

ACC 10000/147/464

T/19/CS

V.F. CHANNEL EQUIPMENT

PAGE 1

NOV. 1945 - Ap. 1946

CHANNEL EQUIPMENT

PART II

NOV. 1945 - Ap 1946

HEADQUARTERS ALLIED COMMISSION
APO 394
Communications Sub-Commission

HHS/jc

T.19.130.03.

23 April 1946

SUBJECT: Carrier on Cable.

TO : AC Liason Group, MILAN.
Att. Maj. Holland.

Herewith copy of L.M. Ericsson description of
3 channel carrier system, to be returned to Ing. Foddie.

H. H. SOUDER
Col. Sig. C.
Director.

4314

0
HEADQUARTERS ALLIED COMMISSION
APO 394
Communications Sub-Commission

HHS/jc

T.19.129.CS

2 April 1946

SUBJECT: L.M.ERICSON Carrier on Cable.

TO : C.W.Jacobs
c/o SIRT.I.

1. Inclosed is L.M.E. description of 8 channel carrier system which may or may not contain additional information. Please return pamphlet as soon as possible.

9217 Scudder
H.H.SCUDDER
Col.Sig.C.
Director.

4313

HEADQUARTERS
LOMBARDIA REGION LIASION GROUP
ALLIED COMMISSION
APO 394

Tel. Milano 12781

1 April 1946

CMS/1

SUBJECT : Carrier on Cable.

TO : HEADQUARTERS ALLIED COMMISSION
att: Communications Sub Commission

R O M E

1. Herewith Ing. Foddia's copy of the description of the 8-Channel carrier system mentioned in your T.19.127.CS. He of 22 March '46.
2. Ing. Foddia has asked for further copies from Ericsson but until these arrive has only this one copy available and would be grateful for its early return.

For the Chief Liaison Officer

A.C. Holland.

A.C. HOLLAND
Major R. Signals
Telecoms. Liaison Officer
N.W. Italy.

CROSS.
REFS.

in Q. Coms O

HEADQUARTERS ALLIED COMMISSION

APO 394

Communications Sub-Commission

HHS/ec

T.19.127.CB

22 March 1946

SUBJECT: Carrier on Cable

TO : AG Liaison Group, MILAN
Attn: Maj. Holland.

1. You will remember no doubt the point raised at Sigli's lecture by Foddia in connection with a reported new carrier on cable system developed by L.M. Ericsson which could be used on one unshielded cable. Since from Foddia's statement this was a new development I was naturally interested and made inquiries as to what was known about such a system and whether it was really a new system or simply a new application of existing and known equipment.

2. I can find no evidence that Ericsson has brought out anything new nor that they can do with their equipment any more than can be done with Standard, Telephone and Cables equipment or Siemens and Halske. For a limited number of circuits it is possible to have simultaneous transmission over one cable. L.M. Ericsson with their 16 channel system could thus get 8 circuits but this system uses a 3 Kc band (which does not meet C.C.I. requirements). The other manufacturers have not found it worth while to apply their systems in this way.

3. Foddia was very vague about the L.M. Ericsson system and if you can get more information from him (preferably a published description) it would be very useful.

H. E. SCUDDER,
C. C. I. C.
Director.

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

67 BROAD STREET, NEW YORK 4, N. Y.

ROME OFFICE

Via Emilia, 26
ROMA
Telephone 41613
45139
47618

OUR REF.
YOUR REF.

All correspondence on this
subject to be addressed to

ROME Office

Colonel H. H. Scudder
Communications Sub-Commission
Allied Commission
Rome

MILAN OFFICE

Piazza S. Leonardo, 8
MILANO
Telephone 694564

DATE 13 March 1946

Reference our telephone conversation on the subject of
L.M.Ericsson carrier on cable equipment, I am attaching the following data
which I collected in London.

- Received 12/28/46*
1) Photostat copy of description of LME 16 and 12 channel carrier
on cable systems.
2) Notes on above prepared in London - dated January 2nd 1940
3) Letter from Mr. Van Hasselt dated March 6th 1946.

You may not need item 1) and in this case I would be glad
if you would return it for our files.

The normal LME systems - both 16 and 12 channel - use
separate cables for the two directions of transmission, the 16 channel system
having a 3 kc band and the 12 channel system a 4 kc band. Mr. Van Hasselt
knows of no case in which only one cable is used, but admits that this is
possible for a limited number of circuits and is not a special feature of the
LME system, for it could also be done with the Standard or SAM systems.

You will be interested to know that the latest studies
made in London indicate that coaxial cables prove in over 12 channel in nearly

subject to be addressed to
Rome Office

Colonel H. H. Scudder
Communications Sub-Commission
Allied Commission
R o m e

Reference our telephone conversation on the subject of L.M.Ericsson carrier on cable equipment, I am attaching the following data which I collected in London.

- Received 1/10/46*
1) Photostat copy of description of LME 16 and 12 channel carrier
2) Notes on above prepared in London - dated January 2nd 1940
3) Letter from Mr. Van Hasselt dated March 6th 1946.

You may not need item 1) and in this case I would be glad if you would return it for our files.

The normal LME systems-- both 16 and 12 channel - use separate cables for the two directions of transmission, the 16 channel system having a 3 kc band and the 12 channel system a 4 kc band. Mr. Van Hasselt knows of no case in which only one cable is used, but admits that this is possible for a limited number of circuits and is not a special feature of the LME system, for it could also be done with the Standard or SAM systems.

You will be interested to know that the latest studies made in London indicate that coaxial cables prove in over 12 channel in nearly all cases, ~~but~~ ^{even} over distances down to about 100 miles, and the British Post Office have practically abandoned 12 channel cables in favour of the coaxial type giving a maximum of 600 channels on 2 tubes. Over most routes they are installing 2 tubes or 4 tubes cables with a small number of control pairs, no 12 channel pairs or voice frequency quads being included. The basic ~~coaxial~~ ^{coaxial}

T.19-126 - 21-3-46 *22*

80 - 2 -

system consists of 10 super groups of 60 channels each, and it is planned at intermediate points to use through super group filters for the groups passing through the station, whilst terminating circuits will be taken out by breaking down super groups first to 12 channel groups and then to single channels.

I have not yet seen Colonel Rapp and therefore do not know whether he wishes to propose the use of 12 channel or coaxial cables in connection with our study. It would be advisable therefore not to disclose this information without checking with Colonel Rapp on his return to Rome at the end of this week.

Copy to Colonel Rapp.

Chas. W. Jacobs
CHARLES W. JACOBS

6th March, 1946.

Mr. C. W. Jacobs,
C/o Mr. P. Johnson,
CONNAUGHT HOUSE.

This refers to our discussion and to Col. Keith's telegram from Milan dated 15th February reading as follows.

"FOR C. W. JACOBS SIRTI HAVE BEEN ASKED INFO ON L.M. ERICSSON EIGHT AND TWELVE CHAN CARRIER ON CABLE GO AND RETURN ON SINGLE CABLE I BELIEVE FORMER SYSTEM IS BASED ON S AND H 4 CHAN AND GIVES 2 CHANS E TO C.C.I. STANDARD REMAINDER LOW GRADE NARROW BAND ALSO ONLY ONE SYSTEM CAN BE USED PER CABLE AND ONLY SUITABLE FOR SHORT HAUL PLEASE INVESTIGATE UNDERSTAND RAPP ARRIVES ROMA SUNDAY 17 ALL AVAILABLE INFO ON STEC 24 CHAN ON CABLE URGENTLY REQUIRED -

KEITH."

Attached are two photostat copies of a description of the L.M. Ericsson 16 and 12-channel carrier on cable systems which appeared in the L.M. Ericsson Review No. 2, 1939.

Broadly speaking the L.M. Ericsson systems use pre-modulation with a 6 kc (or 8 kc) carrier, using the upper and lower side bands respectively for different channels. The S. & H. pre-modulation system used the lower side band of a 6 kc (or 8 kc) carrier.

Standard 12-channel and coaxial systems use crystal filters and the modulation processes used in these systems fit in with crystal filter technique. There is no doubt that a system using crystal filters is more stable with changes of temperature and gives better characteristics. There is also no doubt that if raw material and technique were equally available to all manufacturers, everyone would adopt crystal filters. It is nevertheless possible at a price to obtain reasonable performance from pre-modulation systems and whilst we have no personal experience of L.M. Ericsson's 16 or 12-channel systems, L. M. Ericsson's equipment in general is workmanlike.

It is technically possible to design special cables to enable the two directions of transmission to be worked on the same cable. Broadly speaking there are two methods of doing this both involving a composite screen

FOR C. W. JACOBS SIRTU HAVE BEEN ASKED INFO ON L.M. ERICSSON EIGHT AND
TWELVE CHAN CARRIER ON CABLE GO AND RETURN ON SINGLE CABLE I BELIEVE
FORMER SYSTEM IS BASED ON 8 AND 4 CHAN AND GIVES 2 CHANS E TO C.C.I.
STANDARD REMAINDER LOW GRADE NARROW BAND ALSO ONLY ONE SYSTEM CAN BE
USED PER CABLE AND ONLY SUITABLE FOR SHORT HAUL PLEASE INVESTIGATE
UNDERSTAND RAFF ARRIVES ROMA SUNDAY 17 ALL AVAILABLE INFO ON STEC 24
CHAN ON CABLE URGENTLY REQUIRED -

KEITH."

Attached are two photostat copies of a description of the
L.M. Ericsson 16 and 12-channel carrier on cable systems which appeared in
the L.M. Ericsson Review No. 2, 1939.

Broadly speaking the L.M. Ericsson systems use pre-modulation
with a 6 kc (or 8 kc) carrier, using the upper and lower side bands respectively
for different channels. The S. & H. pre-modulation system used the lower side
band of a 6 kc (or 8 kc) carrier.

Standard 12-channel and coaxial systems use crystal filters
and the modulation processes used in these systems fit in with crystal filter
technique. There is no doubt that a system using crystal filters is more
stable with changes of temperature and gives better characteristics. There
is also no doubt that if raw material and technique were equally available to
all manufacturers, everyone would adopt crystal filters. It is nevertheless
possible at a price to obtain reasonable performance from pre-modulation
systems and whilst we have no personal experience of L.M. Ericsson's 16 or
12-channel systems, L. M. Ericsson's equipment in general is workmanlike.

It is technically possible to design special cables to enable
the two directions of transmission to be worked on the same cable. Broadly
speaking there are two methods of doing this both involving a composite screen
of copper and iron. In the one method which has been used by the Germans to
some extent, a diametric screen is provided and according to another method a
concentric screen. We have experience of the latter and have found that it
is difficult in manufacture and extremely unsatisfactory in maintenance and is
inflexible.

It would seem from the wording of the telegram and also from
some other information which we have that the system referred to, in one in which
both directions of transmission are worked in a single cable by means of using
different frequencies in the two directions. The big objection to this

system is that it needs different repeaters in the two directions, transmitting either the upper or the lower group, that it halves the circuit capacity of the cable and that it causes layout difficulties the moment we have a triangular cable route.

Whilst such a system may have application in rare individual cases, such as where it is planned to obtain a few carrier on cable circuits on an existing cable, it is in no sense a system to be contemplated for new projects.

We have no detailed information on the system referred to in the telegram, but we would judge that the two channels meeting C.C.I. recommendations would be on 4 kc spacing whilst the others would be on 3 kc spacing. A fundamental consideration in carrier on cable technique is that band width is relatively cheap and in our view it would be a mistake on any new project to limit the use of certain channels to terminal traffic only as this would reduce the size of traffic groups and would thereby lower the traffic efficiency of these groups unless the groups are very large when this difference tends to become inappreciable.

M. VAN HASSELT

Attached: 2 photostat copies of description.

2nd January, 1940.

Ref: 21/RMF/FLG.

ERICSSON 16-CHANNEL CARRIER ON CABLE SYSTEM.

Reference: Ericsson's Review No.2 1932

Notes giving brief comparison with
12-Channel System (with Crystal
Filter Equipment).

++++++

1. FREQUENCY ALLOCATION.

The 16 channels in the Ericsson system are obtained, with 3 kc spacing, within the same frequency range (12 to 60 kc) as that which accommodates the 12-channel system with 4-kc spacing.

The effective voice frequency bands transmitted are 220 - 2850 cycles in the Ericsson 16-channel system and 200 - 3400 cycles in the 12-channel system.

2. MODULATING SYSTEM.

Both systems use two stages of modulation.

In the Ericsson system, a first modulation with 6 kc provides two bands the lower being selected for one channel and the upper for a second channel.

Each of these selected bands is then modulated with one of four higher frequencies, 21 kc, 27 kc, 45 kc and 51 kc, and by selecting again an upper or a lower band a total of 16 channels is obtained, the line frequencies being within the range 12 - 60 kc.

In the 12-channel crystal filter system, the first stage of modulation raises the voice frequency bands into the range between 60 to 108 kc, the individual channel carrier frequencies used for this stage being 108 kc, 120 kc, 132 kc, 144 kc, 156 kc, 168 kc, 180 kc, 192 kc, 204 kc, 216 kc, 228 kc, 240 kc, 252 kc, 264 kc, 276 kc, 288 kc, 300 kc, 312 kc, 324 kc, 336 kc, 348 kc, 360 kc, 372 kc, 384 kc, 396 kc, 408 kc, 420 kc, 432 kc, 444 kc, 456 kc, 468 kc, 480 kc, 492 kc, 504 kc, 516 kc, 528 kc, 540 kc, 552 kc, 564 kc, 576 kc, 588 kc, 600 kc, 612 kc, 624 kc, 636 kc, 648 kc, 660 kc, 672 kc, 684 kc, 696 kc, 708 kc, 720 kc, 732 kc, 744 kc, 756 kc, 768 kc, 780 kc, 792 kc, 804 kc, 816 kc, 828 kc, 840 kc, 852 kc, 864 kc, 876 kc, 888 kc, 900 kc, 912 kc, 924 kc, 936 kc, 948 kc, 960 kc, 972 kc, 984 kc, 996 kc, 1008 kc, 1020 kc, 1032 kc, 1044 kc, 1056 kc, 1068 kc, 1080 kc, 1092 kc, 1104 kc, 1116 kc, 1128 kc, 1140 kc, 1152 kc, 1164 kc, 1176 kc, 1188 kc, 1200 kc, 1212 kc, 1224 kc, 1236 kc, 1248 kc, 1260 kc, 1272 kc, 1284 kc, 1296 kc, 1308 kc, 1320 kc, 1332 kc, 1344 kc, 1356 kc, 1368 kc, 1380 kc, 1392 kc, 1404 kc, 1416 kc, 1428 kc, 1440 kc, 1452 kc, 1464 kc, 1476 kc, 1488 kc, 1500 kc, 1512 kc, 1524 kc, 1536 kc, 1548 kc, 1560 kc, 1572 kc, 1584 kc, 1596 kc, 1608 kc, 1620 kc, 1632 kc, 1644 kc, 1656 kc, 1668 kc, 1680 kc, 1692 kc, 1704 kc, 1716 kc, 1728 kc, 1740 kc, 1752 kc, 1764 kc, 1776 kc, 1788 kc, 1800 kc, 1812 kc, 1824 kc, 1836 kc, 1848 kc, 1860 kc, 1872 kc, 1884 kc, 1896 kc, 1908 kc, 1920 kc, 1932 kc, 1944 kc, 1956 kc, 1968 kc, 1980 kc, 1992 kc, 2004 kc, 2016 kc, 2028 kc, 2040 kc, 2052 kc, 2064 kc, 2076 kc, 2088 kc, 2100 kc, 2112 kc, 2124 kc, 2136 kc, 2148 kc, 2160 kc, 2172 kc, 2184 kc, 2196 kc, 2208 kc, 2220 kc, 2232 kc, 2244 kc, 2256 kc, 2268 kc, 2280 kc, 2292 kc, 2304 kc, 2316 kc, 2328 kc, 2340 kc, 2352 kc, 2364 kc, 2376 kc, 2388 kc, 2400 kc, 2412 kc, 2424 kc, 2436 kc, 2448 kc, 2460 kc, 2472 kc, 2484 kc, 2496 kc, 2508 kc, 2520 kc, 2532 kc, 2544 kc, 2556 kc, 2568 kc, 2580 kc, 2592 kc, 2604 kc, 2616 kc, 2628 kc, 2640 kc, 2652 kc, 2664 kc, 2676 kc, 2688 kc, 2700 kc, 2712 kc, 2724 kc, 2736 kc, 2748 kc, 2760 kc, 2772 kc, 2784 kc, 2796 kc, 2808 kc, 2820 kc, 2832 kc, 2844 kc, 2856 kc, 2868 kc, 2880 kc, 2892 kc, 2904 kc, 2916 kc, 2928 kc, 2940 kc, 2952 kc, 2964 kc, 2976 kc, 2988 kc, 3000 kc, 3012 kc, 3024 kc, 3036 kc, 3048 kc, 3060 kc, 3072 kc, 3084 kc, 3096 kc, 3108 kc, 3120 kc, 3132 kc, 3144 kc, 3156 kc, 3168 kc, 3180 kc, 3192 kc, 3204 kc, 3216 kc, 3228 kc, 3240 kc, 3252 kc, 3264 kc, 3276 kc, 3288 kc, 3300 kc, 3312 kc, 3324 kc, 3336 kc, 3348 kc, 3360 kc, 3372 kc, 3384 kc, 3396 kc, 3408 kc, 3420 kc, 3432 kc, 3444 kc, 3456 kc, 3468 kc, 3480 kc, 3492 kc, 3504 kc, 3516 kc, 3528 kc, 3540 kc, 3552 kc, 3564 kc, 3576 kc, 3588 kc, 3600 kc, 3612 kc, 3624 kc, 3636 kc, 3648 kc, 3660 kc, 3672 kc, 3684 kc, 3696 kc, 3708 kc, 3720 kc, 3732 kc, 3744 kc, 3756 kc, 3768 kc, 3780 kc, 3792 kc, 3804 kc, 3816 kc, 3828 kc, 3840 kc, 3852 kc, 3864 kc, 3876 kc, 3888 kc, 3900 kc, 3912 kc, 3924 kc, 3936 kc, 3948 kc, 3960 kc, 3972 kc, 3984 kc, 3996 kc, 4008 kc, 4020 kc, 4032 kc, 4044 kc, 4056 kc, 4068 kc, 4080 kc, 4092 kc, 4104 kc, 4116 kc, 4128 kc, 4140 kc, 4152 kc, 4164 kc, 4176 kc, 4188 kc, 4200 kc, 4212 kc, 4224 kc, 4236 kc, 4248 kc, 4260 kc, 4272 kc, 4284 kc, 4296 kc, 4308 kc, 4320 kc, 4332 kc, 4344 kc, 4356 kc, 4368 kc, 4380 kc, 4392 kc, 4404 kc, 4416 kc, 4428 kc, 4440 kc, 4452 kc, 4464 kc, 4476 kc, 4488 kc, 4500 kc, 4512 kc, 4524 kc, 4536 kc, 4548 kc, 4560 kc, 4572 kc, 4584 kc, 4596 kc, 4608 kc, 4620 kc, 4632 kc, 4644 kc, 4656 kc, 4668 kc, 4680 kc, 4692 kc, 4704 kc, 4716 kc, 4728 kc, 4740 kc, 4752 kc, 4764 kc, 4776 kc, 4788 kc, 4800 kc, 4812 kc, 4824 kc, 4836 kc, 4848 kc, 4860 kc, 4872 kc, 4884 kc, 4896 kc, 4908 kc, 4920 kc, 4932 kc, 4944 kc, 4956 kc, 4968 kc, 4980 kc, 4992 kc, 5004 kc, 5016 kc, 5028 kc, 5040 kc, 5052 kc, 5064 kc, 5076 kc, 5088 kc, 5100 kc, 5112 kc, 5124 kc, 5136 kc, 5148 kc, 5160 kc, 5172 kc, 5184 kc, 5196 kc, 5208 kc, 5220 kc, 5232 kc, 5244 kc, 5256 kc, 5268 kc, 5280 kc, 5292 kc, 5304 kc, 5316 kc, 5328 kc, 5340 kc, 5352 kc, 5364 kc, 5376 kc, 5388 kc, 5400 kc, 5412 kc, 5424 kc, 5436 kc, 5448 kc, 5460 kc, 5472 kc, 5484 kc, 5496 kc, 5508 kc, 5520 kc, 5532 kc, 5544 kc, 5556 kc, 5568 kc, 5580 kc, 5592 kc, 5604 kc, 5616 kc, 5628 kc, 5640 kc, 5652 kc, 5664 kc, 5676 kc, 5688 kc, 5700 kc, 5712 kc, 5724 kc, 5736 kc, 5748 kc, 5760 kc, 5772 kc, 5784 kc, 5796 kc, 5808 kc, 5820 kc, 5832 kc, 5844 kc, 5856 kc, 5868 kc, 5880 kc, 5892 kc, 5904 kc, 5916 kc, 5928 kc, 5940 kc, 5952 kc, 5964 kc, 5976 kc, 5988 kc, 6000 kc, 6012 kc, 6024 kc, 6036 kc, 6048 kc, 6060 kc, 6072 kc, 6084 kc, 6096 kc, 6108 kc, 6120 kc, 6132 kc, 6144 kc, 6156 kc, 6168 kc, 6180 kc, 6192 kc, 6204 kc, 6216 kc, 6228 kc, 6240 kc, 6252 kc, 6264 kc, 6276 kc, 6288 kc, 6300 kc, 6312 kc, 6324 kc, 6336 kc, 6348 kc, 6360 kc, 6372 kc, 6384 kc, 6396 kc, 6408 kc, 6420 kc, 6432 kc, 6444 kc, 6456 kc, 6468 kc, 6480 kc, 6492 kc, 6504 kc, 6516 kc, 6528 kc, 6540 kc, 6552 kc, 6564 kc, 6576 kc, 6588 kc, 6600 kc, 6612 kc, 6624 kc, 6636 kc, 6648 kc, 6660 kc, 6672 kc, 6684 kc, 6696 kc, 6708 kc, 6720 kc, 6732 kc, 6744 kc, 6756 kc, 6768 kc, 6780 kc, 6792 kc, 6804 kc, 6816 kc, 6828 kc, 6840 kc, 6852 kc, 6864 kc, 6876 kc, 6888 kc, 6900 kc, 6912 kc, 6924 kc, 6936 kc, 6948 kc, 6960 kc, 6972 kc, 6984 kc, 6996 kc, 7008 kc, 7020 kc, 7032 kc, 7044 kc, 7056 kc, 7068 kc, 7080 kc, 7092 kc, 7104 kc, 7116 kc, 7128 kc, 7140 kc, 7152 kc, 7164 kc, 7176 kc, 7188 kc, 7200 kc, 7212 kc, 7224 kc, 7236 kc, 7248 kc, 7260 kc, 7272 kc, 7284 kc, 7296 kc, 7308 kc, 7320 kc, 7332 kc, 7344 kc, 7356 kc, 7368 kc, 7380 kc, 7392 kc, 7404 kc, 7416 kc, 7428 kc, 7440 kc, 7452 kc, 7464 kc, 7476 kc, 7488 kc, 7500 kc, 7512 kc, 7524 kc, 7536 kc, 7548 kc, 7560 kc, 7572 kc, 7584 kc, 7596 kc, 7608 kc, 7620 kc, 7632 kc, 7644 kc, 7656 kc, 7668 kc, 7680 kc, 7692 kc, 7704 kc, 7716 kc, 7728 kc, 7740 kc, 7752 kc, 7764 kc, 7776 kc, 7788 kc, 7800 kc, 7812 kc, 7824 kc, 7836 kc, 7848 kc, 7860 kc, 7872 kc, 7884 kc, 7896 kc, 7908 kc, 7920 kc, 7932 kc, 7944 kc, 7956 kc, 7968 kc, 7980 kc, 7992 kc, 8004 kc, 8016 kc, 8028 kc, 8040 kc, 8052 kc, 8064 kc, 8076 kc, 8088 kc, 8100 kc, 8112 kc, 8124 kc, 8136 kc, 8148 kc, 8160 kc, 8172 kc, 8184 kc, 8196 kc, 8208 kc, 8220 kc, 8232 kc, 8244 kc, 8256 kc, 8268 kc, 8280 kc, 8292 kc, 8304 kc, 8316 kc, 8328 kc, 8340 kc, 8352 kc, 8364 kc, 8376 kc, 8388 kc, 8400 kc, 8412 kc, 8424 kc, 8436 kc, 8448 kc, 8460 kc, 8472 kc, 8484 kc, 8496 kc, 8508 kc, 8520 kc, 8532 kc, 8544 kc, 8556 kc, 8568 kc, 8580 kc, 8592 kc, 8604 kc, 8616 kc, 8628 kc, 8640 kc, 8652 kc, 8664 kc, 8676 kc, 8688 kc, 8700 kc, 8712 kc, 8724 kc, 8736 kc, 8748 kc, 8760 kc, 8772 kc, 8784 kc, 8796 kc, 8808 kc, 8820 kc, 8832 kc, 8844 kc, 8856 kc, 8868 kc, 8880 kc, 8892 kc, 8904 kc, 8916 kc, 8928 kc, 8940 kc, 8952 kc, 8964 kc, 8976 kc, 8988 kc, 9000 kc, 9012 kc, 9024 kc, 9036 kc, 9048 kc, 9060 kc, 9072 kc, 9084 kc, 9096 kc, 9108 kc, 9120 kc, 9132 kc, 9144 kc, 9156 kc, 9168 kc, 9180 kc, 9192 kc, 9204 kc, 9216 kc, 9228 kc, 9240 kc, 9252 kc, 9264 kc, 9276 kc, 9288 kc, 9300 kc, 9312 kc, 9324 kc, 9336 kc, 9348 kc, 9360 kc, 9372 kc, 9384 kc, 9396 kc, 9408 kc, 9420 kc, 9432 kc, 9444 kc, 9456 kc, 9468 kc, 9480 kc, 9492 kc, 9504 kc, 9516 kc, 9528 kc, 9540 kc, 9552 kc, 9564 kc, 9576 kc, 9588 kc, 9600 kc, 9612 kc, 9624 kc, 9636 kc, 9648 kc, 9660 kc, 9672 kc, 9684 kc, 9696 kc, 9708 kc, 9720 kc, 9732 kc, 9744 kc, 9756 kc, 9768 kc, 9780 kc, 9792 kc, 9804 kc, 9816 kc, 9828 kc, 9840 kc, 9852 kc, 9864 kc, 9876 kc, 9888 kc, 9900 kc, 9912 kc, 9924 kc, 9936 kc, 9948 kc, 9960 kc, 9972 kc, 9984 kc, 9996 kc, 10000 kc, 10012 kc, 10024 kc, 10036 kc, 10048 kc, 10060 kc, 10072 kc, 10084 kc, 10096 kc, 10108 kc, 10120 kc, 10132 kc, 10144 kc, 10156 kc, 10168 kc, 10180 kc, 10192 kc, 10204 kc, 10216 kc, 10228 kc, 10240 kc, 10252 kc, 10264 kc, 10276 kc, 10288 kc, 10300 kc, 10312 kc, 10324 kc, 10336 kc, 10348 kc, 10360 kc, 10372 kc, 10384 kc, 10396 kc, 10408 kc, 10420 kc, 10432 kc, 10444 kc, 10456 kc, 10468 kc, 10480 kc, 10492 kc, 10504 kc, 10516 kc, 10528 kc, 10540 kc, 10552 kc, 10564 kc, 10576 kc, 10588 kc, 10600 kc, 10612 kc, 10624 kc, 10636 kc, 10648 kc, 10660 kc, 10672 kc, 10684 kc, 10696 kc, 10708 kc, 10720 kc, 10732 kc, 10744 kc, 10756 kc, 10768 kc, 10780 kc, 10792 kc, 10804 kc, 10816 kc, 10828 kc, 10840 kc, 10852 kc, 10864 kc, 10876 kc, 10888 kc, 10900 kc, 10912 kc, 10924 kc, 10936 kc, 10948 kc, 10960 kc, 10972 kc, 10984 kc, 10996 kc, 11008 kc, 11020 kc, 11032 kc, 11044 kc, 11056 kc, 11068 kc, 11080 kc, 11092 kc, 11104 kc, 11116 kc, 11128 kc, 11140 kc, 11152 kc, 11164 kc, 11176 kc, 11188 kc, 11200 kc, 11212 kc, 11224 kc, 11236 kc, 11248 kc, 11260 kc, 11272 kc, 11284 kc, 11296 kc, 11308 kc, 11320 kc, 11332 kc, 11344 kc, 11356 kc, 11368 kc, 11380 kc, 11392 kc, 11404 kc, 11416 kc, 11428 kc, 11440 kc, 11452 kc, 11464 kc, 11476 kc, 11488 kc, 11500 kc, 11512 kc, 11524 kc, 11536 kc, 11548 kc, 11560 kc, 11572 kc, 11584 kc, 11596 kc, 11608 kc, 11620 kc, 11632 kc, 11644 kc, 11656 kc, 11668 kc, 11680 kc, 11692 kc, 11704 kc, 11716 kc, 11728 kc, 11740 kc, 11752 kc, 11764 kc, 11776 kc, 11788 kc, 11800 kc, 11812 kc, 11824 kc, 11836 kc, 11848 kc, 11860 kc, 11872 kc, 11884 kc, 11896 kc, 11908 kc, 11920 kc, 11932 kc, 11944 kc, 11956 kc, 11968 kc, 11980 kc, 11992 kc, 12004 kc, 12016 kc, 12028 kc, 12040 kc, 12052 kc, 12064 kc, 12076 kc, 12088 kc, 12100 kc, 12112 kc, 12124 kc, 12136 kc, 12148 kc, 12160 kc, 12172 kc, 12184 kc, 12196 kc, 12208 kc, 12220 kc, 12232 kc, 12244 kc, 12256 kc, 12268 kc, 12280 kc, 12292 kc, 12304 kc, 12316 kc, 12328 kc, 12340 kc, 12352 kc, 12364 kc, 12376 kc, 12388 kc, 12400 kc, 12412 kc, 12424 kc, 12436 kc, 12448 kc, 12460 kc, 12472 kc, 12484 kc, 12496 kc, 12508 kc, 12520 kc, 12532 kc, 12544 kc, 12556 kc, 12568 kc, 12580 kc, 12592 kc, 12604 kc, 12616 kc, 12628 kc, 12640 kc, 12652 kc, 12664 kc, 12676 kc, 12688 kc, 12700 kc, 12712 kc, 12724 kc, 12736 kc, 12748 kc, 12760 kc, 12772 kc, 12784 kc, 12796 kc, 12808 kc, 12820 kc, 12832 kc, 12844 kc, 12856 kc, 12868 kc, 12880 kc, 12892 kc, 12904 kc, 12916 kc, 12928 kc, 12940 kc, 12952 kc, 12964 kc, 12976 kc, 12988 kc, 13000 kc, 13012 kc, 13024 kc, 13036 kc, 13048 kc, 13060 kc, 13072 kc, 13084 kc, 13096 kc, 13108 kc, 13120 kc, 13132 kc, 13144 kc, 13156 kc, 13168 kc, 13180 kc, 13192 kc, 13204 kc, 13216 kc, 13228 kc, 13240 kc, 13252 kc, 13264 kc, 13276 kc, 13288 kc, 13300 kc, 13312 kc, 13324 kc, 13336 kc, 13348 kc, 13360 kc, 13372 kc, 13384 kc, 13396 kc, 13408 kc, 13420 kc, 13432 kc, 13444 kc, 13456 kc, 13468 kc, 13480 kc, 13492 kc, 13504 kc, 13516 kc, 13528 kc, 13540 kc, 13552 kc, 13564 kc, 13576 kc, 13588 kc, 13600 kc, 13612 kc, 13624 kc, 13636 kc, 13648 kc, 13660 kc, 13672 kc, 13684 kc, 13696 kc, 13708 kc, 13720 kc, 13732 kc, 13744 kc, 13756 kc, 13768 kc, 13780 kc, 13792 kc, 13804 kc, 13816 kc, 13828 kc, 13840 kc, 13852 kc, 13864 kc, 13876 kc, 13888 kc, 13900 kc, 13912 kc, 13924 kc, 13936 kc, 13948 kc, 13960 kc, 13972 kc, 13984 kc, 13996 kc, 14008 kc, 14020 kc, 14032 kc, 14044 kc, 14056 kc, 14068 kc, 14080 kc, 14092 kc, 14104 kc, 14116 kc, 14128 kc, 14140 kc, 14152 kc, 14164 kc, 14176 kc, 14188 kc, 14200 kc, 14212 kc, 14224 kc, 14236 kc, 14248 kc, 14260 kc, 14272 kc, 14284 kc, 14296 kc, 14308 kc, 14320 kc, 14332 kc, 14344 kc, 14356 kc, 14368 kc, 14380 kc, 14392 kc, 14404 kc, 14416 kc, 14428 kc, 14440 kc, 14452 kc, 14464 kc, 14476 kc, 14488 kc, 14500 kc, 14512 kc, 14524 kc, 14536 kc, 14548 kc, 14560 kc, 14572 kc, 14584 kc, 14596 kc, 14608 kc, 14620 kc, 14632 kc, 14644 kc, 14656 kc, 14668 kc, 14680 kc, 14692 kc, 14704 kc, 14716 kc, 14728 kc, 14740 kc, 14752 kc, 14764 kc, 14776 kc, 14788 kc, 14800 kc, 14812 kc, 14824 kc, 14836 kc, 14848 kc, 14860 kc, 14872 kc, 14884 kc, 14896 kc, 14908 kc, 14920 kc, 14932 kc, 14944 kc, 14956 kc, 14968 kc, 14980 kc, 14992 kc, 15004 kc, 15016 kc, 15028 kc, 15040 kc, 15052 kc, 15064 kc, 15076 kc, 15088 kc, 15100 kc, 15112 kc, 15124 kc, 15136 kc, 15148 kc, 15160 kc, 15172 kc, 15184 kc, 15196 kc, 15208 kc, 15220 kc, 15232 kc, 15244 kc, 15256 kc, 15268 kc, 15280 kc, 15292 kc, 15304 kc, 15316 kc, 15328 kc, 15340 kc, 15352 kc, 15364 kc, 15376 kc, 15388 kc, 15400 kc, 15412 kc, 15424 kc, 15436 kc, 15448 kc, 15460 kc, 15472 kc, 15484 kc, 15496 kc, 15508 kc, 15520 kc, 15532 kc, 15544 kc, 15556 kc, 15568 kc, 15580 kc, 15592 kc, 15604 kc, 15616 kc, 15628 kc, 15640 kc, 15652 kc, 15664 kc, 15676 kc, 15688 kc, 15700 kc, 15712 kc, 15724 kc, 15736 kc, 15748 kc, 15760 kc, 15772 kc, 15784 kc, 15796 kc, 15808 kc, 15820 kc, 15832 kc, 15844 kc, 15856 kc, 15868 kc, 15880 kc, 15892 kc, 15904 kc, 15916 kc, 15928 kc, 15940 kc, 15952 kc, 15964 kc, 15976 kc, 15988 kc, 16000 kc, 16012 kc, 16024 kc, 16036 kc, 16048 kc, 16060 kc, 16072 kc, 16084 kc, 16096 kc, 16108 kc, 16120 kc, 16132 kc, 16144 kc, 16156 kc, 16168 kc, 16180 kc, 16192 kc, 16204 kc, 16216 kc, 16228 kc, 16240 kc, 16252 kc, 16264 kc, 16276 kc, 16288 kc, 16300 kc, 16312 kc, 16324 kc, 16336 kc, 16348 kc, 16360 kc, 16372 kc, 16384 kc, 16396 kc, 16408 kc, 16420 kc, 16432 kc, 16444 kc, 16456 kc, 16468 kc, 16480 kc, 16492 kc, 16504 kc, 16516 kc, 16528 kc, 16540 kc, 16552 kc, 16564 kc, 16576 kc, 16588 kc, 16600 kc, 16612 kc, 16624 kc, 16636 kc, 16648 kc, 16660 kc, 16672 kc, 16684 kc, 16696 kc, 16708 kc, 16720 kc, 16732 kc, 16744 kc, 16756 kc, 16768 kc, 16780 kc, 16792 kc, 16804 kc, 16816 kc, 16828 kc, 16840 kc, 16852 kc, 16864 kc, 16876 kc, 16888 kc, 16900 kc, 16912 kc, 16924 kc, 16936 kc, 16948 kc, 16960 kc, 16972 kc, 16984 kc, 16996 kc, 17008 kc, 17020 kc, 17032 kc, 17044 kc, 17056 kc, 17068 kc, 17080 kc, 17092 kc, 17104 kc, 17116 kc, 17128 kc, 17140 kc, 17152 kc, 17164 kc, 17176 kc, 17188 kc, 17200 kc, 17212 kc, 17224 kc, 17236 kc, 17248 kc, 17260 kc, 17272 kc, 17284 kc, 17296 kc, 17308 kc, 17320 kc, 17332 kc, 17344 kc, 17356 kc, 17368 kc, 17380 kc, 17392 kc, 17404 kc, 17416 kc, 17428 kc, 17440 kc, 17452 kc, 17464 kc, 17476 kc, 17488 kc, 17500 kc, 17512 kc, 17524 kc, 17536 kc, 17548 kc, 17560 kc, 17572 kc, 17584 kc, 17596 kc, 17608 kc, 17620 kc, 17632 kc, 17644 kc, 17656 kc, 17668 kc, 17680 kc, 17692 kc, 17704 kc, 17716 kc, 17728 kc, 17740 kc, 17752 kc, 17764 kc, 17776 kc, 17788 kc, 17800 kc, 17812 kc, 17824 kc, 17836 kc, 17848 kc, 17860 kc, 17872 kc, 17884 kc, 17896 kc, 17908 kc, 17920 kc, 17932 kc, 17944 kc, 17956 kc, 17968 kc, 17980 kc, 17992 kc, 18004 kc, 18016 kc, 18028 kc, 18040 kc, 18052 kc, 18064 kc, 18076 kc, 18088 kc, 18100 kc, 18112 kc, 18124 kc, 18136 kc, 18148 kc, 18160 kc, 18172 kc, 18184 kc, 18196 kc, 18208 kc, 18220 kc, 18232 kc, 18244 kc, 18256 kc, 18268 kc, 18280 kc, 18292 kc, 18304 kc, 18316 kc, 18328 kc, 18340 kc, 18352 kc, 18364 kc, 18376 kc, 18388 kc, 18400 kc, 18412 kc, 18424 kc, 18436 kc, 18448 kc, 18460 kc, 18472 kc, 18484 kc, 18496 kc, 18508 kc, 18520 kc, 18532 kc, 18544 kc, 18556 kc, 18568 kc, 18580 kc, 18592 kc, 18604 kc, 18616 kc, 18628 kc, 18640 kc, 18652 kc, 18664 kc, 18676 kc,

Notes giving brief comparison with
12-Channel System (with Crystal
Filter Equipment).

+.....++

1. FREQUENCY ALLOCATION.

The 16 channels in the Ericsson system are obtained, with 3 kc spacing, within the same frequency range (12 to 60 kc) as that which accommodates the 12-channel system with 4-kc spacing.

The effective voice frequency bands transmitted are 220 - 2850 cycles in the Ericsson 16-channel system and 200 - 3400 cycles in the 12-channel system.

2. MODULATING SYSTEM.

Both systems use two stages of modulation.

In the Ericsson system, a first modulation with 6 kc provides two bands the lower being selected for one channel and the upper for a second channel.

Each of these selected bands is then modulated with one of four higher frequencies, 21 kc, 27 kc, 45 kc and 51 kc, and by selecting again an upper or a lower band a total of 16 channels is obtained, the line frequencies being within the range 12 - 60 kc.

In the 12-channel crystal filter system, the first stage of modulation raises the voice frequency bands into the range between 60 to 108 kc, the individual channel carrier frequencies used for this stage being 64 kc, 68 kc... etc., up to 108 kc respectively. The lower sidebands only are selected.

This is followed by a stage of group modulation by a carrier of 120 kc which shifts the whole group into the range of 12 to 60 kc. The lower side band is again used so that the frequency bands actually transmitted correspond to the upper sidebands of virtual carrier frequencies spaced at 4 kc intervals from 12 to 56 kc.

The demodulation process is similar but following the group demodulator filter a 2 stage feedback amplifier with gain of about 40 db is used to raise the level of the channel sidebands before they are passed to the channel demodulator band filters.

3. CARRIER FREQUENCY SUPPLY.

All the carrier frequencies in the Ericsson system are multiples of 3000 cycles and are produced in separate oscillators each so controlled that exact multiples of the basic frequency of 3000 cycles produced in a master oscillator.

The 6 kc supply for controlling the intermediate frequency oscillator is obtained by frequency doubling in a copper oxide rectifier bridge.

A further doubling gives 12 kc which is fed to a valve with two parallel anode circuits, one tuned to 24 kc and the other to 48 kc. These two frequencies modulated with 3 kc give the frequencies 21, 27, 45 and 51 kc which are then used for synchronising the individual oscillators with corresponding frequencies.

The carrier frequencies in the 12-channel system are derived from a 4 kc master oscillator the output of which is fed to a harmonic generator. The required harmonics are separated out by crystal filters and distributed to the channel and group modulation equipment.

4. FILTERS.

In the Ericsson system double modulation is used to obtain the sharp filtering of the desired side bands at a relatively low frequency. Standard types of iron dust coils and mica condensers are used in the filters.

In the 12-channel system quartz crystal channel filters are employed, and the first stage of modulation is used to transfer the voice frequency bands into a frequency range suitable to the use of crystal band filters.

5. MODULATORS AND DEMODULATORS.

These are of the metal rectifier type in both systems.

The 6 kc supply for controlling the intermediate frequency oscillator is obtained by frequency doubling in a copper oxide rectifier bridge.

A further doubling gives 12 kc which is fed to a valve with two parallel anode circuits, one tuned to 24 kc and the other to 48 kc. These two frequencies modulated with 3 kc give the frequencies 21, 27, 45 and 51 kc which are then used for synchronising the individual oscillators with corresponding frequencies.

The carrier frequencies in the 12-channel system are derived from a 4 kc master oscillator the output of which is fed to a harmonic generator. The required harmonics are separated out by crystal filters and distributed to the channel and group modulation equipment.

4. FILTERS.

In the Ericsson system double modulation is used to obtain the sharp filtering of the desired side bands at a relatively low frequency. Standard types of iron dust coils and mica condensers are used in the filters.

In the 12-channel system quartz crystal channel filters are employed, and the first stage of modulation is used to transfer the voice frequency bands into a frequency range suitable to the use of crystal band filters.

5. MODULATORS AND DEMODULATORS.

These are of the metal rectifier type in both systems.

6. HIGH FREQUENCY AMPLIFIERS.

These are of the negative feed-back type in both systems.

- 3 -

The Ericsson amplifier uses 3 Marconi Osram pentodes, all similar. The maximum gain is 7 nepers.

The 12 channel system amplifier uses two 4046-A pentodes and one 4045-A tetrode. The maximum gain is 65 db.

7. EQUALISATION.

In both systems equalisation is effected by means of networks external to the amplifiers.

8. CHANNEL AMPLIFIERS.

In the Ericsson system the differential transformer of the four wire termination is included in the channel circuit. The amplifier uses one Marconi 1S7 Valve. The gain is adjustable by dial control in 10 steps of 0.1 neper. An attenuator, also adjustable in 10 steps of 0.1 neper is inserted in the transmitting side of the differential transformer and included in the channel circuit.

In the 12-channel system the four wire terminating equipment which varies with station requirements does not form an integral part of the channel equipment.

The single stage channel amplifier is of the feed-back type and is adjustable in 20 steps of 0.5 db.

9. EQUIPMENT

The information in the description of the Ericsson system is not sufficient to enable a comparison to be made of the equipment layout of the rack and floor space requirements.

10. POWER SUPPLIES.

Ericsson system supplies are 24 v. and 130 v.

The 12-channel system supplies are 21v. and 130 v.

The total current consumption for a 16-channel system excluding

8. CHANNEL AMPLIFIERS.

In the Ericsson system the differential transformer of the four wire termination is included in the channel circuit. The amplifier uses one Marconi LS7 Valve. The gain is adjustable by dial control in 10 steps of 0.1 neper. An attenuator, also adjustable in 10 steps of 0.1 neper is inserted in the transmitting side of the differential transformer and included in the channel circuit.

In the 12-channel system the four wire terminating equipment which varies with station requirements does not form an integral part of the channel equipment.

The single stage channel amplifier is of the feed-back type and is adjustable in 20 steps of 0.5 db.

9. EQUIPMENT

The information in the description of the Ericsson system is not sufficient to enable a comparison to be made of the equipment layout of the rack and floor space requirements.

10. POWER SUPPLIES.

Ericsson system supplies are 24 v. and 130 v.

The 12-channel system supplies are 21v. and 130 v.

The total current consumption for a 16-channel system excluding oscillators but including channel amplifiers and V.F. ringers is :-

Filament battery	3.4 amperes.
Plate battery	0.24 amperes.

4304

For the 12-channel system, the consumption for one terminal including channel equipment and line amplifiers, but excluding carrier supply equipment and ringer equipment is:-

Filament battery	6.2 amperes.
Plate battery	0.23 amperes.

HEADQUARTERS ALLIED COMMISSION
TELECOMMUNICATIONS SUB-DIVISION
VENEZIA ZONE

Venice, 19 Feb/46

REF : ALCOM/4
SUBJECT : Voice frequency telegraph
TO : H.Q. ALCOM ROME

With reference to your T.19.121.CS. of 2nd Feb.
It is regretted that your letter T.19.108.CS. of 26th Nov. was misread by both myself and Dani. We both understood that the cots were to be routed Bologna-Venezia-Trieste, hence my letter of 6th Dec. 1945, stating that only four cots would be available, when the work was completed. All correspondence between this office, Rome and Azienda di Stato has been carried on upon this basis.

I received your letter T.19.121.CS. on 14th Feb, with its accompanying sketches, and of course the situation is now clarified.

At the moment the situation is as follows- all the equipment for the Venezia-Trieste cot is to hand, and subject to the situation at Trieste being as reported by telephone from Trieste, the work can be completed in 7 to 10 days.

With regard to the new 6 channel installation Venice-Vienna, Rome have given Dani orders to make this a 12 channel cot NOT 6. The equipment for the work is available at the Bolzano C.A.M. dumps and I am contacting Major Holland today to arrange immediate release for the necessary material.

The demand for materials for the Trieste cots being sent to Rome was caused through a misinterpretation English-to Italian in the Azienda di Stato here during Dani's absence. Actually these were the materials lacking, but they have been already located by Dani and ~~are~~ ^{are} now in process of being assembled. Dani has cleared the situation with his colleagues in Rome.

A certain amount of delay is also being caused through lack of finance at Vimercate. A letter, this office ref No. 95/Gen of 29 Jan. refers in part.

G.W. WEST, 203
Capt. R. Sigs.
Telecoms Officer
N.E. Italy

124

Mod. 9 (A. 3. 7)

16 FEB 1946

MINISTERO DELLE POSTE E DELLE TELECOMUNICAZIONI
AZIENDA DI STATO PER I SERVIZI TELEFONICI

Reparto

UFFICIO

PROT. N. 230155/100

RIMPIANTI AL N. 19, 112.

DEL 1 / 2 / 1946.

Oggetto: Telegrafia frequenza vocale.

ALLA COMMISSIONE ALLIATA
SOTTOCOMMISSIONE TELECOMUNICAZIONI

R O M A

In merito alla nota soprastante si comunica che la scrivente sta provvedendo all'estensione del sistema telegrafico in armata di Trieste da 8 a 12 canali, nonché al completamento degli analoghi canali della Stazione amplificatrice di Mestre.

IL DIRETTORE DELL'AZIENDA.

[Signature]

ALMA CONNECTIONS ALLEATHA

16012761RABPO075L 2ND132CLMP060T300

地產學刊

In merito alla nota sopradistinta si comunica che la scelta sta provvedendo all'estensione del sistema telegrafico in armatoria di Trieste da 8 a 12 canali, nonché al completamento degli analoghi canali nelle Stazioni Amplificatrici di Mestre.

II. DIRECTOR: DEAN J. TAYLOR.

V. B. White

Case No.	File	Date
100-100000	100-100000	100-100000

4302

APR 19 1961

123

RESTRICTED

SUBJECT:- THEFTS/ROBBERIES (TRAFFICING)
TRAFFIC DIAMONDS, ITALY.

Allied Force Third Quarter
Long Lane Madison Office,
B O N S.

Vol. No. 90-3 566016

311.02/2B-1

9th FEB 1960

TO : 800 135 671 ext 600

1. Monthly Teletypewriter (Teletprinter) Traffic Diagrams, Issues No. 19, ITALY, showing the various switchboard and station to station communications, is forwarded herewith on the scale shown below.
2. Until the next issue of the traffic diagram is made, all Signal Officers concerned should scrupulously make such amendments, additions or deletions to be indicated in the telegraph directory submitted to this office.

2. Until the next issue of the traffic diagram is made, all Signal Officers concerned should screens for such amendments, additions or deletions to be indicated in the telegraph directory submitted to this office.

2007/2008

THE SINGAPORE FREE PRESS

CSO AFHQ
Signal Officer, USMC
Signal Officer, USPA
CSO EIA
CSO PFA
CSO ACAPBTT
CSO 13 Corps

DATE	
TIME	
FILE NO.	

21. Yes, hope
 9. 2012-2013
 Christ's Equal Oppor.

6	(2 for War and other expenses)
7	Other items
8	M. G. Lays Co.
9	Asst Chief Pres.
10	Vendorship
11	Chief Clerk

4. Monthly teleprinter (Teletypewriter) Traffic Diagram, Issue No. 19, ITALY, showing the various sendto board and station to station connections, is forwarded herewith on the scale shown below.

2. Until the next issue of the traffic diagram is made, all Signal Officers concerned should arrange for such amendments, additions or deletions to be indicated in the telegraph directory submitted to this office.

2004/05

Super Highway/CAI:

CSO AMHQ
Signal Officer, USMC
Signal Officer, USMC
CSO MIA
CSO PVA
CSO ALGERIA
CSO 15 Corps
CSO Palcoops
CSO 2 Materiel
CSO 3 Materiel
Signal Officer, USMC
Signal Officer, PMS (SOURCE)
CSO Air Res Edge, SWQ, MAP.
CSO HQ, MAP.
Signal Officer, 88 Div.
Signal Officer, RAO
Signal Officer, WACED
Wire Officer, 3rd Air Serv
CC 2 Cdr, Signals
CC 1 L of C Signals
CC 14 L of C Signals
CC 14 L of C Signals
CC 15 L of C Signals
CC 16 L of C Signals
CC 8 Air Res Signals
CC 4 Corp., 14 L of C Signals
CC 4 Corp., 16 L of C Signals

6/11	10/11
10/11	10/11

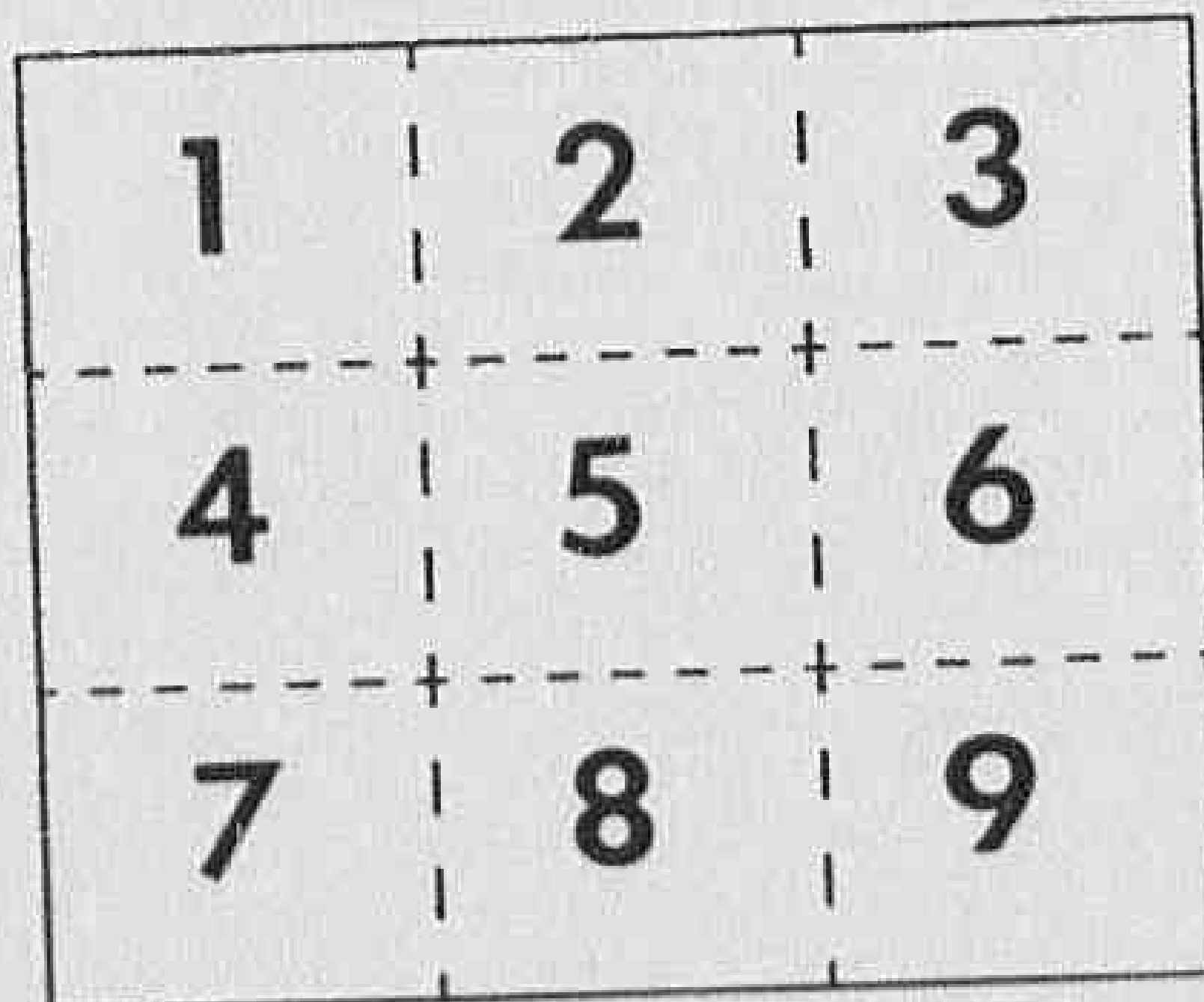
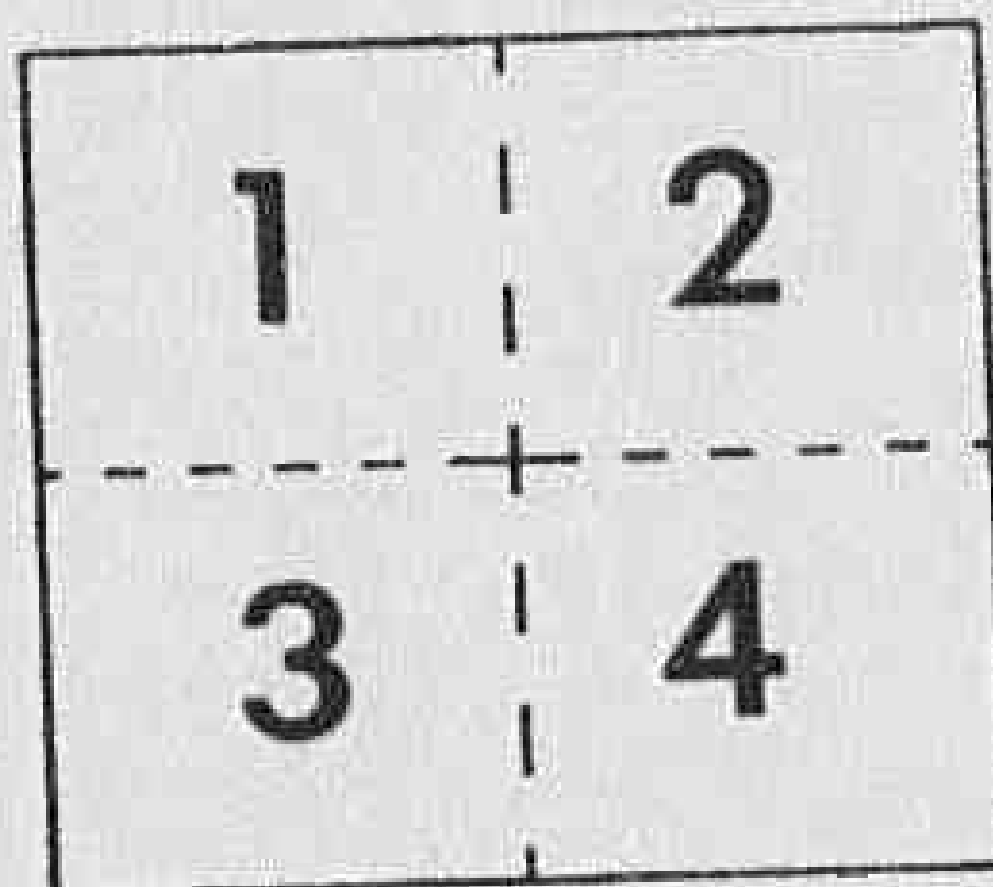
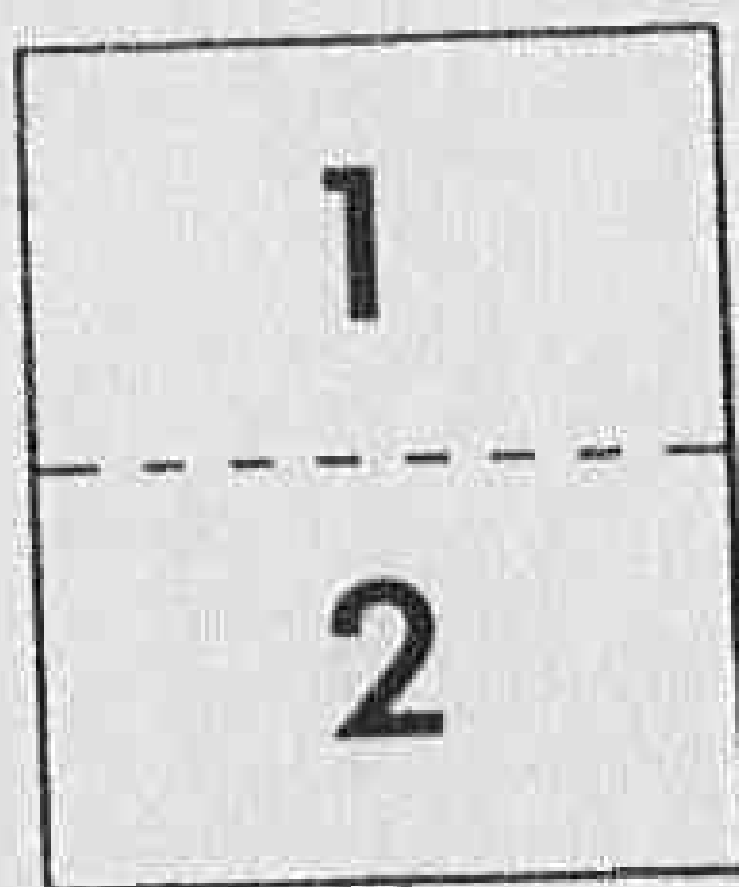
Director *W.H.*
 U. S. Dept. *of the*
 of the Interior
 Chief Clerk
 H. C. Lester
 Asst. Chief Clerk
 Secretary
 Chief Clerk

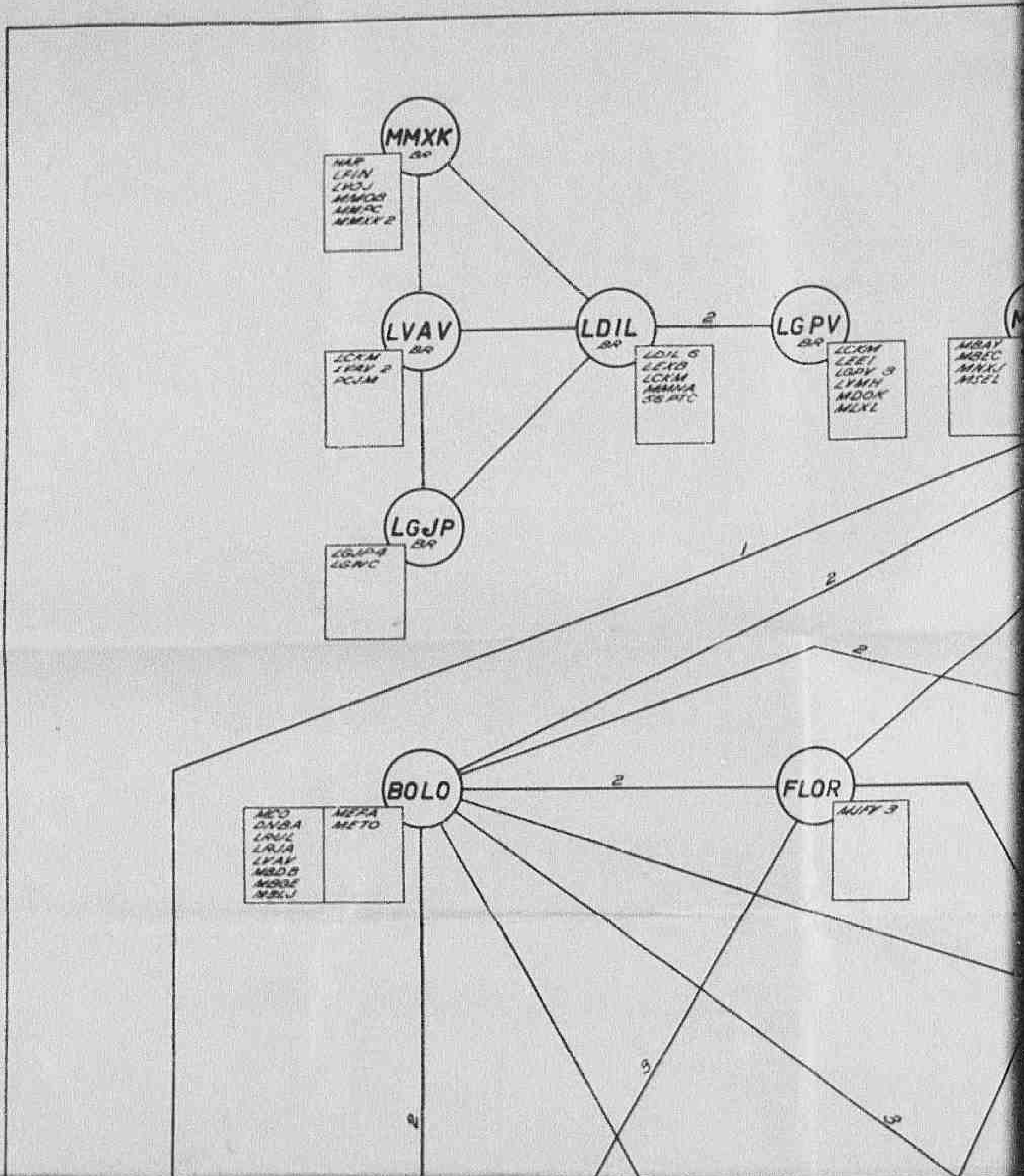
Director, Census Sub-Commission, AG	
0.1/c KAPLAN PULLS CONTROL	"
0.1/c BOMB	"
0.1/c BULLDOGS	"
0.1/c PLEASURE	"
0.1/c ANCHOR	"
0.1/c PORTALS	"
0.1/c BABY	"
0.1/c CASSETTE MAIN COMPASSION CONTROL	"
0.1/c MILAN	"
0.1/c UHNS	"
0.1/c PANDA	"

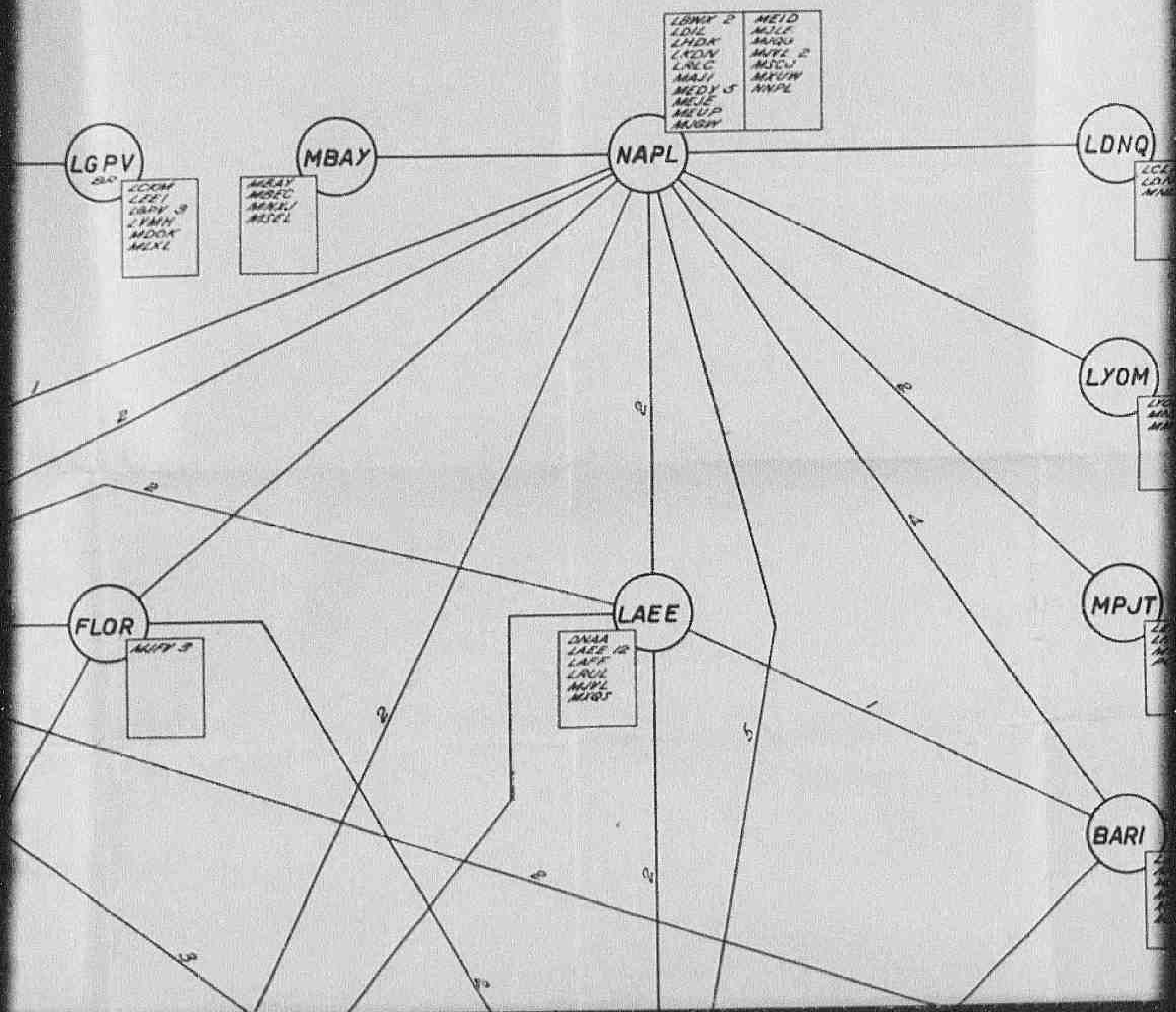
22

MAPS AND CHARTS TOO LARGE TO FILM
ON ONE EXPOSURE ARE FILMED CLOCKWISE
BEGINNING IN THE UPPER LEFT CORNER,
LEFT TO RIGHT, AND TOP TO BOTTOM.

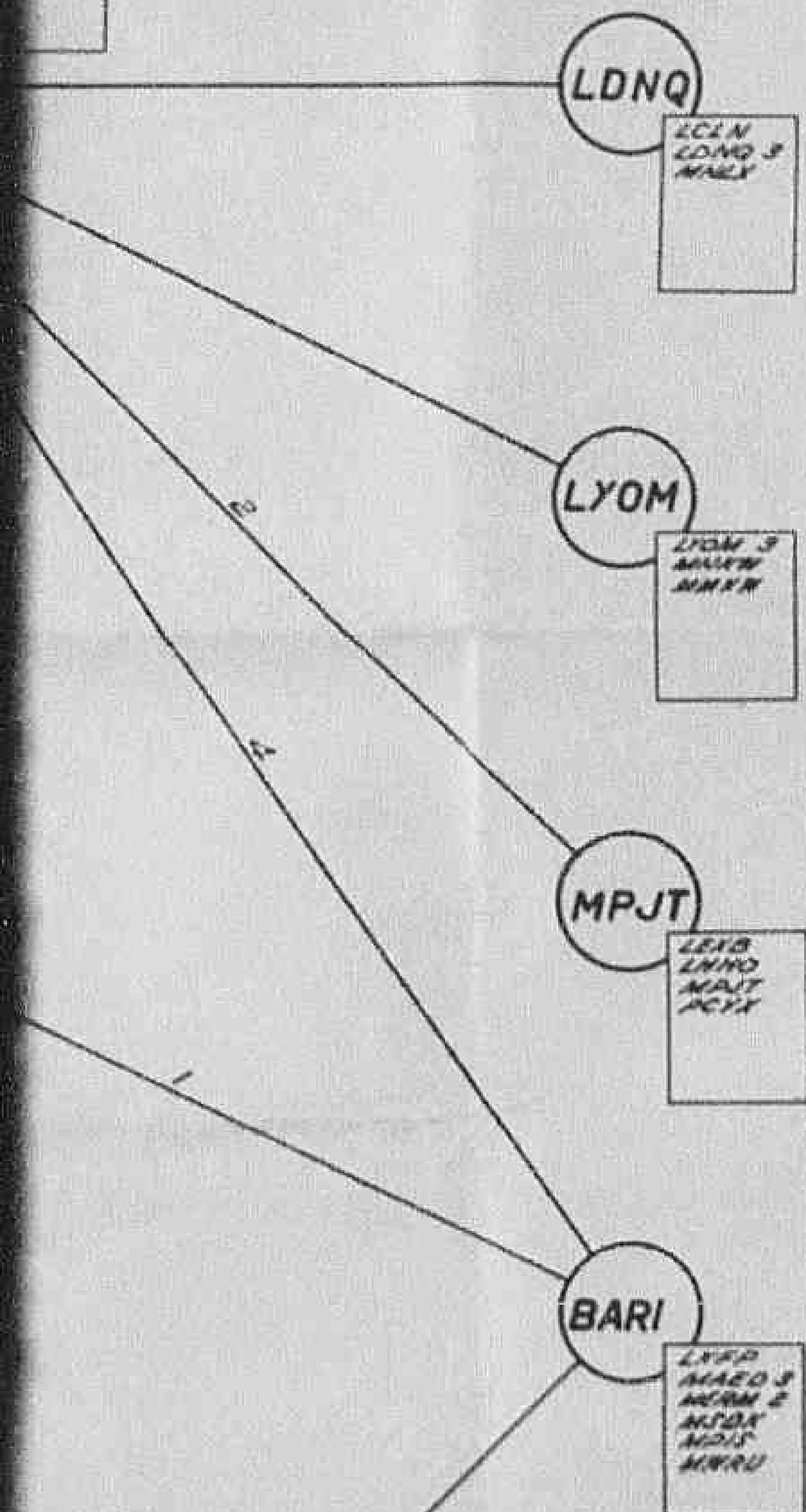
SEE DIAGRAMS BELOW.





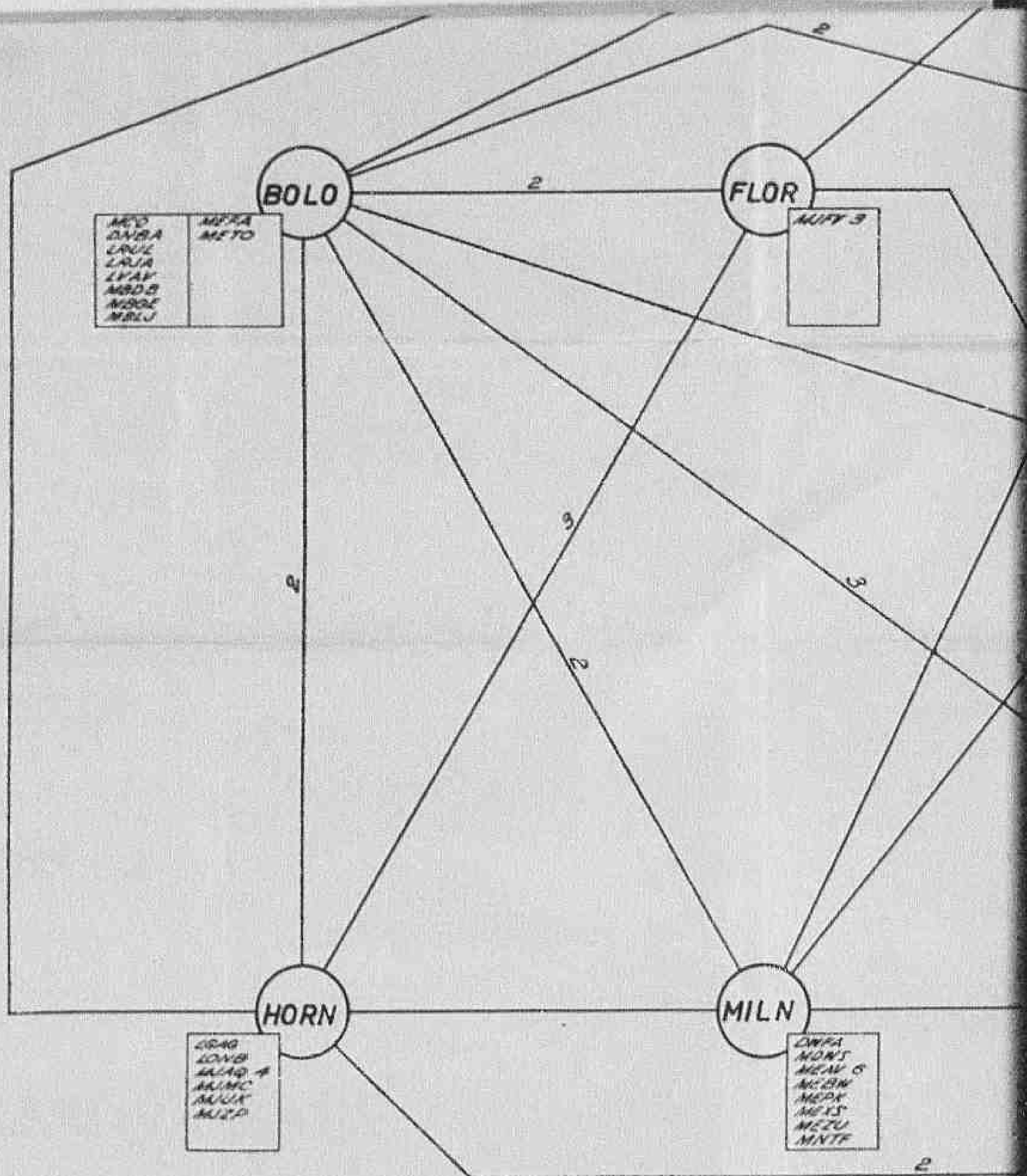


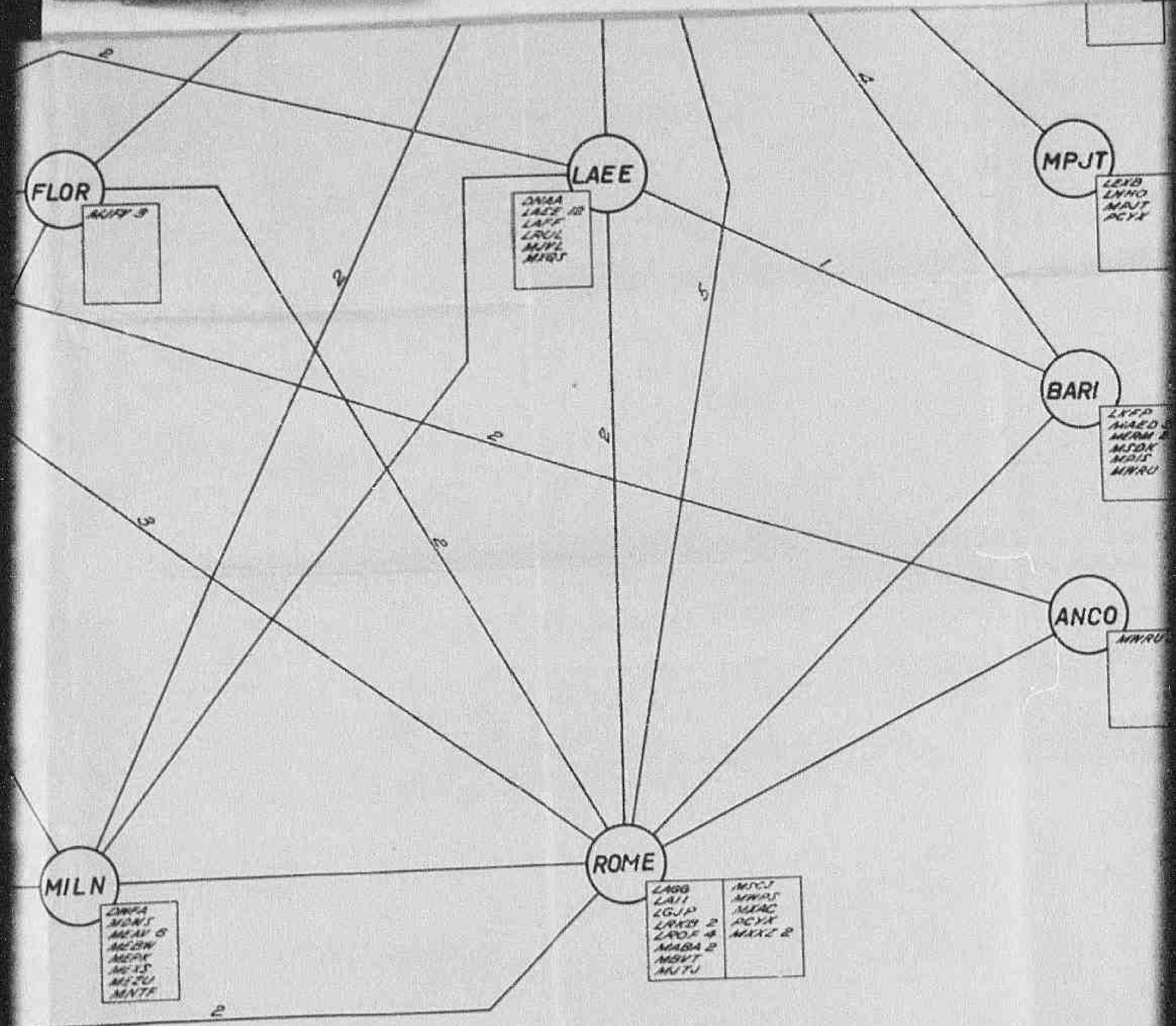
7D
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

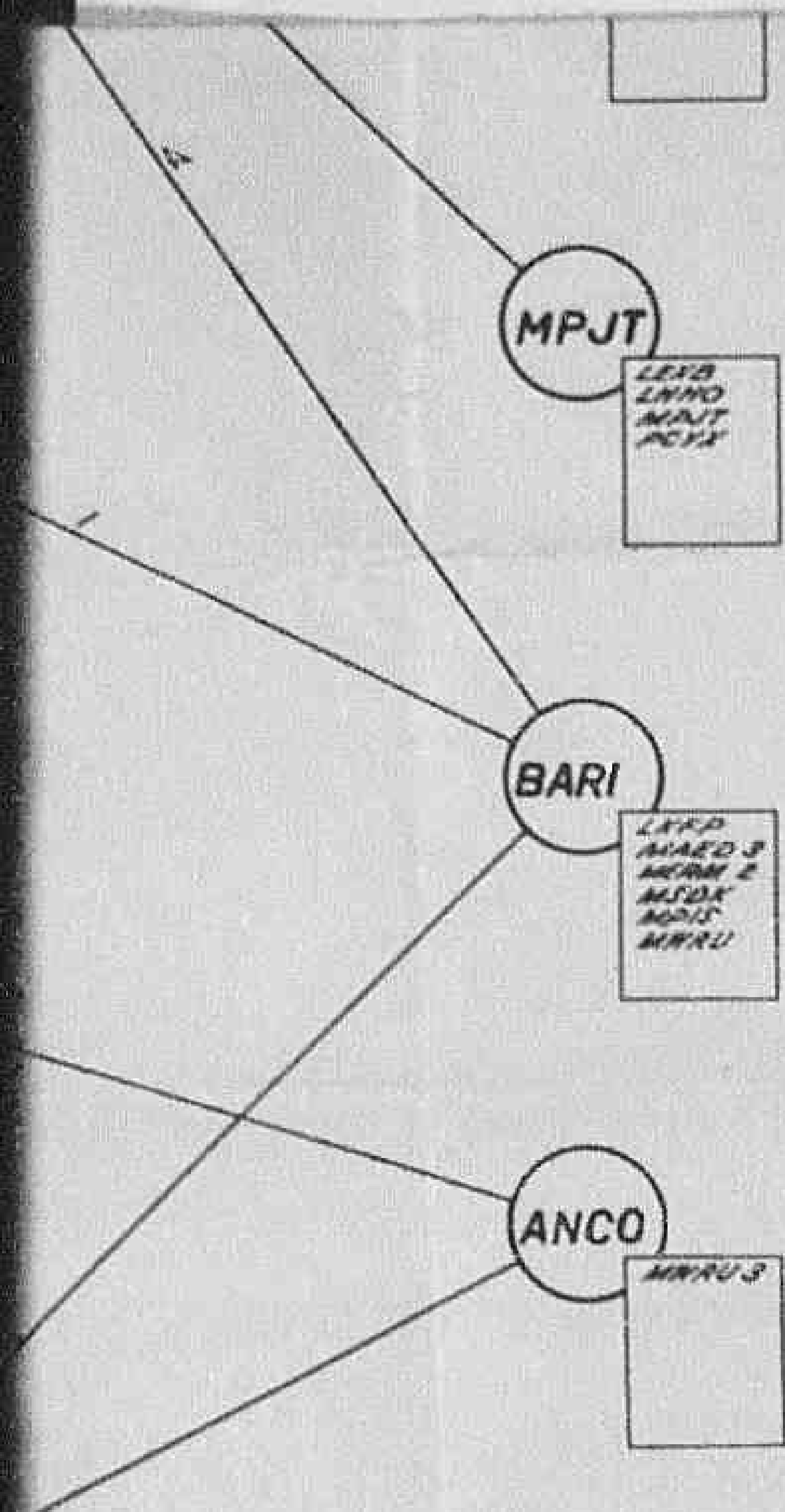


STATION TO STATION CIRCUITS			
FROM	TO	FROM	TO
HAR	MCO	LRJA	HAR
HAR	LAE	LRJA	LRUL
HAR	LRJA	LRJA	LAE
HAR	MBHF	LRJA	LRND
MCO	HAR	LRJA	MCO
MCO	LAE	LRJA	LRJA

785015







STATION TO STATION CIRCUITS			
FROM	TO	FROM	TO
HAR	MCO	LRIA	HAR
HAR	LAE	LRIA	LRL
HAR	LRIA	LROF	LAE
HAR	MBHF	LROH	LRND
MCO	HAR	LRL	MCO
MCO	LAE	LRL	LRIA
MCO	LRL	LRL	MBHF
LAE	HAR	MBHF	HAR
LAE	MCO	MBHF	LRL
LAE	LROF	MEDY	LAE
LAE	MEDY	MJAO	MVL
LAE	MJAO	MJBR	MCS
LAE	MEAY	MJVL	MJAO
LBAB	LBWX	MOEN	NPIS
LBVY	LBWX	MPHR	MPJT
LBWX	LBAB	MPIS	MOEN
LBWX	LBVY	MPIS	MPHR
LBWX	MBDS	MPJT	LEPT
LBVY	LBWX	MPJT	MPHR
LEPT	MPJT	MBDS	LBWX
LGAG	PRAN	PCYX	LGAG
LGAG	PCYX	MBDS	MPIS

COMPILED	DOWN	TRACED	CHECKED	APPROVED	LAST DIST	ISSUE	LAST TCO
/	RCC	RCC	FRT	JCB	20/46	19	2370
	17/46	18/46	19/46	19/46			
TELETYPEWRITER TELEPRINTER TRAFFIC - DIAGRAM				CSO LOFC ITALY		DRWG No CS1006	

HEADQUARTERS ALLIED COMMISSION
170 394
Communications Sub-Commission

HHS/vs.

3rd Feb 46

T.19. 21.03

SUBJ: : Teleprinters.

TO. : The Undersecretary of State for MAF.

1. Reference is made to letter from Maj. Holland to this S/C, with copy to you, dated 28th Jan. 1946 in which is given a statement of the situation of teleprinters, perforators and transmitters.

2. It is hoped that you will arrange for the prompt distribution of the equipment available in Milan so in this way marked improvement in telegraph service can be effected very rapidly.

H.H. CUDGER
Col. Sig. C.
Director.

Copy to / AC Liaison Group, MILAN
(att.: Maj. Holland)

4299

HEAD QUARTERS ALLIED COMMISSION

APO 394

Communications Sub-Commission

HTWM/ec

T.19.121.CS

2 February 1946

SUBJECT: V.F. Telegraphs

TO : Office of A.C. Linson Officer, Venezia
(Att: Capt. West, c/o 4 L of C Signals, Venice)

1. It is not clear yet from your telegram what exactly is the position regarding the Italian end of the Austria service.

2. It was arranged that:

(a) The Trieste-Venezia channels should be repaired to increase the 8 channels up to 12, leaving the additional four for the Austria Service, (See telegram from Maj. Ayre of 22 Nov.45)

(b) A new six channel system would be installed in Venice (see AC. letter n°. T.19/108/CS of 26 Nov. 1945 sent to you to pass to Ing. Dani).

3. Presumably the equipment you list in your telegram is for the systems mentioned in 2 (a) above. Have any steps been taken to instal the extra 6 channels system?

4. A sketch is attached showing the type of scheme in mind.

5. You will see from the attached memo that the Italian Govt. will now handle the matter as the territory is now administered by the Govt., but please keep this S/C in touch with the progress of the work. It is desired that service be given as soon as possible.

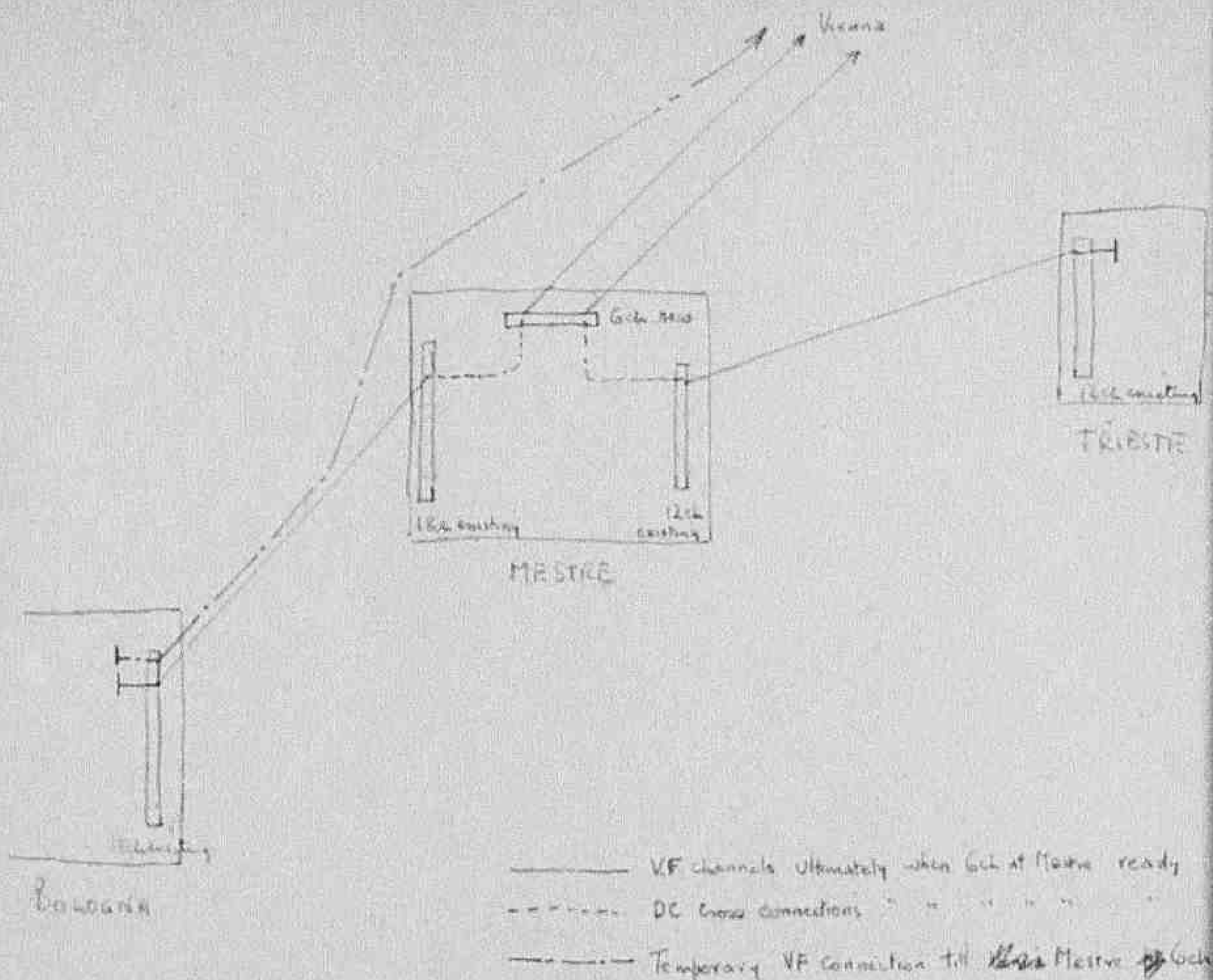
6. Has Ing. Dani endeavoured to find the equipment amongst the recovered Verona equipment? There was a considerable amount of V.F.T. equipment. It seems a bit late in the day for him to ask for items of equipment now when instructed to do the work two months ago.

Enclosure:

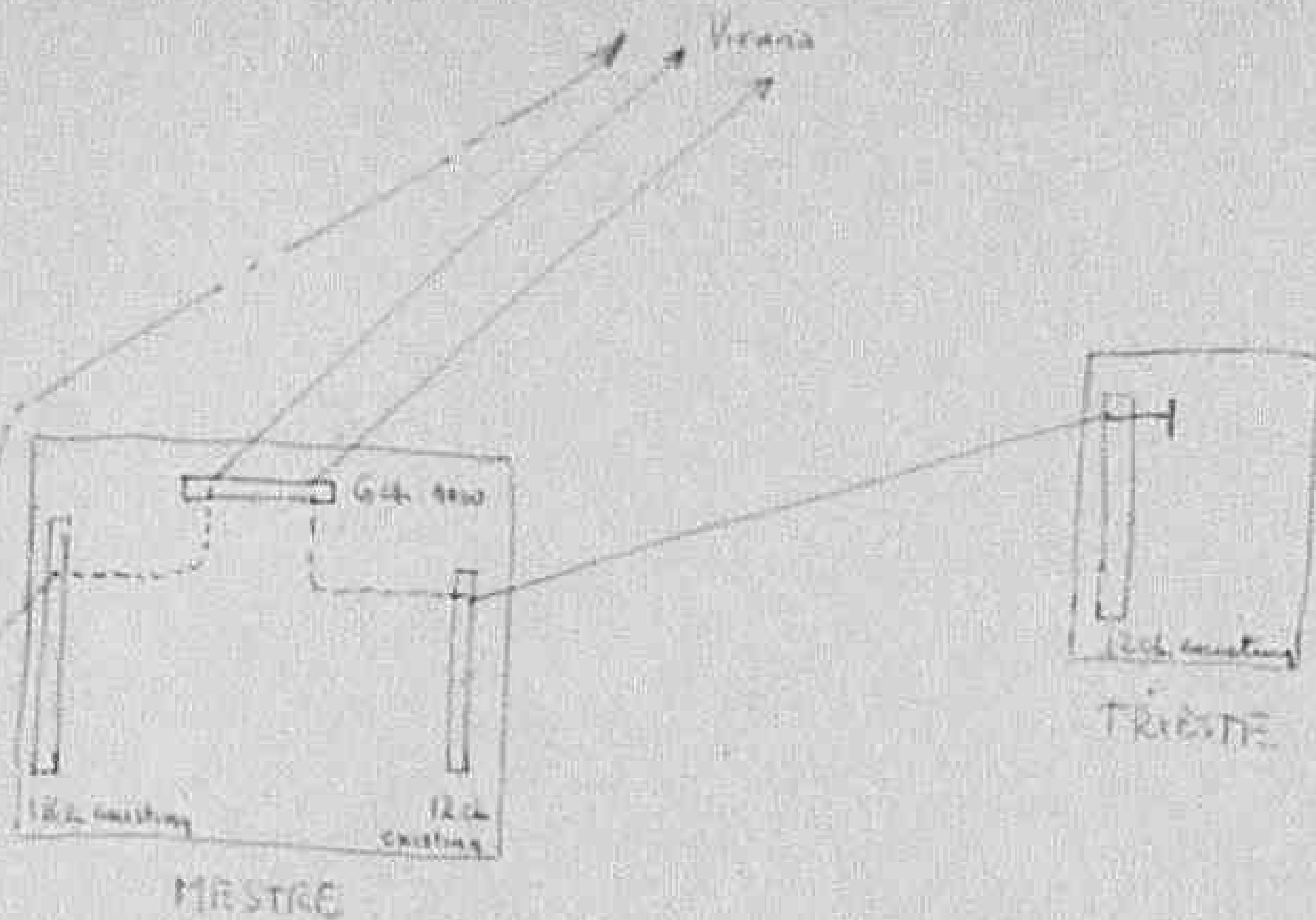
Sketch & Copy of letter to
Ministry of PP. & TT. of 1st February

4298

H.B. SCUDDER,
Col. Sig. C.
Director.



4287



- VF channels ultimately when Gch at Mestre ready
- - - - - DC cross connections
- - - - - Temporary VF connection till ~~Mestre~~ Mestre Gch ready

HEADQUARTERS
LOMBARDIA REGION LIAISON GROUP
ALLIED COMMISSION
APO 394

Tel. Milano 12781
CMS/14

28 January 1946

SUBJECT : Teleprinters.

TO : HEADQUARTERS ALLIED COMMISSION
att: Communications Sub Commission

ROME

Herewith a report on the Olivetti teleprinters position.

1. NORTH WEST ITALY

When ordered	Quantity	Delivered & Distributed		
		Milan	Genoa	Turin
July '45	26 Teleprinters from Olivetti	14	6	6
	20 Perforators "	8	6	6
	10 Transmitters "	4	3	3
October '45	121 Teleprinters "	34	6	12
	60 Perforators "	11	2	2
	30 Transmitters "	3	1	1
Total requirements of Milan		48	12	18
Genoa and Turin have now		19	8	8
been met as follows:		7	4	4

2. AVAILABLE FOR THE REST OF ITALY

Teleprinters : 73 of Oct.'s order + 20 bought from other sources
-93 of which 47 are ready now in Milan, the remaining
46 being ready on the 10th of Feb.

Perforators : 41 of Oct.'s order of which 4 are ready now in Milan
the remainder being ready by the end of February.

Transmitters : 23 of Oct.'s order of which 3 are ready now, the
remainder being ready by Feb.20.

For the Chief Liaison Officer

When ordered	Quantity	Delivered & Distributed		
		Milan	Genoa	Turin
July '45	26 Teleprinters from Olivetti	14	6	6
	20 Perforators "	8	6	6
	10 Transmitters "	4	3	3
October '45	121 Teleprinters "	34	6	12
	60 Perforators "	11	2	2
	30 Transmitters "	3	1	1
Total requirements of Milan }		48	12	18
Genoa and Turin have now }		19	8	8
been met as follows:		7	4	4

2. AVAILABLE FOR THE REST OF ITALY

Teleprinters : 73 of Oct.'s order + 20 bought from other sources
 = 93 of which 47 are ready now in Milan, the remaining
 46 being ready on the 10th of Feb.

Perforators : 41 of Oct.'s order of which 4 are ready now in Milan
 the remainder being ready by the end of February.

Transmitters : 23 of Oct.'s order of which 3 are ready now, the
 remainder being ready by Feb. 20.

For the Chief Liaison Officer

A. C. Holland

A.C. HOLLAND
 Major R. Signals
 Telecoms. Officer
 N.W. Italy.

458

- Copy to :
- MINISTRY OF P. & T. - Rome
 - Capt. WEST - Telecoms. L.O. N.E. Italy
 - C/o. 4 Coy L of C. Sigs. Venezia
 - DIRECTOR POST & T. - Milan
 - att: Dr. Maiga

Director	
Deputy Director	
Chief of Telecoms	
Chief Postal	
At U Genoa	
Chief of P. & T.	
Liaison Officer	
Chief Clerk	

7.19

Notified

120

HEADQUARTERS ALLIED COMMISSION

APC 394

Communications Sub-Commission

HTM/ec

T.19.119.CB

1st of February 46

SUBJECT: Voice Frequency Telegraphs

TO : Azienda di Stato, Ministry of PP. & FF.
(For Ing. Variello)

1. Enclosed is a copy of a telegram listing equipment required at Trieste and Mestre.
2. As the matter is now in the hands of the Italian Govt., you will no doubt arrange to provide the equipment.
3. Plenty of this type of equipment was recovered from German hands and sent to Verona, where it was handed over to the Italian Government.

H.W. SCURDER,
Col. Sig. C.
Director.

Enclosure: Copy of Telegram.

Copy to: Capt. West, c/o 4 Coy L of C Signals Venice.

4295

INCOMING MESSAGE

HEADQUARTERS ALLIED COMMISSION

Originator's Reference: 8/100

Message Centre No: 9/8402

Date/Time of Origin: 31 JAN 46

Date Time Rec'd: 31 JAN 1600

Precedence: IMMEDIATE

FROM: ALCOM TELCOM LO VENEZIA

TO: COMMUNICATIONS SUB DIVISION ALCOM ROME (ATTN: Col SCUDDER)

UNCLASSIFIED.

REF YOUR 573 OF 25TH. MATERIALS STILL REQUIRED FOR VIENNA COTS AS FOLLOWS. AT TRIESTE RECEIVING AND TRANSMITTING FILTERS REQUENCIES 1380 1500.1620.1740. INSTRUMENTS 0-3000 MILLIAPS DOUBLE SCALE, 4. RESISTANCE LAMPS FOR TELEGRAPH BATERIES T/25/1, 16. RECEIVING RELAYS, 4. TRANSMITTING RELAYS, 4. VALVES B I, 8. VARIABLE RESISTANCES LOCAL CURRENT CIRCUIT, 8. RESISTANCE LAMPS, PLATE 270/40 H17, 8. AT MESTRE RECEIVING FILTER CHANNEL 1380, 1. TRANSMISSION FILTERS, 4. RELAYS, 4. THERMIONIC VALVES, 4. RESISTANCE LAMPS TELEGRAPH BATTERY, 4. RESISTANCES FOR TELEGRAPH BATTERIES 7/25/1, 40/60 VOLT, 16. POTENTIOMETERS, 2. VARIABLE RESISTANCES FOR LOCAL CURRENT CIRCUIT, 8. ALL THE FOREGOING ARE SIEMENS PRODUCTIONS.

AC DIST

ACTN. COMMUNICATIONS
INFO: CHIEF COMMISSIONER
FILE 2
FLOAT

ACTION

GROUP
FILE
719

Date: 4 FEB 1946

HEADQUARTERS
31 JAN 1946
4294

UR



Ministero delle Poste
e delle Telecomunicazioni

Via Ufficio 3°
Tel. 1894604/TFV

Allegato

28 GEN 1946

HEADQUARTERS ALLIED
COMMISSION COMMUNICATIONS
SUB-COMMISSION

AFC 394

T. 19.115.03
12.12.945

Oggetto: Quinto sistema a 18 canali in Bologna.-

In relazione alla lettera sopradistinta,
s'informa che il sistema a 18 canali di cui
trattasi é al completo.-

IL DIRETTORE GENERALE

Director
1st. Secy
2nd. Secy
3rd. Secy
4th. Secy
5th. Secy
6th. Secy
7th. Secy
8th. Secy
9th. Secy
10th. Secy
11th. Secy
12th. Secy
13th. Secy
14th. Secy
15th. Secy
16th. Secy
17th. Secy
18th. Secy
19th. Secy
20th. Secy
21st. Secy
22nd. Secy
23rd. Secy
24th. Secy
25th. Secy
26th. Secy
27th. Secy
28th. Secy
29th. Secy
30th. Secy
31st. Secy
32nd. Secy
33rd. Secy
34th. Secy
35th. Secy
36th. Secy
37th. Secy
38th. Secy
39th. Secy
40th. Secy
41st. Secy
42nd. Secy
43rd. Secy
44th. Secy
45th. Secy
46th. Secy
47th. Secy
48th. Secy
49th. Secy
50th. Secy
51st. Secy
52nd. Secy
53rd. Secy
54th. Secy
55th. Secy
56th. Secy
57th. Secy
58th. Secy
59th. Secy
60th. Secy
61st. Secy
62nd. Secy
63rd. Secy
64th. Secy
65th. Secy
66th. Secy
67th. Secy
68th. Secy
69th. Secy
70th. Secy
71st. Secy
72nd. Secy
73rd. Secy
74th. Secy
75th. Secy
76th. Secy
77th. Secy
78th. Secy
79th. Secy
80th. Secy
81st. Secy
82nd. Secy
83rd. Secy
84th. Secy
85th. Secy
86th. Secy
87th. Secy
88th. Secy
89th. Secy
90th. Secy
91st. Secy
92nd. Secy
93rd. Secy
94th. Secy
95th. Secy
96th. Secy
97th. Secy
98th. Secy
99th. Secy
100th. Secy

CROSS SEPS	
FILE	
T. 19	

Date 28 42936 117

RM

HQ ALCON CITY ACORN PAREN

25 JANUARY 1946

CAPT WEST C/O 4 COY 1 OF 6 SIGNALS VEHICLE

573

UNCLASSIFIED

FOLLOW INFORMATION REQUIRED URGENTLY AS AUSTRIA SERVICE WILL
BE AHEAD NOW PD REFERENCE OUR TARE ONE NINE ONE ZERO EIGHT
CHARLIE SUGAR OF TWO SIX NOV PD WHAT IS POSITION REFERENCE
SIX CHANNELS INSTALLATIONS FOR VEHICLE TO WORK VIENNA PD
SECONDLY ARE TWELVE CHANNELS NOW COMPLETE VEHICLE THIRDS

T.19

PRIORITY

COMMUNICATIONS B/C

555

4282

116

INCOMING MESSAGE

AA ROMA VENEZIA 6900 78 711/20

Classification
Control MarkMessage Centre
Date Time
Handwritten

6354/uf

113

REF VEN/ TELFCOMS TO H Q ALCOM ROME

REF YOUR 8576 OF 20 TH RF VF CHANNELS VENEZIA
 TRIESTE EFFECTIVE EIGHT CHANNELS ONLY TWELVE
 CHANNELS WORKING AVAILABLE OVER PART DISTANCE
 ONLY AM FNDFAVOURING TO OBTAIN APPARATUS TO COMPLETE
 A THROUGH 12 CHANNELSSYSTEM - BUT EXPECT DELAY
 IN FINDING SUITABLE PANFILS WILL ADVISE WHEN WORK
 COMPLETED ALL EIGHT CHANNELS AT PRESENT IN USE BUT
 REMAINING FOUR WILLBE RESERVED FOR VENEZIA VIENNA

-- G W WEST CAPT R SIG TELE N TELECOMS OFFICER

COMMUNICATIONS
 [Handwritten initials and signature]

-7 DIC 1945

RECEIVED

FILE	6 TWO
T.19	

Date 8 DIC 1945

4291

N 66/07

TR 1 A ROMA A CCC ORE 18/50 ROSSI

RC 1 ORE 1850071245 VITTORIA

115

HEADQUARTERS ALLIED COMMISSION

AFG

394

Communications Sub-Commission

RHS/ec

T.19.115.09

12 December, 1945

SUBJECT: Telegraph Carrier

TO : Director of Telegraphs
Ministry of PP. & TT.

1. Will you please inform this Sub-Commission of the status of the fifth 18 channel system which was to be installed at Bologna.

2. The last information received was to effect that 11 channels were ready and that 7 broken potentiometers were delaying readiness of other 7 channels.

3. Are the 11 channels now working and when will the other 7 be working?

H.B. SCUDER,
Col. Sig. C.
Director.

4290



Ministero delle Poste
e delle Telecomunicazioni

Via Ufficio 32
Tel. 1. 845801
T.F.U.

Oggetto: Telegrafia a frequenza vocale.-

HEADQUARTERS
ALLIED COMMISSION
APO 394

Reg. 1. 7.19.34.15
11/10/45

A seguito colloqui già intercorsi fra il
Sig. Colonn. Miliar e l'ing. Cartocci di questo
Servizio si conferma che in un primo momento
sarebbe intendimento di questa Amministrazione
realizzare la comunicazione telegrafica a fre-
quenza vocale Roma-Firenze-Bologna.-

Si fa riserva di ulteriori informazioni.-

IL SOTTOSEGRETARIO DI STATO

Cartocci

Director *MM*
D/Director
Chief Telecoms
Chief Postal
H Q Coms
Asst Chief Postal
Censorship
Chief Clerk

FILE	4/12/45
T.19	

Date 12/10/45

INCOMING MESSAGE

HEADQUARTERS ALLIED COMMISSION

Comments

112

Originator's Reference: 1/88

Message Centre No: G 4292

Date/Time of Origin: NOV. 24 1500

Date Time Rec'd: 25 1330A

Precedence: ROUTINE

FROM: TELECOMS OFFICER ALCOM LO BOLOGNA

TO: DIRECTOR COMMUNICATIONS S C HQ ALCOM

UNCLASSIFIED:

see 110

Reference telegram 8625 fifth IS Channel VF telegraph system installed.

7 potentiometers broken but replacements requested.

Other II ready to go.

No cable assignments received.

Also no assignment for Channels.

ACTION

Director
D/Direction
Chief Engineers
Chief Plans
R. G. Coms O
Asst Chief Plans
Comsec
Chief Clerk

CHIEF BEES	
19	8/12

Date 26 NOV 85

AS DIST

ACTION * COMMUNICATIONS SC

INFO * CHIEF COMMISSIONER

FILE 2

FLOAT

4288

BEST COPY POSSIBLE

000 1 OF 2

0004

23 NOV 1963

PRIORITY

UNCLASSIFIED TO

REFERENCE CAN HAVE THREE FIVE SEVEN NINE CHARACTERS OF
SIXTEEN NOV SEVENTEEN IN UNIT FOR SOME REASON CAN BE
ITALIAN NOV SEVENTEEN SEVEN NOV SEVENTEEN AND ONE SEVENTEEN
REASON FOR THIS CAN BE TO OPERATE WITHIN THE TELEPHONE
SYSTEMS NOV SEVENTEEN

PAGE 02 000 1 OF 2 FROM RE ALONE GIVE ALONE PAGE
THIS SHOULD BEHOLD SEVENTEEN SEVEN SEVENTEEN IN SEVEN
REFERENCE TO

119/111

COMMUNICATIONS 1/2

000

1
0 0 110
AD LIAISON OFFICER FOR HAWAII

0625

21 NOV 1945

PRIORITY

UNCLASSIFIED IS

URGENT STATE URGENTLY POSITION RE INSTALLATION OF FIFTE

STATION CHANNEL OF TELEGRAPH SYSTEM AT HONOLULU IS

PARSE TO AD LIAISON OFFICER FOR HAWAII FROM RE ADJUTANT GEN

ADJUTANT GEN

WHAT IS PROGRAMME DATE COMPLETION TO GIVE DATA WORK IS HAND

Free 7.19

COMMUNICATIONS 3/3

255

see 112
4286

109
109
ANotes:Meeting with Cortesi on 23 Nov 1945.

1. He will send revised copy of his plans for VFT for whole country.
2. He visualizes 2-12 ch. systems at France. This agrees with Engle's plan.
3. Blazano has enough eqpt. to work to Germany, but Dennis will need a new 6 ch. system to work to Vienna. I have asked Dennis to install 6 ch. system to work to Vienna.

File in T19

Translation by G. Carliandi.

File in T19

From : Antonio Gigli.

Milan, 11th October 1945.

To : Lt. Col. Millar.

I believe it opportune to inform you on the situation of the V.F. telegraph equipment, also so as to be able to decide as to the future developments.

Torino. The installation of an 18 channel system is being completed. This will be used with Milan. The 12 channel system will remain as spare, the circuits with France no longer beginning at Turin.

Milano. The 12 channel system, so far held as spare, will be used for the communications with France. It will be increased to 18 channels as soon as the work being done in Turin will be completed.

We foresee, immediately after, to install another 18 channel system as a spare, as also for an eventual second communication with Bologna.

Bologna. An 18 channel system is now being installed (over and above the 4 already existing) The original plan was to install a 12 channel system to work with Verona (where there is a 12 channel system) and so free the 18 channel system working at the present with Verona; it was then considered the same to install at once an 18 channel system which will be as spare and for a second eventual communication with Milan.

Firenze. I have repeatedly suggested to install in Florence a 12 channel system to work with Genova, a 12 channel system to work with Bologna and a 6 channel system to work with Rome. The above systems of the Siemens type, with 24/130V power supply are available at Verona with cut-out and generator racks and with 2-12 frequency generators.

Carrying out this programme it would be necessary, to further install a 12 channel system, Standard-Face type, at Bologna and Genova as also a 6 channel system at Rome. At Verona there are two 6 channel systems available (channels from 1 to 6). The channels from 7 to 12 will perhaps be found amongst damaged equipment. The 6 channel system for Rome should be there, or, otherwise, it could be obtained from Verona.

I believe that it would be convenient to at once activate this programme, considering the availability of the equipment. The circuits between Rome and Florence and Florence and Bologna are also available. Only a circuit Florence-Genova on the Teti cable is lacking and on this point we must be quite sure.

The activation of a Genova-Florence communication seems to me to be rather useful as it would serve to branch the Genoa communications towards the South relieving the transits to Milan and it would always constitute a precious reserve.

The three channel systems at present in service at Florence, could be well used at Padova, for its communications with Bologna and Venice,

2.

using the first three channels of the 18 channel system Bologna-Venezia.

For all the adjustment of Florence, I have received contradictory instructions from the Ministry; sometimes they have said yes and other times no and, therefore, for the present I have not had the equipment sent. Also for Genova I must await to learn what will be done at Florence and if there will be a circuit.

Padova. Pending the adjustment of the 3 channel system, as abovementioned, I am trying to have a superaudio communication activated. A superaudio terminal is available at Bologna (so Ing. Fariello, informs me); the terminal which was at Siena and from there sent to Padova never reached its destination and it appears that in Rome they do not know where it is! I have also asked the Sirti.

Venezia (Mestre). Ing. Dani told me that he is arranging to have brought to 18 channels that 12 channel system towards Bologna.

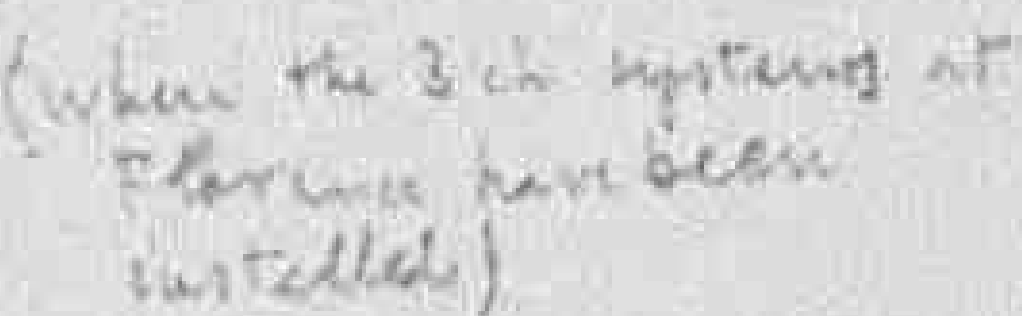
Alessandria. Two superaudio systems have been installed; one with Milan and the other with Genova. Some difficulty is still experienced in receiving at Alessandria caused by the low current, with which the stretch of cable between S. Giuliano and Alessandria must be worked, as the terminals are at S. Giuliano.

Carrying out the above programme, the telegraph communications would further improve. As the equipment is available I cannot see why it should not be carried out.

Spare materials. Here in Milan a Sefar superaudio apparatus is available.

Some superaudio apparatus is at Verona and are in need of overhauling which I hope to soon have done.

S. gd Antonio Gigili.



V.F

Supersaudio

TO Lt. Col. HWT Miller
HO AC - Rome

Dear Sir,

herewith a report about V.F.

It is written in Italian, because it is
for me difficult to have a good transla-
tion. I presume that will easier for you
to have a translation

With my best regards

Alvise

11. X. 465

~~Pre translate
HWM
13/10~~

4281

al Sig. T.Col. Millar
HQ A C - Roma

Ritengo opportuno informarla sulla situazione delle apparecchiature per telegrafia armonica, anche per decidere un pò degli sviluppi futuri.

Torino - si sta terminando il montaggio di un 18 canali. Esso verrà posto in servizio con Milano. Il sistema a 12 canali rimarrà di riserva, non facendone più capo a Torino i circuiti con la Francia.

Milano. Il sistema a 12 sinora in riserva verrà utilizzato per le comunicazioni con la Francia. Verrà portato a 18 canali, non appena terminati i lavori in corso a Torino.

Si prevede di installare subito dopo un altro sistema a 18 canali sia per avere una riserva, sia per una eventuale seconda comunicazione con Bologna.

Bologna. E' in corso il montaggio di un sistema a 18 canali (oltre i quattro già esistenti). L'idea originaria era di installarne uno a 12 e liberare così il sistema a 18 attualmente in funzione con Verona. ~~per lavorare con Verona (dove vi è appunto un 12 canali); si è poi veduto~~ che tanto valeva installarne subito uno 18, che servirà così come scorta e per la eventuale seconda comunicazione con Milano.

Firenze. Ho ripetutamente proposto di installare a Firenze un sistema a 12 canali per lavorare con Genova, uno a 12 per funzionare con Bologna ed uno a 6 per lavorare con Roma. I suddetti sistemi del tipo Siemens, con alimentazione standard 24/130^v sono disponibili a Verona con i telai dei fusibili e dei generatori e con due generatori a 12 frequenze.

Attuando questo programma occorrerebbe: installare ulteriormente un sistema a 12 canali, tipo Standard-Face, a Bologna ed a Genova, nonché uno a 6 a Roma. A Verona sono disponibili due sistemi a 6 canali (canali da 1 a 6). I canali da 7 a 12 saranno forse reperibili fra apparecchiature guaste. Il sistema a 6 canali per Roma dovrebbe essere là

disponibile; altrimenti si può avere da Verona.

Io credo che converrebbe attuare subito questo programma, visto che le apparecchiature sono disponibili, almeno in via di massima. Anche i circuiti fra Roma e Firenze e Firenze e Bologna sono disponibili. Manca soltanto il circuito Firenze-Genova sul cavo Teti e questo è un punto sul quale bisognerebbe essere assicurati.

L'attivazione di una comunicazione Genova Firenze pare a me molto utile perchè servirebbe a deviare le comunicazioni di Genova verso il sud alleggerendo i transiti a Milano e costituirebbe sempre una preziosa via di riserva.

I sistemi a tre canali attualmente in servizio a Firenze potrebbero essere utilizzati molto bene a Padova, per le sue comunicazioni con Bologna e con Venezia, utilizzando i primi tre canali del sistema a 18 Bologna-Venezia.

Per tutta la sistemazione di Firenze io ho avuto dal Ministero istruzioni contraddittorie: hanno detto un po' di sì ed un po' di no e quindi per ora non ho fatto spedire le apparecchiature. Anche per Genova necessariamente aspetto di sapere cosa si farà a Firenze e se ci sarà il circuito.

Padova. In attesa di potervi sistemare i tre canali come detto poco sopra, sto vedendo di attivare una comunicazione in superaudio. C'è disponibile un terminale in superaudio a Bologna (così mi si dice da Roma - ing. Fariello); il terminale già a Siena e da lì spedito appunto a Padova, non è mai pervenuto a destinazione ed a Roma pare non sappiano dove si trovi. Ne ho chiesto anche alla Sirti.

Venezia. ^(Mestre) L'ing. Dani mi ha detto che sta provvedendo a portare a 18 quel sistema a 12 verso Bologna.

Alessandria. Sono state sistemate due superaudio: una con Milano ed una con Genova. Si hanno ancora qualche difficoltà per la ricezione ad Alessandria ^{a causa del} per la piccola corrente con la quale si deve operare nel tratto di cavo da S. Giuliano ad Alessandria, poichè i terminali sono a

San Giuliano.

Attuando ^{fu} il programma suindicato, le comunicazioni telegrafiche migliorerebbero ancora. Poichè ci sono le apparecchiature non vedo proprio perchè non si debba ~~anche~~ attuarlo.

Materiali in riserva. E' qua disponibile a Milano un'apparecchiatura superaudio Safar.

Alcune apparecchiature superaudio si trovano a Verona ed abbisognano di revisioni, che spero poter fare affettuare al più presto.

Autanti figli.

Milano, 11 ottobre 1945

Col. Miller.

20/11/45

Sir,

Ing. Fariello telephoned the following information as regards V.F.:

From Bologna towards Bolzano they have 10 channels available between Bologna and Verona, and 9 between Verona and Bolzano.

Between Bologna and Trieste the situation is not too clear. Between Bologna and Mestre they have 5 channels available which, however, cannot be activated at once because they have not any measuring apparatus at Mestre. No channels available between Mestre and Trieste.

They have the following equipment available:

At Bolzano: 2-12 channel terminals

At Trieste: 1 18 channel terminal which, as also those at Bolzano, are already installed and ready to work.

Signature

4277

108

HEADQUARTERS ALLIED COMMISSION
APO 394
Communications Sub-Commission

HHS/cc

T.19.108.03

26 November, 1945

SUBJECT: Voice Frequency Telegraphs.

TO : AMG Venezia Province for
Telecomm Officer to pass to Engineer
Dani of Azienda di Stato.

1. It is understood that at Venezia you
have now:

- 1 - 18 channels system working to Bologna
- 1 - 12 " " " " Trieste

2. It is necessary to instal at Venice a Channels System to work ultimately to Vienna. Please arrange to do this as soon as possible. This is not an authority to bring circuits into operation to Vienna.

H.H. SCUDDER,
Col. Sig. C.
Director.

4276

HEADQUARTERS
23 NOV 1945
A. G.
4275

106

AND VIRGINIA PROVIDING FOR AIR

8976

20 NOV 1945

PRIORITY

UNRECORDED TO

HOW MANY OF CHANNELS IN SYSTEM AT VIRGINIA WORKING TO THIRTEEN AND
SPACE TO UNDERSTAND SYSTEM CONTAINS TWELVE CHANNELS IN ALL TO
ACCORDING TO PARTIAL NO CHANNELS AVAILABLE BUT CANT UNDERSTAND
THIS AS HAVE RECORD COPY OF ONE CHANNEL THIRTEEN TO EACH OF
MILAN BOLOGNA ROME AND TWO VIRGINIA WHICH SHOULD LEAVE SEVEN SPACE TO
PARTIAL TO AND VIRGINIA PROVIDING FOR AIR FROM NO ALONE CITY

ALONE PART

IF LATTER CORRECT COULD A SIX CHANNEL GROUP OUT OF THE TWELVE
CHANNELS THIRTEEN SYSTEM AT VIRGINIA BE MADE READY FOR USE TO
VIRGINIA WITHOUT MUCH WORK WHEN REQUIRED TO FORM VIRGINIA
VIRGINIA GOES

COMMUNICATIONS S/C

593

File 427419

see 107

105

0 1
MSG 1 OF 6

5334

19 NOV. 1943

PRIORITY

UNCLASSIFIED PG

INTERMEDIATE THERMOGRAPH EQUIPMENT FOR OPERATION ON 100 CYCLES
BAND BETWEEN THREE SIX ZERO HZ AND FOUR THOUSAND CYCLES
IS READY FOR OPERATION FLORENCE PARKA TO
FAIR TO MSG 1 OF 6 FROM ALONG NO CITE ACROSS PAGE
KINNEY ALLOCATE SUITABLE FOUR FIVE SEANTON FOR THE USE TO
WORKING OUT WILL DO

COMMUNICATIONS 5/0

533

4273
F. 2
19

103

ANG VENEZIA PROVINCE FOR AIRE

8437

17 NOV 1945

PRIORITY

UNCLASSIFIED TO

HAS ACTION BEEN TAKEN YET TO INSTAL SUPERAUDIO RADIO
FIREWORK OR RADIO BULBONS INPARISH TO ANG VENEZIA PROVINCE FOR AIRE FROM HQ ALCON
CITE ACORN PARKCOMPLETION PROMISED BY PARTIAL FOR TWO WEEKS AGO NO
IF NOT CMA HAS BEEN ANY INSTRUCTIONS RE ABOVE

T-19

4272

COMMUNICATIONS S/W

333

103

File in T19.

Bring out for me in

2 weeks.

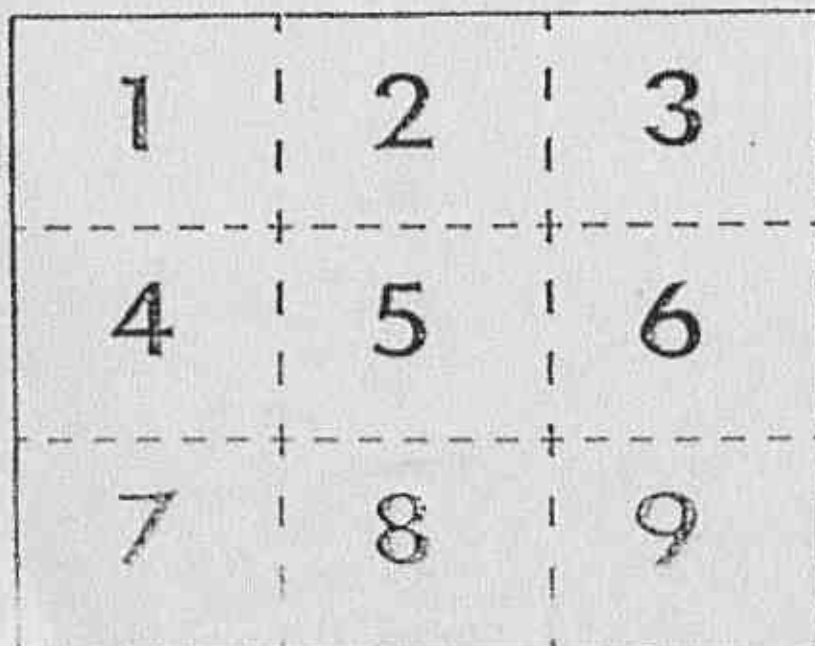
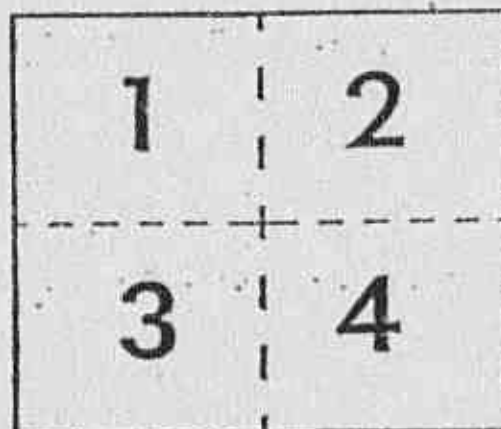
Hyman

15 Nov.

~~103~~

MAPS AND CHARTS TOO LARGE TO FILM
ON ONE EXPOSURE ARE FILMED CLOCKWISE
BEGINNING IN THE UPPER LEFT CORNER,
LEFT TO RIGHT, AND TOP TO BOTTOM.

SEE DIAGRAMS BELOW.

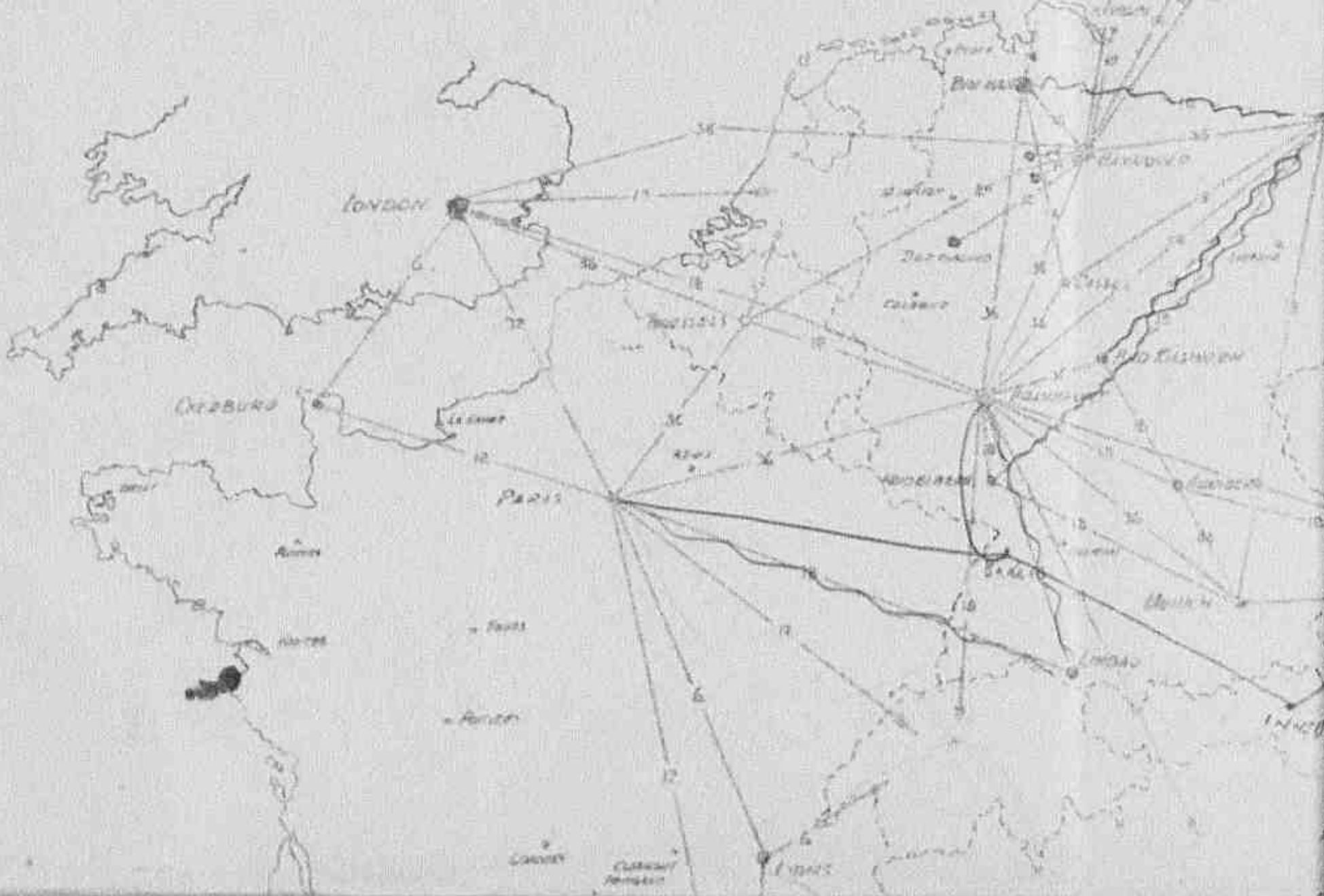


**PROJECTED VI. TELEGRAPH SYSTEM NETWORK for
LONG DISTANCE CIRCUITS IN
NORTH WEST EUROPE**

LEGEND

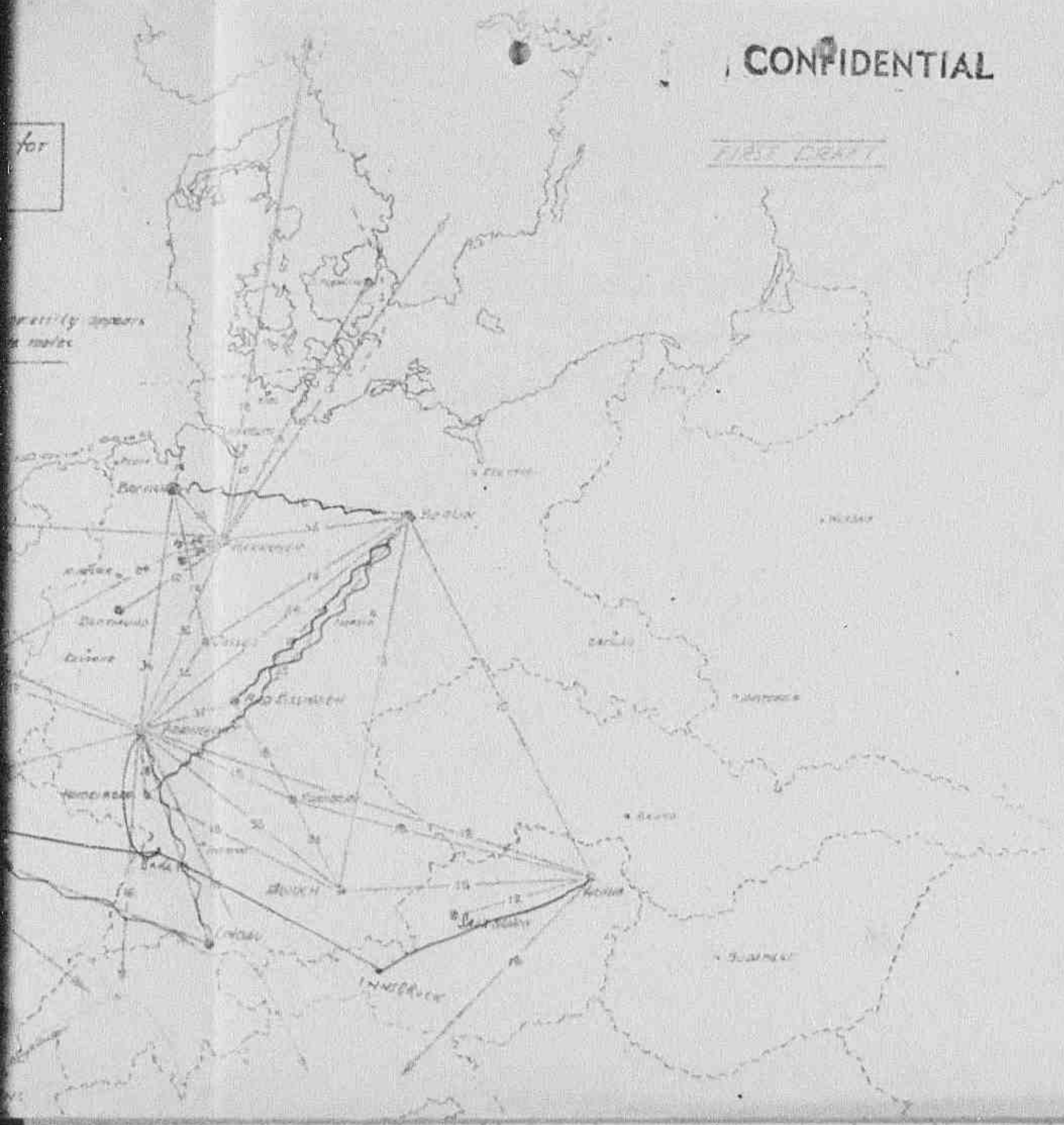
Date: 17th July 1945

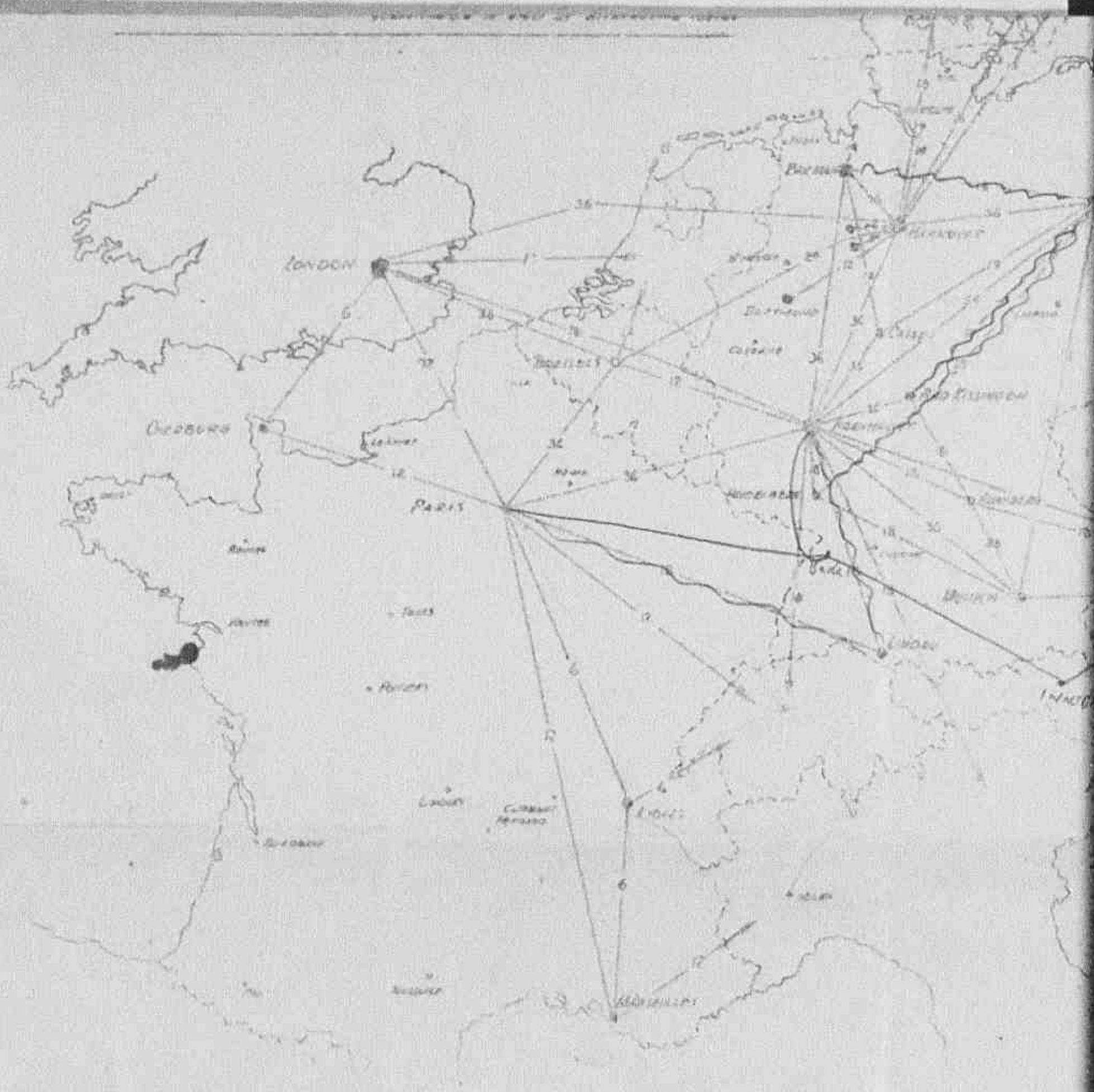
- 32 — Suggested systems and number of channels
- - - - Suggested systems and number of channels - security appears questionable in view of alternative routes



CONFIDENTIAL

FIRST DRAFT







Col. Miller:

~~We should begin to think of Germany~~

~~traffic to America + Germany as it will probably~~

~~pick up soon - especially to America~~

WNS

4/11

102

080 2 07 0

0463

16 NOV. 1945

PRICHTY

UNCLASSIFIED TO

AS VOICE FROM TELEPHONE SCRIPT NOW READY TO

BE SENT TO ALMA 080 2 07 0 FROM HQ ALCON CITE ACORN KASH

PLEASE ADVISE FOR TRANSFER OF TERMINATIONS OF HOME HALLS

FROM SIX FROM TELEPHONE TO VOICE FROM TELEPHONE ^A ~~ALL~~ THREE

PAGE

File

T-19

670

COMMUNICATIONS 2/0

535

0823

0823