

	.....	3
1	.....	4
2	.....	7
3		
	-41/4212	13
4	SI-2000/V.6	19
5		
	-41/42	22
6	.....	23
	.....	24

- () -

():

-2 - $N_{21} = 10000$ -

, $N_{22} = 9000$ $N_{23} = 9000$;

-4 - -41,42,43;

-3 () « - » -

$N_{-31/32} = 17000$, -

31/32 () $N = 1024$

.

-4 SI-2000/v.6, -41, 42 -4

-41/42 $N_{-41/42} = 14000$. -43

$N_{43} = 8000$

(SAN) $N_{SAN} = 1408$.

, I -

-41/42 $n_{AN-BB} = 3$ -

DSLAM SI-2000/v.6 ADSL (AN- N

- X).

-2, -3 -4 - 0,65, 0,85 0,75,

- 0,01 Internet -

Internet (Internet Point of Presence) – IPOP.

Internet 0,1 .

EWSD (Sowtswitch 4

). SSP. -

SSP 0,1.

() -22.

. « » SDH. ,

1

- ()
 (),
 ().
 -2 -2 (),
 .
 , (),
 - 1 2 , 1 - , 2 -
 , - « »
 : $l < 1,5$
 , $1,5 < l < 8$ -
 $l > 8$ - ,
 « », ()
 ,
 « »
 -
 ,
 (, Host)
 () , ()
 ,
 :
 ();
 - Call-center;
 - MSC;
 ();
 Internet – IPOP;
 IP, ATM, FR, Enthernet;
 - SSP.
 ().
 , ,
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 , SDH,
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 , 100 000

7

STP

SP

TMN.

Internet

IPOP,

« -
Internet

».

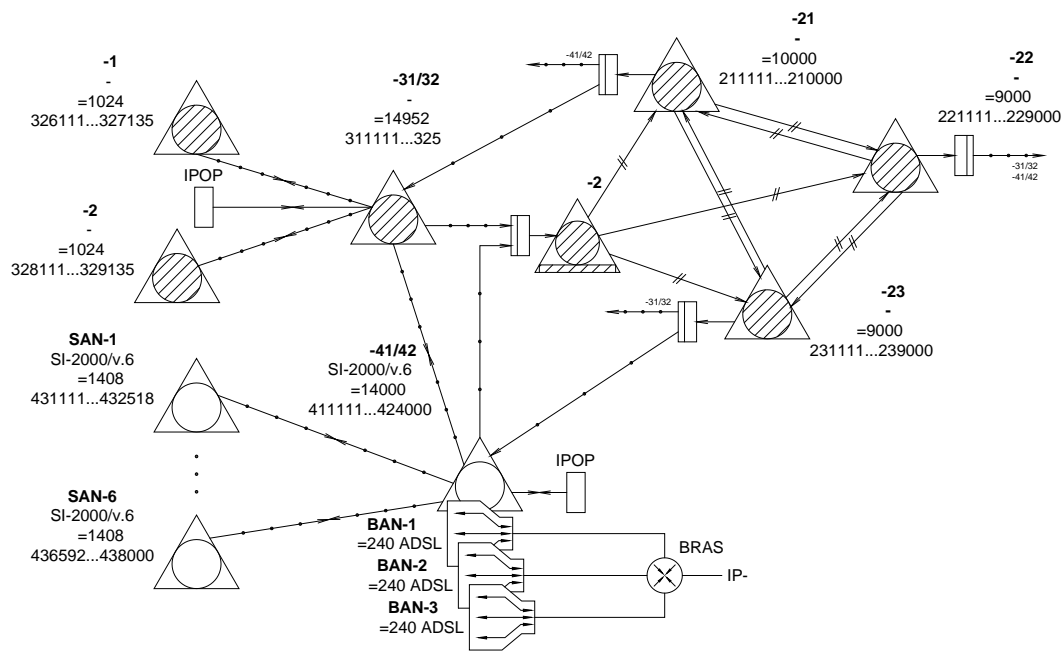
SSP.

1

-30

SDH.

. 1.

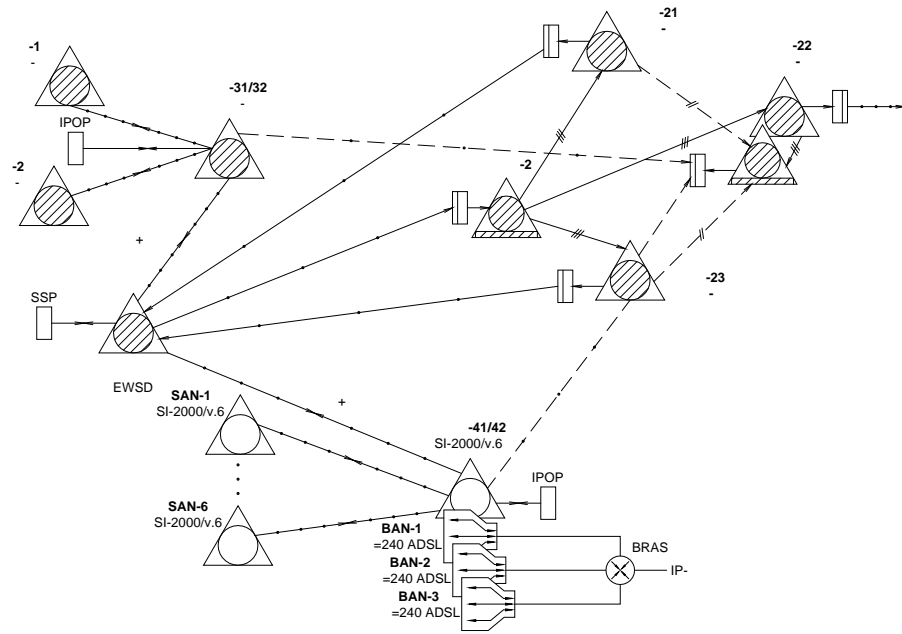


1-

()

().

2.



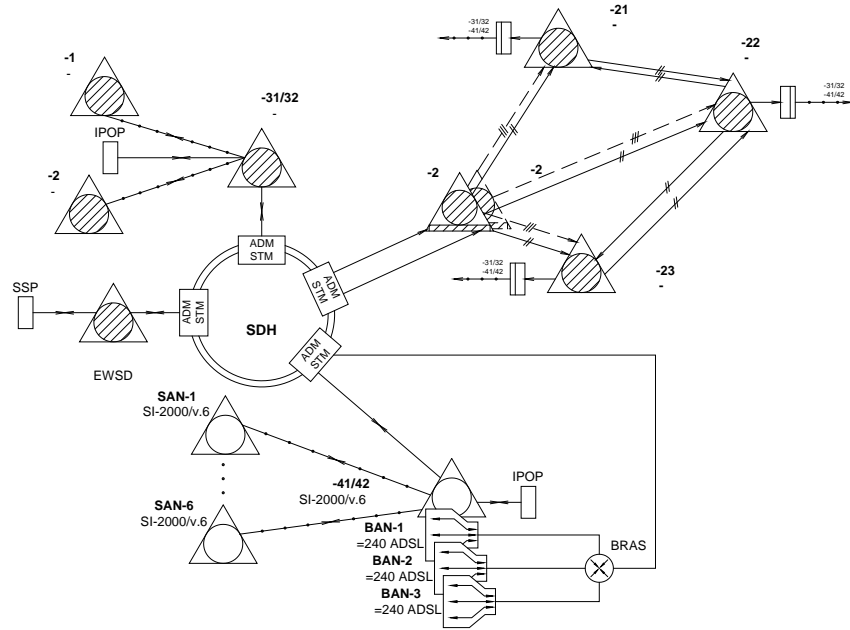
2 -

SDH,

ADM.

SDH

. 3.



3 -

SDH

2

() .

0,8...0,9, - 0,3...0,4.

Internet ; (SS) .

Internet; SS .

2.1.

2.1 -			
	$y_i,$		$t_i, \quad c$
y	43	t	85
y	39	t	90
y	6	t	160
y	5	t	180
y_{Int}	50	t_{Int}	540
y_{SSP}	0,2 (2 10)	t_{SSP}	65

», - ,

IPOP SSP :

$$\begin{aligned} Y_{\dots} &= N_{AM} \times y_{\dots}, \quad , \quad Y_{\dots} = N_{AM} \times y_{\dots}, \quad ; \\ Y_{\dots} &= N_{AM} \times y_{\dots}, \quad , \quad Y_{\dots} = N_{AM} \times y_{\dots}, \quad ; (2.1) \\ Y_{Int.} &= N_{Int} \times y_{Int}, \quad , \quad Y_{SSPAM} = N_{SSP} \times y_{SSP}, \quad ; \\ N_{AM} - & ; \\ N_{Int} - & \text{Internet} ; \\ N_{SSP} - & (- 10). \\ y_{\dots}, y_{\dots}, y_{\dots}, y_{\dots}, y_{Int}, y_{SSP} - \end{aligned}$$

:

$$Y_{\dots} = \dots \times Y_{\dots}, \quad , (2.2)$$

= 0,03...0,05 - , .

$$Y'_{\dots} = (1 - \dots) \times Y_{\dots}, \quad . (2.3)$$

-128

« - »:

- -128 $N_{AM} = 128$;

- Internet $N_{Int} = 128 \times 0,1 = 13$

;

- $N_{SSP} = 128 \times 0,1 = 13$ -

MLC SI-2000/v.6:

- MLC $N_{AM} = 704$;

- Internet $N_{Int} = 704 \times 0,1 = 70$

;

- $N_{SSP} = 704 \times 0,1 = 70$ -

« - » (2.1)...(2.3):

$$\begin{aligned} Y_{\dots -128} &= 128 \times 0,043 = 5,50, \quad Y_{\dots -128} = 128 \times 0,039 = 4,99 ; \\ Y_{\dots -128} &= 128 \times 0,006 = 0,77, \quad Y_{\dots -128} = 128 \times 0,005 = 0,64 ; \\ Y_{Int. -128} &= 13 \times 0,05 = 0,65, \quad Y_{SSP S -128} = 13 \times 0,002 = 0,03 ; \\ Y_{\dots} &= 0,05 \times 5,50 = 0,28, \quad Y'_{\dots} = 5,50 - 0,28 = 5,22 . \end{aligned}$$

. 2.2. MLC SI-2000/v.6 -

. 2.2.

2.2 -

-128 « - »									
N_{AM}	N_{Int}	N_{SSP}	Y_{\dots}	Y_{\dots}	Y_{\dots}	$Y_{Int.}$	Y_{SSPAM}	Y_{\dots}	Y'_{\dots}
128	13	13	5,50	0,77	0,64	0,65	0,03	0,28	5,22
MLC SI-2000/v.6									
N_{AM}	N_{Int}	N_{SSP}	Y_{\dots}	Y_{\dots}	Y_{\dots}	$Y_{Int.}$	Y_{SSPAM}	Y_{\dots}	Y'_{\dots}
704	70	70	30,27	27,46	4,22	3,52	0,14	1,51	28,76

, Internet SS).

$$q = (t - \Delta t) / t, \quad \Delta t = t + t + t, \quad (2.4)$$

$$t - \quad (\quad . 2.1);$$

$$t - \quad \ll \quad \gg, 2 ;$$

$$t - \quad , \quad ;$$

$$t - \quad , \quad t = 1,5 \times n ,$$

$$- t = 0,1 \times n . \quad , \quad (50\%), \quad t = 0,8 .$$

$$, \quad n = 6 .$$

:

$$\Delta t = 2 + 6 \times 0,8 = 6,8c; \quad q = (85 - 6,8) / 85 = 0,92.$$

$$q$$

,

$$n = 9, \quad n = 10, \quad n = 10, \quad n = 13.$$

$$, \quad \approx 0,3;$$

$$\approx 0,25; \quad \approx 0,3; \quad \approx 0,15.$$

$$n = 9 \times \quad + 10 \times \quad + 10 \times \quad + 13 \times \quad = 10,15.$$

$$t = 2 + 10,15 \times 0,8 = 10,12c; \quad q = (160 - 10,65) / 160 = 0,94.$$

$$q = 1, q = 1,$$

.

$$q \quad t = 36 ,$$

$$3 (1 -) \quad 4 (1 -), \quad n = 4 \times p_4 + 3 \times (1 - p_4),$$

$$p_4 - \quad p_4 \approx 40 \times \quad - 1,1.$$

$$p_4 \approx 40 \times 0,05 - 1,1 = 0,9; \quad n = 4 \times 0,9 + 3 \times (1 - 0,9) = 3,6 + 0,3 = 3,9;$$

$$\Delta t = 2 + 3,9 \times 0,8 = 5,12 ; \quad q = (36 - 5,12) / 36 = 0,86.$$

$$q_{Int} - \quad \text{Internet IPOP},$$

$$n_{Int} = 6 ,$$

$$t_{Int} = 0,1 \times n_{Int}, \quad \text{Internet} - 540 ,$$

$$0.$$

$$\Delta t_{Int} = 2 + 6 \times 0,1 = 2,6 ; \quad q_{Int} = (540 - 2,6) / 540 = 0,99.$$

$$q_{SSP} - \quad \text{SSP},$$

$$n_{SSP} = 10 (0-800- \quad , 0-900- \quad),$$

$$t_{SSP} = 0,1 \times n_{SSP} ,$$

$$- 65 (\quad 7... 10) ,$$

$$0.$$

$\Delta t_{SSP} = 2 + 10 \times 0,1 = 3,1$; $q_{SSP} = (65 - 3,1) / 65 = 0,95$.

:

$Y = Y + Y + Y + Y + Y + Y_{IPOPAM}, (2.5)$

$Y = q \times (1 -) \times Y$; $Y = Y$; $Y = q \times \times Y$;

$Y = q \times Y + Y_{SSPAM}$; $Y = Y$; $Y_{IPOP} = q_{Int} \times Y_{Int}$; $Y_{SSP} = q_{SSP} \times Y_{SSP}$.

« - »:

$Y = 0,92 \times 5,22 = 4,80$, $Y = 4,99$, $Y = 0,86 \times 0,28 = 0,24$,

$Y_{SSP} = 0,95 \times 0,03 = 0,029$, $Y = 0,94 \times 0,77 + 0,029 = 0,75$,

$Y = 0,64$, $Y_{IPOP} = 0,99 \times 0,65 = 0,64$,

$Y = 4,80 + 4,99 + 0,24 + 0,75 + 0,64 + 0,64 = 12,06$.

q

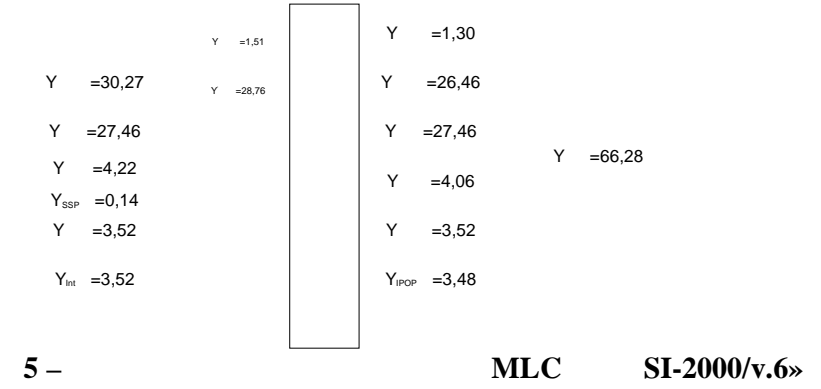
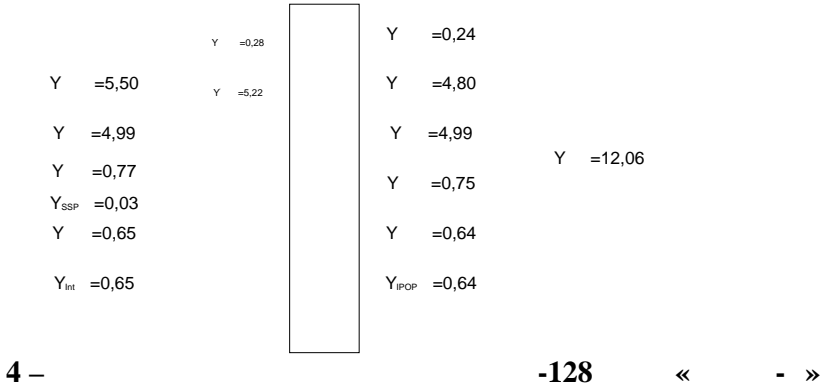
(« - » SI-2000/v.6) . 2.3.

2.3 – q ()

-128 « - »											
q	q	q	q_{Int}	q_{SSP}	Y	Y	Y	Y	Y	Y_{IPOPAM}	Y
0,92	0,94	0,86	0,99	0,95	4,80	0,24	4,99	0,75	0,64	0,64	12,06
MLC SI-2000/v.6											
q	q	q	q_{Int}	q_{SSP}	Y	Y	Y	Y	Y	Y_{IPOPAM}	Y
0,92	0,94	0,86	0,99	0,95	26,46	1,30	27,46	4,06	3,52	3,48	66,28

-128 « - » -

. 4, LC SI-2000/v.6 – . 5.



() :

$$\begin{aligned} Y &= \times Y, & Y &= \times Y, \\ Y &= \times Y, & Y_{IPOP} &= \times Y_{IPOP}, \\ Y &= \times Y, & Y &= \times Y, \end{aligned} \tag{2.6}$$

2.4

MLC () SI-2000/v.6. -41/42
-41/42:

$$\begin{aligned} N_{-41/42} &= N_{-41/42} / N_{MLC}, \\ N_{MLC} &= 704, \\ N_{MLC} &= 14000 / 704 = 20MLC, \\ N_{SAN} &= 1408 / 704 = 2MLC, \\ Y &= 20 \times 26,46 = 529,20, & Y &= 20 \times 27,46 = 549,20, \\ Y &= 20 \times 1,30 = 26,00, & Y_{IPOP} &= 20 \times 3,48 = 69,6, \\ Y &= 20 \times 4,06 = 81,20, & Y &= 20 \times 3,52 = 70,40, \\ Y_{SAN} &= 2 \times 26,46 = 52,92, & Y_{SAN} &= 2 \times 27,46 = 54,92, \\ Y_{SAN} &= 2 \times 1,30 = 2,60, & Y_{IPOPSAN} &= 2 \times 3,48 = 6,96, \\ Y_{SAN} &= 2 \times 4,06 = 8,12, & Y_{SAN} &= 2 \times 3,52 = 7,04. \end{aligned}$$

2.4 –

-31/32 « - »									
	<i>N</i>	<i>N</i>		<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i> _{IPOP}
-31/32	14952	128	117	561,60	28,08	573,30	87,75	74,88	74,88
-1	1024		8	38,40	1,92	39,92	6,00	5,12	5,12
-2									
-41/42 SI-2000/v.6									
	<i>N</i>	<i>N</i>		<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i> _{IPOP}
-41/42	14000	704	20	529,20	26,00	549,20	81,20	70,40	69,6
SAN-1	1408		2	52,92	2,60	54,92	8,12	7,04	6,96
SAN-2									
...									
SAN-6									

,

().

:

Internet

SSP.

Y *q*,

:

$$q = (t - \Delta t) / t, \quad \Delta t = t + t + t, \tag{2.8}$$

t = 1,5...2 – ;

t – 1,5 –

;

$$\frac{n}{(n=6)} -$$

-

$$\Delta t = 2 + 1,5 \times 6 + 1,5 = 12,5 \text{ ,}$$
$$q = (85 - 12,5) / 85 = 0,85 \text{ .}$$

:

$$\Delta t = 2 + 3,9 \times 1,5 + 1,5 = 9,35 \text{ , } q = (36 - 9,35) / 9,35 = 0,74 \text{ .}$$

-21

- :

,

$$Y_{-21} = N_{-21} \times y \text{ ,}$$
$$Y_{-21} = \times Y_{-21} \text{ ,}$$
$$Y'_{-21} = Y_{-21} - Y_{-21} \text{ ,}$$
$$Y_{-21} = N_{-21} \times y \text{ ,}$$
$$Y_{-21} = q \times Y'_{-21} \text{ ,}$$
$$Y_{-21} = 1,04 \times Y_{-21} \text{ ,}$$
$$Y'_{-21} = Y_{-21} - Y_{-21} \text{ ,}$$
$$Y_{-21} = q \times Y_{-21} \text{ .}$$
$$Y_{-21} = 10000 \times 0,043 = 430 \text{ ,}$$
$$Y_{-21} = 0,05 \times 430 = 21,5 \text{ ,}$$
$$Y'_{-21} = 430 - 21,5 = 408,5 \text{ ,}$$
$$Y_{-21} = 10000 \times 0,039 = 390 \text{ ,}$$
$$Y_{-21} = 0,85 \times 408,5 = 347,23 \text{ ,}$$
$$Y_{-21} = 1,04 \times 390 = 405,60 \text{ ,}$$
$$Y_{-21} = 0,74 \times 21,5 = 15,91 \text{ .}$$

. 2.5.

-

22

-23

,

. 2.5.

2.5 –

	<i>N</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>
-21	10000	347,23	405,60	15,91
-22	9000	387,00	365,04	14,32
-23	8000	277,78	324,48	12,73

3

-41/42

$$Y_{kz} = Y_k \frac{Y_z \times n_{kz}}{Y_{(k)}}, \quad (3.1)$$

$$Y_{(k)} = \sum_m Y_m \times n_{km} + \sum_r Y_{BKM_r} \times n_{kr} + \sum_x Y_x \times n_{kx}. \quad (3.2)$$

	-31/32	-1	-2	-41/42	SAN-1	SAN-2	...	SAN-6	-21	-22	-23
Y	561,60	38,40	38,40	529,20	52,92	52,92		52,92	347,23	387,00	277,78
Y	573,30	39,92	39,92	549,20	54,92	54,92		54,92	405,60	365,04	324,48

n_{kz}
 $n_{kz} = 1.$
 $0,9...0,8$
 $0,3.$
 n_{kz}
 $0,5$

$L,$	0	1	2	3	4	5	6	7	8	9
n_{kz}	1,00	0,90	0,80	0,75	0,70	0,65	0,60	0,55	0,50	0,48

$L,$	10	11	12	14	16	18	20	22	24	26
n_{kz}	0,45	0,43	0,40	0,38	0,36	0,32	0,30	0,29	0,28	0,25

n_{kz}
 $(\quad . 3.2),$
 $. 3.3.$

3.3 –

	31/32	1	2	41/42	SAN-1	SAN-2	SAN-3	SAN-4	SAN-5	SAN-6	21	22	23
31/32	1,00	0,95	0,96	0,90	0,98	0,98	0,97	0,97	0,94	0,95	0,90	0,80	0,80
-1	0,95	1,00	0,96	0,92	0,92	0,95	0,93	0,90	0,95	0,90	0,90	0,87	0,81
-2	0,96	0,96	1,00	0,93	0,96	0,90	0,90	0,88	0,87	0,84	0,82	0,86	0,92
41/42	0,90	0,92	0,93	1,00	0,95	0,95	0,95	0,95	0,95	0,95	0,88	0,95	0,80
SAN-1	0,98	0,92	0,96	0,95	1,00	0,91	0,81	0,88	0,82	0,93	0,90	0,87	0,75
SAN-2	0,98	0,95	0,90	0,95	0,91	1,00	0,95	0,87	0,81	0,93	0,82	0,90	0,80
SAN-3	0,97	0,93	0,90	0,95	0,81	0,95	1,00	0,80	0,91	0,84	0,92	0,87	0,84
SAN-4	0,97	0,90	0,88	0,95	0,88	0,87	0,80	1,00	0,88	0,91	0,86	0,88	0,82
SAN-5	0,94	0,95	0,87	0,95	0,82	0,81	0,91	0,88	1,00	0,89	0,96	0,88	0,80
SAN-6	0,95	0,90	0,84	0,95	0,93	0,93	0,84	0,91	0,89	1,00	0,91	0,85	0,80
21	0,90	0,90	0,82	0,88	0,90	0,82	0,92	0,86	0,96	0,91	1,00	0,85	0,92
22	0,80	0,87	0,86	0,85	0,87	0,90	0,87	0,88	0,88	0,85	0,85	1,00	0,98
23	0,80	0,81	0,92	0,80	0,75	0,80	0,84	0,82	0,80	0,85	0,92	0,98	1,00

-41/42

(3.1, 3.2)

$$Y = Y_{41/42} \times n_{41/42-41/42} + Y_{31/32} \times n_{41/42-31/32} + Y_{-1} \times n_{41/42-1} + Y_{-2} \times n_{41/42-2} + Y_{SAN-1} \times n_{41/42-SAN-1} + Y_{SAN-2} \times n_{41/42-SAN-2} + \dots + Y_{SAN-6} \times n_{41/42-SAN-6} + Y_{-21} \times n_{41/42-21} + Y_{-22} \times n_{41/42-22} + Y_{-23} \times n_{41/42-23};$$

$$Y = 549,20 \times 1,00 + 573,30 \times 0,90 + 39,92 \times 0,92 + 39,92 \times 0,93 + 54,92 \times 0,95 + 54,92 \times 0,95 + 54,92 \times 0,95 + 54,92 \times 0,95 + 54,92 \times 0,95 + 405,60 \times 0,88 + 365,04 \times 0,85 + 324,48 \times 0,80 = 2378,86$$

$$Y_{41/42-41/42} = (Y_{41/42} \times Y_{41/42} \times n_{41/42-41/42}) / Y$$

$$Y_{41/42-41/42} = (529,20 \times 549,20 \times 1,00) / 2378,86 = 122,34$$

$$Y_{41/42-31/32} = (529,20 \times 573,30 \times 0,90) / 2378,86 = 114,93$$

$$Y_{41/42-1} = (529,20 \times 39,92 \times 0,92) / 2378,86 = 8,18$$

$$Y_{41/42-2} = (529,20 \times 39,92 \times 0,93) / 2378,86 = 8,27$$

$$Y_{41/42-SAN-1} = (529,20 \times 54,92 \times 0,95) / 2378,86 = 11,62$$

$$Y_{41/42-SAN-2} = (529,20 \times 54,92 \times 0,95) / 2378,86 = 11,62$$

$$Y_{41/42-SAN-3} = (529,20 \times 54,92 \times 0,95) / 2378,86 = 11,62$$

$$Y_{41/42-SAN-4} = (529,20 \times 54,92 \times 0,95) / 2378,86 = 11,62$$

$$Y_{41/42-SAN-5} = (529,20 \times 54,92 \times 0,95) / 2378,86 = 11,62$$

$$Y_{41/42-SAN-6} = (529,20 \times 54,92 \times 0,95) / 2378,86 = 11,62$$

$$Y_{41/42-21} = (529,20 \times 405,60 \times 0,88) / 2378,86 = 79,51$$

$$Y_{41/42-22} = (529,20 \times 365,04 \times 0,85) / 2378,86 = 69,12$$

$$Y_{41/42-23} = (529,20 \times 324,48 \times 0,80) / 2378,86 = 57,82$$

 Y_{kz}

(3.4).

$$Y_{-41/42-}^{-2} = 79,51 + 69,12 + 57,82 + 8,12 + 7,06 + 5,54 + 7,40 + 7,31 + 5,77 + 8,30 + 7,06 + 6,06 + 7,76 + 7,15 + 5,92 + 8,66 + 7,15 + 5,77 + 8,21 + 6,90 + 5,77 = 332,25 .$$

$$= 0,005$$

$$Y_{-41/42-}^{-2} = 332,25 , \nu_{-41/42-}^{-2} = 370 .$$

3

$$- = 0,005, = 0,001, = 0,001 .$$

$$\nu_{-41/42-} = f(Y_{-41/42-}, p = 0,001) .$$

,

$$Y_{-41/42-} :$$

$$Y_{-41/42-} = Y_{-41/42-} + Y_{-41/42-} + 6 \times (Y_{3-SAN-1} + Y_{-SAN-1}), \quad (3.5)$$

$$Y_{-41/42-} = 81,20 + 70,40 + 6 \times (8,12 + 7,04) = 242,56 .$$

$$= 0,001 \quad Y_{-41/42-} = 242,56 , \nu_{-41/42-} = 290 .$$

4

SAN-1.

$$= 0,001, . . .$$

$$(\nu_{-41/42-SAN-1} = f(Y_{-41/42-SAN-1}, p = 0,001) .$$

,

$$Y_{-41/42-SAN-1} :$$

$$Y_{-41/42-SAN-1} = Y_{-41/42-SAN-1} + Y_{-31/32-SAN-1} + Y_{-1-SAN-1} + Y_{-2-SAN-1} + Y_{-22-SAN-1} + Y_{-23-SAN-1} + Y_{SAN-1-} + Y_{SAN-1} + Y_{SAN-1} + Y_{IOPSAN-1} + Y_{SAN-1-} -41/42 + Y_{SAN-1-} -31/32 + Y_{SAN-1-} -1 + Y_{SAN-1-} -2 + Y_{SAN-1-} -21 + (3.6)$$

$$+ Y_{SAN-1-} -22 + Y_{SAN-1-} -23 + Y_{SAN-2-SAN-1} + Y_{SAN-3-SAN-1} + Y_{SAN-4-SAN-1} + Y_{SAN-5-SAN-1} + Y_{SAN-6-SAN-1} + Y_{SAN-1-SAN-2} + Y_{SAN-1-SAN-3} + Y_{SAN-1-SAN-4} + Y_{SAN-1-SAN-5} + Y_{SAN-1-SAN-6} .$$

$$Y_{-41/42-SAN-1} = 11,62 + 12,71 + 0,82 + 0,85 + 7,21 + 7,77 + 4,81 + 2,60 + 8,12 + 7,04 + 6,96 + 11,61 + 12,50 + 0,82 + 0,85 + 8,12 + 7,06 + 5,41 + 1,11 + 0,99 + 1,08 + 1,00 + 1,14 + 1,22 + 1,11 + 0,99 + 1,08 + 1,00 + 1,14 = 126,53 .$$

$$= 0,001 \quad Y_{-41/42-SAN-1} = 126,53 , \nu_{-41/42-SAN-1} = 158 .$$

SAN-2, SAN-3 ... SAN-6

5

-31/32.

$$- = 0,005 .$$

$$\nu_{-41/42-}^{-31/32} = f(Y_{-41/42-}^{-31/32}, p = 0,005) .$$

,

$$Y_{-41/42-}^{-31/32} :$$

$$Y_{-41/42-}^{-31/32} = Y_{-41/42-}^{-31/32} + Y_{-41/42-}^{-1} + Y_{-41/42-}^{-2} + Y_{SAN-1-}^{-31/32} + Y_{SAN-1-}^{-1} + Y_{SAN-1-}^{-2} + Y_{SAN-2-}^{-31/32} + Y_{SAN-2-}^{-1} + Y_{SAN-2-}^{-2} + Y_{SAN-3-}^{-31/32} + Y_{SAN-3-}^{-1} + Y_{SAN-3-}^{-2} + Y_{SAN-4-}^{-31/32} + Y_{SAN-4-}^{-1} + Y_{SAN-4-}^{-2} + Y_{SAN-5-}^{-31/32} + Y_{SAN-5-}^{-1} + Y_{SAN-5-}^{-2} + Y_{SAN-6-}^{-31/32} + Y_{SAN-6-}^{-1} + Y_{SAN-6-}^{-2} + (3.7)$$

$$+ Y_{-31/32-}^{-41/42} + Y_{-1-}^{-41/42} + Y_{-2-}^{-41/42} + Y_{-31/32-SAN-1} + Y_{-1-SAN-1} + Y_{-2-SAN-1} + Y_{-31/32-SAN-2} + Y_{-1-SAN-2} + Y_{-2-SAN-2} + Y_{-31/32-SAN-3} + Y_{-1-SAN-3} + Y_{-2-SAN-3} + Y_{-31/32-SAN-4} + Y_{-1-SAN-4} + Y_{-2-SAN-4} + Y_{-31/32-SAN-5} + Y_{-1-SAN-5} + Y_{-2-SAN-5} + Y_{-31/32-SAN-6} + Y_{-1-SAN-6} + Y_{-2-SAN-6} .$$

$$Y_{-41/42-}^{-31/32} = 114,93 + 8,18 + 8,27 + 12,50 + 0,82 + 0,85 + 12,50 + 0,84 + 0,80 + 12,37 + 0,83 + 0,80 + 12,37 + 0,80 + 0,78 + 11,99 + 0,84 + 0,77 + 12,12 + 0,80 + 0,75 + 116,69 + 8,16 + 8,24 + 12,71 + 0,82 + 0,85 + 12,71 + 0,84 + 0,80 + 12,58 + 0,82 + 0,80 + 12,58 + 0,82 + 0,78 + 12,19 + 0,84 + 0,77 + 12,32 + 0,80 + 0,74 = 432,73 .$$

$$= 0,005 \quad Y_{-41/42-} \quad -31/32 = 432,73 \quad , \quad \nu_{-41/42-} \quad -31/32 = 470 \quad .$$

6

IPOP.

$$- = 0,001.$$

$$\nu_{-41/42-IPOP} = f(Y_{-41/42-IPOP}, p = 0,001).$$

$$, \quad Y_{-41/42-IPOP} :$$

$$Y_{-41/42-IPOP} = Y_{-41/42-IPOP} + 6 \times Y_{SAN-IPOP}, \quad . \quad (3.8)$$

$$Y_{-41/42-IPOP} = 69,6 + 6 \times 6,96 = 111,36 \quad .$$

$$= 0,001 \quad Y_{-41/42-IPOP} = 111,36 \quad , \quad \nu_{-41/42-IPOP} = 142 \quad .$$

7

$$-21 (\quad -) \quad -41/42.$$

$$-41/42 \quad , \quad 1 \quad (\quad , \quad -3$$

$$80 \times 120 \times 400). \quad = 0,005.$$

$$\nu_{-21-} \quad -41/42 = f(Y_{-21-} \quad -41/42, p = 0,005).$$

$$, \quad Y_{-21-} \quad -41/42 :$$

$$Y_{-21-} \quad -41/42 = Y_{-21-41/42} + Y_{-21-SAN-1} + Y_{-21-SAN-2} + \quad (3.9)$$

$$+ Y_{-21-SAN-3} + Y_{-21-SAN-5} + + Y_{-21-SAN-6}$$

$$Y_{-21-} \quad -41/42 = 70,54 + 7,21 + 6,57 + 7,38 + 6,89 + 7,70 + 7,29 = 113,59 \quad .$$

$$-21 \quad -41/42 \quad ,$$

$$. \quad -$$

$$, \quad , \quad D \quad ,$$

$$, \quad , \quad D \quad ,$$

$$(\quad , \quad), \quad Y - \quad , \quad -$$

$$\nu = D + \alpha (Y + Y_D),$$

$$\alpha = f(p, D), \quad Y_D = f(p, \nu = D) \quad (3.10)$$

:

$$1 \quad D_{\min} = (m_a + n_a + 1) \times q, \quad m_a = 20, \quad n_a = 13,3, \quad q = 2. \quad D_{\min} = (20 + 13,3 + 1) \times 2 = 15,4.$$

$$2 \quad D = (m_{1a} - Y_{ma}) \times q, \quad Y_{ma} -$$

$$A - Y_{ma} = a \times n_a, \quad a - \quad , \quad a = 0,5 \quad . \quad :$$

$$Y_{ma} = 0,5 \times 13,3 = 6,65 \quad , \quad D = (20 - 6,65) \times 2 = 26,7.$$

$$3 \quad D = D_{\min} + \theta \times (D - D_{\min}), \quad \theta - \quad , \quad \theta = 0,8.$$

$$D = 15,4 + 0,8 \times (26,7 - 15,4) = 24,44.$$

$$4 \quad , \quad (3.10), \quad \alpha = f(p, D).$$

$$Y_D - \quad D -$$

$$, \quad \nu = D.$$

$$, \quad \alpha = 1,24, \quad Y_D = 14,9 \quad ,$$

$$-21 \quad -41/42:$$

$$\nu_{-21-} \quad -41/42 = 24,44 + 1,24 \times (113,59 - 14,9) = 147 \quad .$$

$$-22,23 \quad -41/42.$$

, , 1 30 -41/42 -
 , 2 048 / . -21 -41/42):

$$n = \left\lceil \frac{v_{-21-41/42}}{30} \right\rceil \quad (3.11)$$

(, -41/42-SAN-1):

$$n = \left\lceil \frac{v_{41/42-SAN-1}}{30} \right\rceil \quad (3.12)$$

3.5 –

1,

-41/42

		-	-		1
- 41/42 →	41,60	= 0,001	1 -	61	2
- 41/42 → - 2	332,25	= 0,005	1 -	370	13
- 41/42 ↔	242,56	= 0,001	1 -	290	10
- 41/42 ↔ SAN - 1	126,53	= 0,001	1 -	158	6
- 41/42 ↔ SAN - 2	127,59	= 0,001	1 -	160	6
- 41/42 ↔ SAN - 3	128,64	= 0,001	1 -	160	6
- 41/42 ↔ SAN - 4	111,81	= 0,001	1 -	142	5
- 41/42 ↔ SAN - 5	115,56	= 0,001	1 -	146	5
- 41/42 ↔ SAN - 6	113,19	= 0,001	1 -	144	5
- 41/42 ↔ - 31/32	432,73	= 0,005	1 -	470	16
- 41/42 ↔ IPOP	111,36	= 0,001	1 -	142	5
- 21 → - 41/42	113,59	= 0,005	1 -	147	5
- 22 → - 41/42	122,85	= 0,005	1 -	158	6
- 23 → - 41/42	82,47	= 0,005	1 -	108	4

4

SI-2000/V.6

SI-2000/v.6

–(Switch Node) – ;

– **A** (Access Node) – (AN-NB – , AN-BB –);

– **SA** (Switch Access Node) – ;

– **N** (Manager Network) – ;

– **SVN** – .

SN – – , ,

SN (Module Central, A),

240x240 480x480

1. BORSCHT

$(2B + D_{16})$ $(30B + D_{64})$ ISDN,

DSL, DECT CDMA,

N-N **L**

(Module Location, C),

32 1,

704 ;

354 ISDN.

N-N ,

1 (3...4) $V_{5.2}$

AN-BB

xDSL:

SDSL (/).

2

ADSL (/).

8 / , – 1 /).

(,),

DSL

–

N-

() ,

DSLAM.

N-

:

5

-41/42

-41/42

-41/22.

(. 5.1).

5.1 –

-41/42

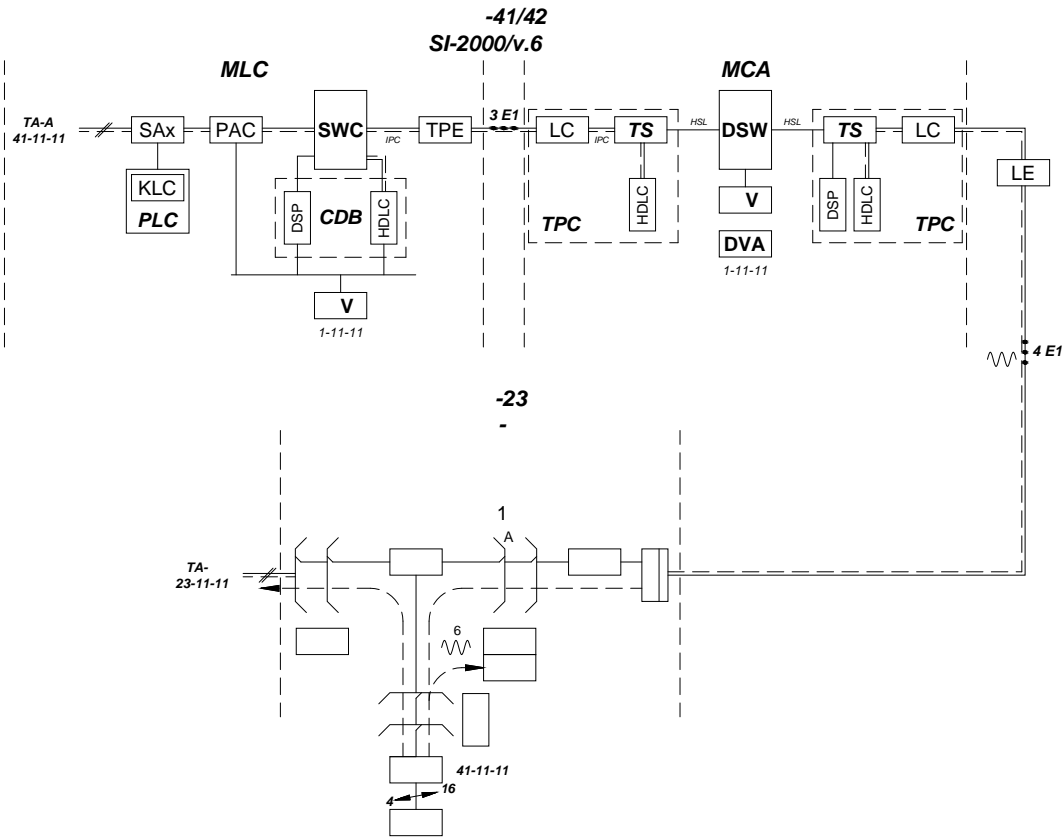
		-	,	-
41/42 →	–		DSP →	–16 , –
41/42 → – 2	–		DSP →	–16 , –
41/42 ↔	EWSD	7	HDLC ↔ SSNC	
41/42 ↔ 31/32	–	7	HDLC ↔ –7	
– 2i → 41/42	–		→ DSP	–16 , –

6

(. 7)

:
—
—

-41/42;
-23.



7 -

