

BELL SYSTEM PRACTICES
Transmission and Engineering Data
Telegraph Systems
Circuit Layout Engineering Practices
Toll Test Room Operations
Description and Operating Principles
Teletypewriter

ADDENDUM AB85.025
ADDENDUM E45.572
ADDENDUM P70.500 ✓
ADDENDUM CLE 5.58
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ENGINEERING AND OPERATING CONSIDERATIONS INVOLVED
IN FURNISHING CIRCUITS
TO WESTERN UNION TELEGRAPH COMPANY UNDER SPECIAL CONTRACT

1. GENERAL

1.01 This addendum to AB85.025, also numbered E45.572, and P70.500, is issued to include (a) Tables 1 and 2 covering additional information on circuit levels to be employed for Facsimile and Data Signals and (b) Figure 1 covering circuit interconnection arrangements. Figure 1 of the addendum replaces Figures 1A and 1B of the attachment to the main section entitled "Engineering Notes".

2. ENGINEERING AND MAINTENANCE INFORMATION

2.06 Replace paragraph 2.06 with the following:

The levels for AM and FM data are included in Tables 1 and 2. These levels apply only to voice-bandwidth channels. Where channels of wider bandwidth are involved, the latest information should be obtained.

TABLE 1

FACSIMILE AND DATA CHANNELS
(BINARY TRANSMISSION SYSTEMS)

Recommended Channel Levels at Zero db
Level Point on Telephone Circuit

<u>Type of System</u>	<u>No. of Signal Channel per Telephone Channel</u>	<u>Maximum Signal</u>		<u>Average Power of Signal</u>
		<u>dbm</u>	<u>Volts Peak-Peak</u>	<u>dbm</u>
AM Facsimile	Single	-4	1.39	-10 *
FM Facsimile	Single	-8	.875	- 8
AM Data	Single	-8	.875	-11
FM Data	Single	-8	.875	- 8
AM Data	N	-8 **	Table 2	-11 **
FM Data	N	-8 **	Table 2	- 8 **

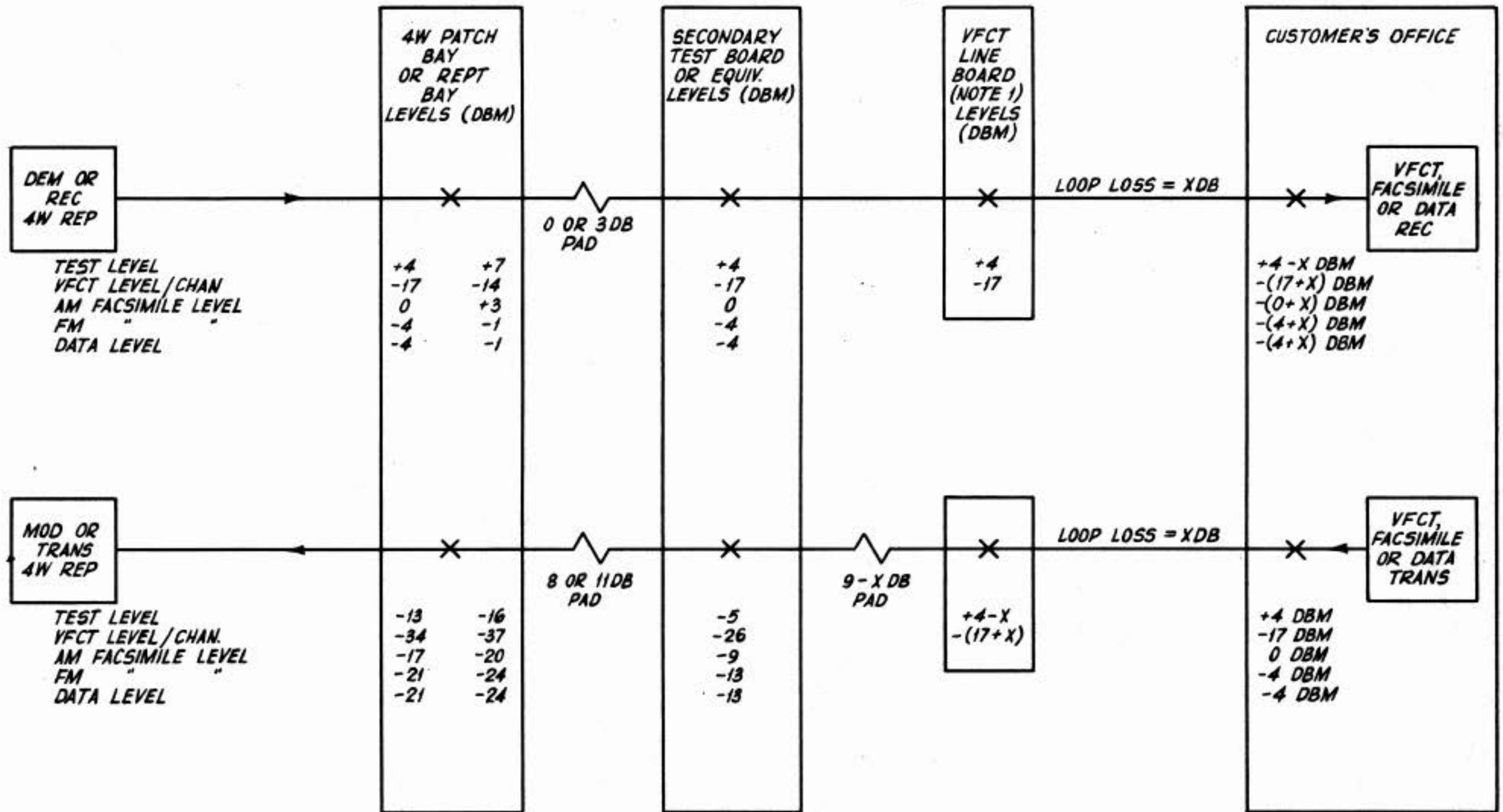
* Depends on subject. May be lower for "black maximum" and typewritten copy.

** Total power for N channels. Power per signal channel is $-(8+10 \log N)$.

TABLE 2

Relation Between Number of
Signal Channels and Signal Power

<u>No. of Signal Channels (N)</u>	<u>Total Power per Telephone Channel (dbm)</u>	<u>Power per Signal Channel (dbm)</u>	<u>Peak Power per Telephone Channel</u>	
			<u>dbm</u>	<u>Volts Peak-Peak</u>
1	-8	-8	-8	.875
2	-8	-11	-5	1.24
4	-8	-14	-2	1.75
8	-8	-17	+1	2.50
16	-8	-20	+4	3.50
N	-8	$-(8+10 \log N)$		



NOTE 1 - CIRCUIT ROUTED VIA VFCT LINE BOARD ONLY WHEN EXISTING DC TELEGRAPH LOOPS ARE USED.

FIG. 1 - INTERCONNECTING CIRCUIT AND CIRCUIT LEVELS (DBM) FOR VFCT, FACSIMILE AND DATA LAYOUTS FURNISHED TO TELEGRAPH COMPANIES

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