	Right
15	108		1	—
16	109 to 112		4	Right
17	113 to 114	End of line control character (carriage return [CR], line feed [LF])	2	—

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● Long Output Format for Call Data



The header in the long output format is output in the language used across the system.

After 62 lines have printed (including header), a form feed (FF) is carried out and the next page begins with a header.

Date	Time	Trk	Stn	Call	Duration	Station number	Amount	I
11.12.93	08:23:23	4	16		00:05:23	02317324856	20.23	2
11.12.93	09:12:45	3	18		00:01:23	834756	0.69	2
11.12.93	09:25:34	2	11	00:34				1
11.12.93	10:01:46	1	12		00:12:53	83726639046287127384	413.69	2

Table 10-2 Long output format - explanation of output fields

Field	Fields	Definition	Number of characters	Orien tation
Date	1 to 8	see table, field position 1	8	Left
Time	10 to 17	see table, field position 2	8	Left
Trk	19 to 21	see table, field position 3	3	Right
Stn	23 to 28	see table, field position 4	6	Right
Call	30 to 34	see table, field position 5	6	Left
Duration	36 to 43	see table, field position 6	8	Left
Station number	45 to 64	Dialed or received external station number (if available):nnnnnnnnnnnnnnnnnnnn (n = dialed or received character: value range 0 ... 9, *, #, ?) see also table, field position 7	20	Left
Amount	66 to 76	Call charge amount for a call segment: zzzzzzzzzzz (blank spaces in U.S.) (z = digit: value range 0 - 9) The system outputs data whenever call charges accrue for the call segment (even with transferred calls). If no call detail information is available, these 11 characters remain blank. A comma (,) separates the amount from the decimal places.	11	Right
I	78 to 79	see table, field position 9	2	Right
—	80 to 81	End of line control character (carriage return [CR], line feed [LF])	2	—