

ADDED MAIN LINE (AML)

SINGLE CHANNEL - PRIVATE LINE

ELECTRONIC DISTRIBUTION SYSTEM

Suggested List Prices

ACCEPTED BY REA

Catalog Number	Description	Net Price, Each
71-111-00	AML-COT2 Central Office Terminal	\$100.00
71-112-00	AML-COT3 Plug-in Central Office Terminal	\$100.00
71-713-00	AML-ST3 Subscriber Terminal	\$115.00
71-700-12	AML-IF Isolation Filter	\$ 10.00

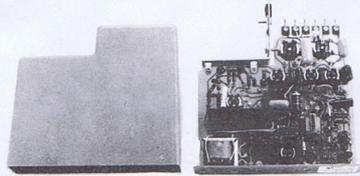
SEE
OTHER
SIDE
FOR
CHANNEL
SHELVES,
CHANNEL
CABINETS,
AND
REPLACEMENT
COMPONENTS

A complete AML system consists of one Central Office Terminal (AML-COT-2 or AML-COT-3), plus one Subscriber Terminal and one or more Isolation Filters. (The number of filters required will depend upon distribution of physical subscribers.)

DESCRIPTION OF EQUIPMENT

AML-COT2 Central Office Terminal

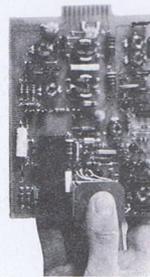
This unit consists of molded plastic enclosure suitable for mounting on the "bunching block" side of the main distribution frame. Can also be rack mounted, using mounting bars shown on reverse side of this page. This enclosure contains all circuitry required for the AML system in the central office. A terminal strip is provided on the top of the unit for connection of the three jumper wire pairs required to wire in the unit. The physical dimensions of this assembly are 6" x 6" x 1.5". Cannot be used in K-60, NX-1 or Number one Crossbar offices.



AML-COT3

Plug-in Central Office Terminal

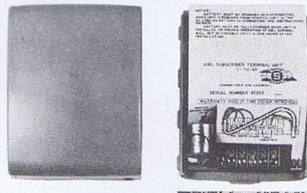
This unit consists of a channel card containing all circuitry required for the AML system in the central office. The card plugs into a 10-pin wire-wrap connector for connections of the four pairs of jumper wires required. Physical dimensions: 5" x 6 1/2".



NOTE: Designed for use with channel shelves shown on Page 2.

AML-ST3 Subscriber Terminal

This unit consists of molded plastic enclosure suitable for mounting on the wall of a subscriber's premises. Screw terminals are provided for connections to the physical pair and the telephone set. The physical dimensions of this assembly are 6" x 4 1/2" x 1 1/2".



AML-IF Isolation Filter

This unit consists of low pass filter used to separate the carrier circuit from the physical subscribers. The unit is suitable for mounting in a ready access terminal, pedestal or on the strand.

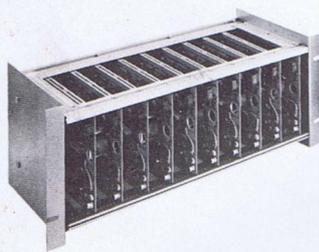
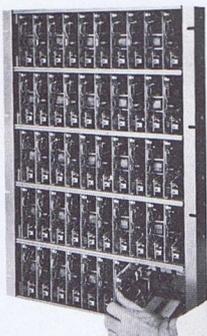
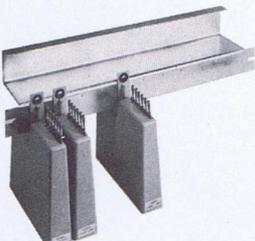


ACCEPTED BY REA

ADDED MAIN LINE (AML) SINGLE CHANNEL - PRIVATE LINE ELECTRONIC DISTRIBUTION SYSTEM

REPLACEMENT COMPONENTS		
Catalog Number	Description	Net Price, Each
71-110-01	AML-COT2 Card, less Plastic Cover	\$ 99.00
71-110-02	AML-COT2 Plastic Cover	1.00
71-710-01	AML-ST3 Card, less Plastic Cover	113.00
71-710-02	Cover and Base Plate for AML-ST3	2.00
71-710-03	Cover For AML-ST3	1.00
71-710-04	Base Plate For AML-ST3	1.00

CHANNEL SHELVES AND CABINETS

	Description and Catalog Number	Net Price Each
	AML-CS19 CHANNEL SHELF - Cat. No. 71-110-05 For 19" rack mounting. Holds ten plug-in AML-COT3 circuit cards. Shelf equipped with wire-wrap connectors. Dimensions: 19" x 7" x 6".	\$ 40.00
	AML-CS23 CHANNEL SHELF - Cat. No. 71-110-06 For 23" rack mounting. Holds twelve AML-COT3 circuit cards. Shelf equipped with wire-wrap connectors. Dimensions: 23" x 7" x 6".	48.00
	AML-CAB19 CHANNEL CABINET - Cat. No. 71-110-07 For 19" rack mounting. Holds fifty plug-in AML-COT3 circuit cards. Shelf equipped with wire-wrap connectors. Dimensions: 19" x 7" x 28".	200.00
	AML-CAB23 CHANNEL CABINET - Cat. No. 71-110-08 For 23" rack mounting. Holds sixty plug-in AML-COT3 circuit cards. Shelf equipped with wire-wrap connectors. Dimensions: 23" x 7" x 28".	240.00
	MB-19 MOUNTING BAR - Cat. No. 71-809-01 Mounting bar for AML-COT2 Central Terminal on 19" rack. Holds eleven units. Dimensions 19" x 4" x 3".	10.00
	MB-23 MOUNTING BAR - Cat. No. 71-809-02 Mounting bar for AML-COT2 Central Office Terminal on 23" rack. Holds 14 units. Dimensions: 23" x 4" x 3".	10.00



SUPER-LOADING DATA

Technical Bulletin
SL1-1
5/68

SUPER-LOADING ON **AML (ADDED MAIN LINE)** SUBSCRIBER CARRIER SYSTEMS

BY USING

SUPER LOADING
COILS



GENERAL DESCRIPTION:

All that is necessary is to substitute CAC Super-loading Coils for existing conventional loading coils between the central office and the AML Subscriber Terminal location. Load coils beyond AML terminal need not be removed. For existing 652 type coils (88 MH), substitute CAC H 88 S (Super-load coils). For 656 types (66 MH), substitute CAC D-66 S Super-load Coils.

TECHNICAL DATA:

Field and laboratory tests indicate AML can be used satisfactorily with Super-loading Coils on H-88 or D-66 loading systems, under the following conditions:

1. The maximum cable length between the central office and the AML subscriber terminal is:

Gauge	Cable Length In Kilofeet		Weighting Factor For Mixed Gauges
	D 66S	H 88S	
19	24	30	1
22	19	24	1.25
24	16	18	1.67

For mixed gauges, multiply the length of each gauge by the appropriate weighting factor. Sum of weighted lengths not to exceed 24 or 30 kf, for D 66S or H 88S respectively.

2. The maximum loop resistance to the most distant voice frequency subscriber served by the cable pair not to exceed 1030 ohms for D-66 loading and 1100 ohms for H-88 loading.

Table I gives comparison of typical transmission characteristics of cable pairs non-loaded, conventional loaded and super-loaded. The 1000 Hz insertion losses indicate substantial super-loaded improvement over non-loaded pairs; however, it is prudent to place a limitation on physical subscriber length (1100 ohms H-88 or 1030 ohms D-66) to take into account the higher loss of super-loading over conventional voice loading. Carrier losses of super-loading are comparable with non-loaded in the AML range. Although echo return losses (500-2500 Hz) are good on super-loaded lines, tests indicate that return loss deteriorates above 3200 Hz. For this reason, use of super-loading on voice circuits with repeaters is not recommended at the present time.



ELECTRONICS DIVISION

WRITE OR CALL SUPERIOR SALES & SERVICE
P.O. BOX 2327 HICKORY, NORTH CAROLINA 28601
TELEPHONE 704/328 - 2171

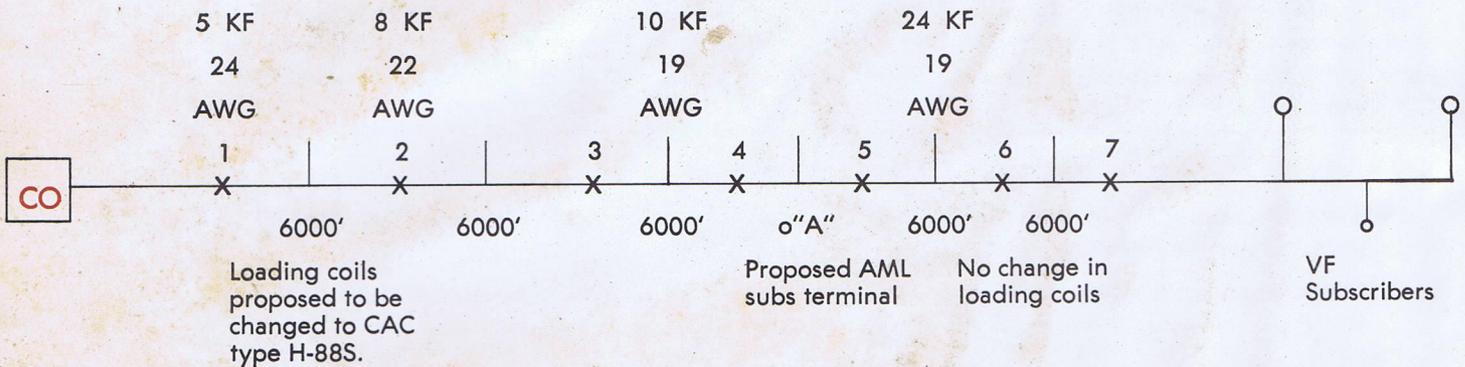
TABLE I

COMPARISON OF TYPICAL CABLE PAIR TRANSMISSION CHARACTERISTICS*

Gauge	Length in Kilofeet	1000 Hz Insertion Loss in dB(900 ohms)			AML carrier loss in dB		Echo Return loss in dB		
		Non Loaded	H-88 Loaded	H-88 Super-loaded	Non Loaded	H-88 Super-loaded	Non Loaded	H-88 Loaded	H-88 Super-loaded
19	30	7.1	2.3	3.2	30.5	35.5	5	17	20
22	24	6.6	3.4	4.6	36.5	39.7	6 est.	16 est.	20 est.
24	18	6.2	3.8	5.3	39.2	38.7	7	15	20

* Complete data for D-66 super-loaded circuits not available. Preliminary data indicates most characteristics not significantly different from H-88 super-loading.

EXAMPLE:



It is desired to upgrade subscriber at point "A" using AML. Cable pair is H-88 loaded. It extends 24 kilofeet past point "A" and will continue to serve three voice frequency subscribers. Check to determine if super-loading can be used and thereby permit the use of AML.

MAXIMUM LENGTH CHECK:

Gauge	Kilofeet	Weighting factor	Weighted kilofeet
19	10	1	10.0
22	8	1.25	10.0
24	5	1.67	8.4
Sum of weighted kilofeet			28.4

The sum is less than 30 kilofeet so application is okay and AML can be used satisfactorily. Loading coils 1, 2, 3, and 4 will need to be changed to CAC types H-88S (H-88 super-loading). No change is required for coils 5 to 7.



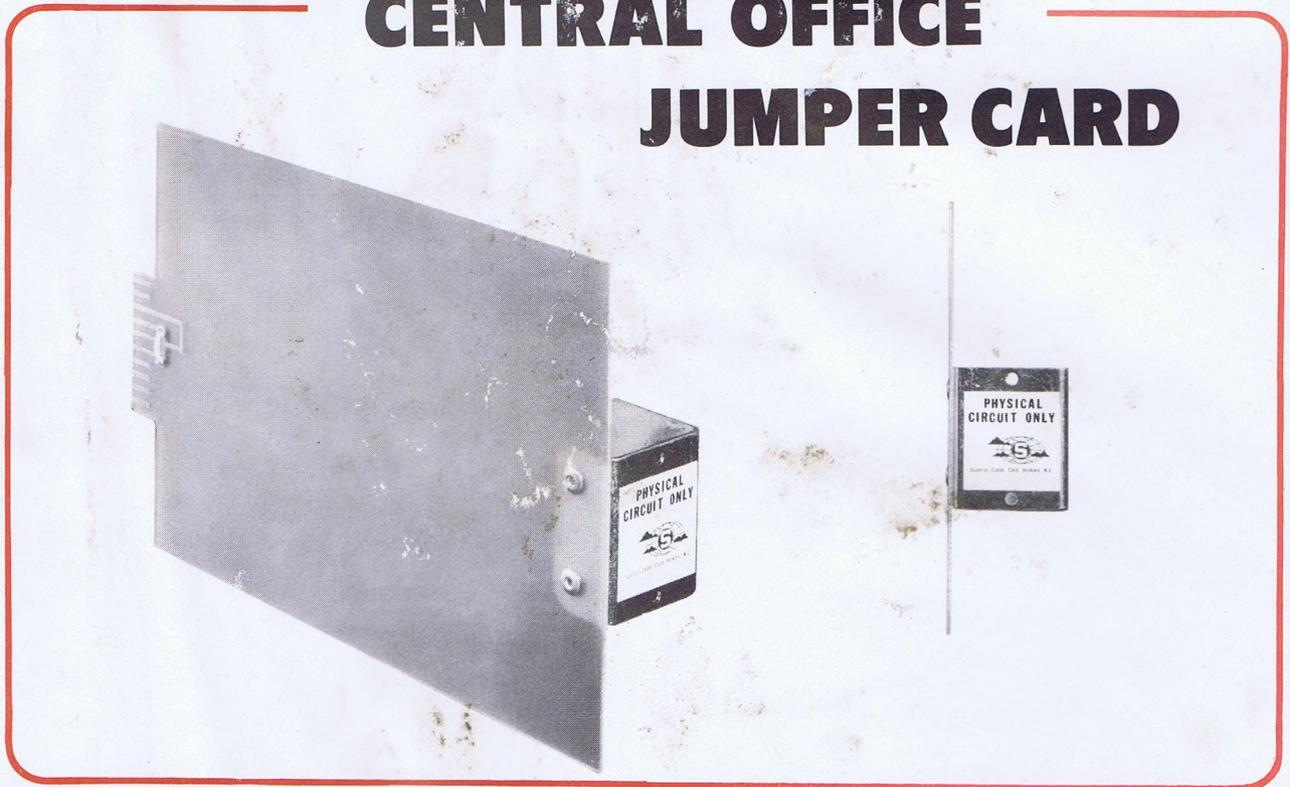
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**ADDED MAIN LINE
SUBSCRIBER CARRIER SYSTEM**

The Central Office Jumper Card provides a through path for the physical circuit when the AML COT-3 plug-in card has been removed from its shelf or housing.

CENTRAL OFFICE JUMPER CARD



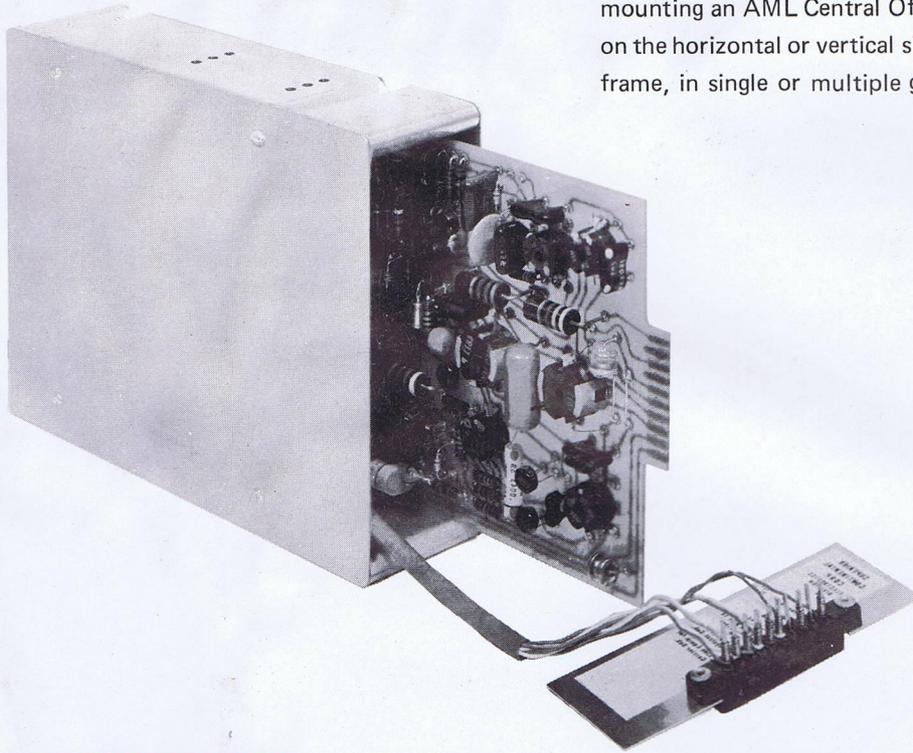
The insertion of the Jumper Card into an AML shelf or housing connects the physical circuit line equipment directly to the cable pair.

The Jumper Card simplifies a temporary service disconnect. The AML circuit can be temporarily removed from service by replacing the AML COT-3 card with a Jumper Card. A visit to the subscriber's premises is not required. Service via the AML circuit can be easily restored by replacing the Jumper Card with the Central Office Terminal Card.

Catalog Number	Description	Price
71 - 110 - 10	CENTRAL OFFICE JUMPER CARD	\$5.00

MAIN FRAME MOUNTED HOUSING

The Main Frame Mounted Housing provides for mounting an AML Central Office Terminal, type 3, on the horizontal or vertical side of the distribution frame, in single or multiple groupings.



MF MOUNTED HOUSING

Use of the MF mounted housing allows for installation of one AML Central Office Terminal, type 3, in an office. Mounting locations are generally found in the miscellaneous space near the top of the frame and at a location where a minimum number of jumpers will have to be laid by the units at a later date. Locations near the end of the frame are usually most suitable.

All hardware required for single or multiple mounting is included. Holes are provided in the rear of the housing to store hardware not required for the particular mounting selected.

CATALOG NUMBER

71-110-04

DESCRIPTION

Main Frame Mounted Housing
(includes 1 hardware kit)

PRICE

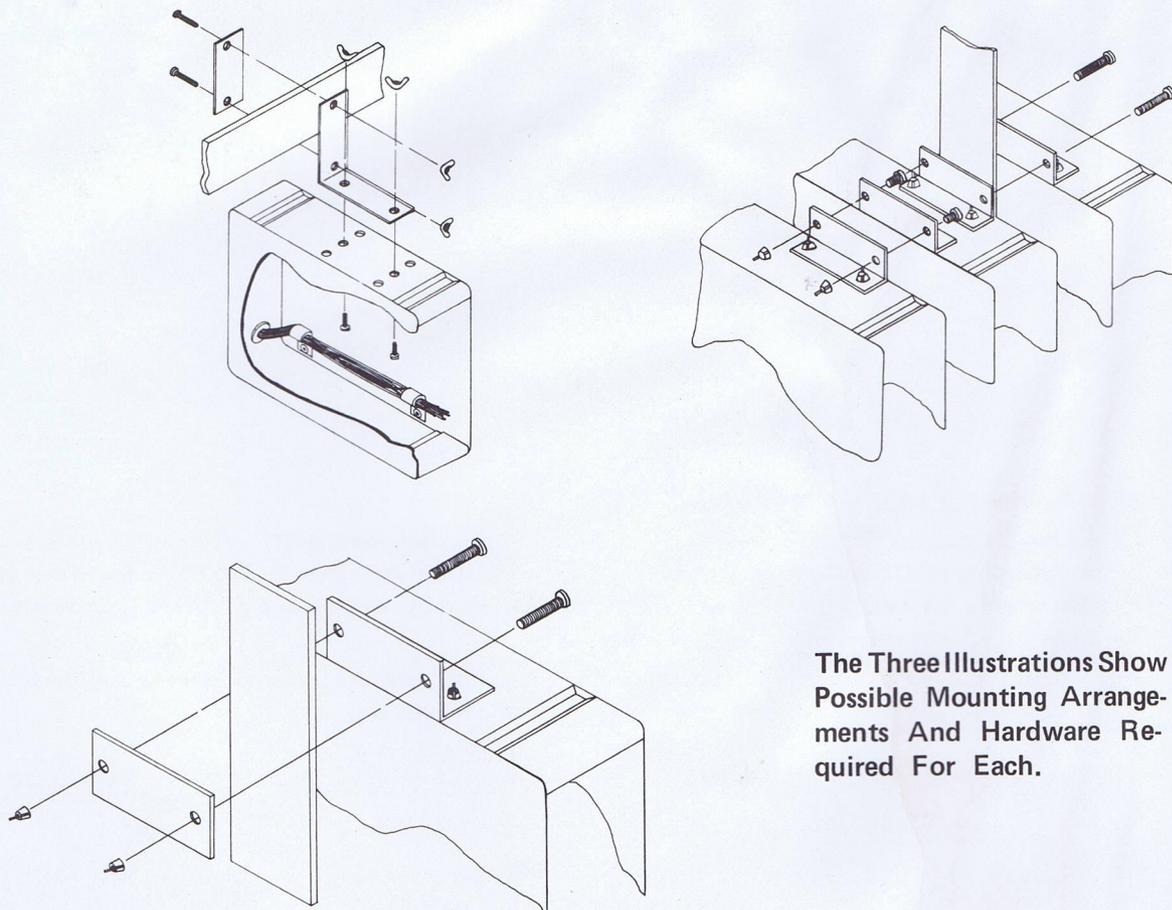
\$ 10.00

MAIN FRAME MOUNTED HOUSING

INSTALLATION

Installation of the MF Housing consists of mounting the housing where desired and cabling 4 pairs of jumper wire from bunching racks to the wire-wrap socket pins. Wiring details are printed on the label attached to the socket plate.

When wiring is completed, the central office terminal, type 3, is positioned in the housing with the printed circuit connector facing the installer. The socket plate is attached to the printed circuit connector.



ELECTRONICS DIVISION

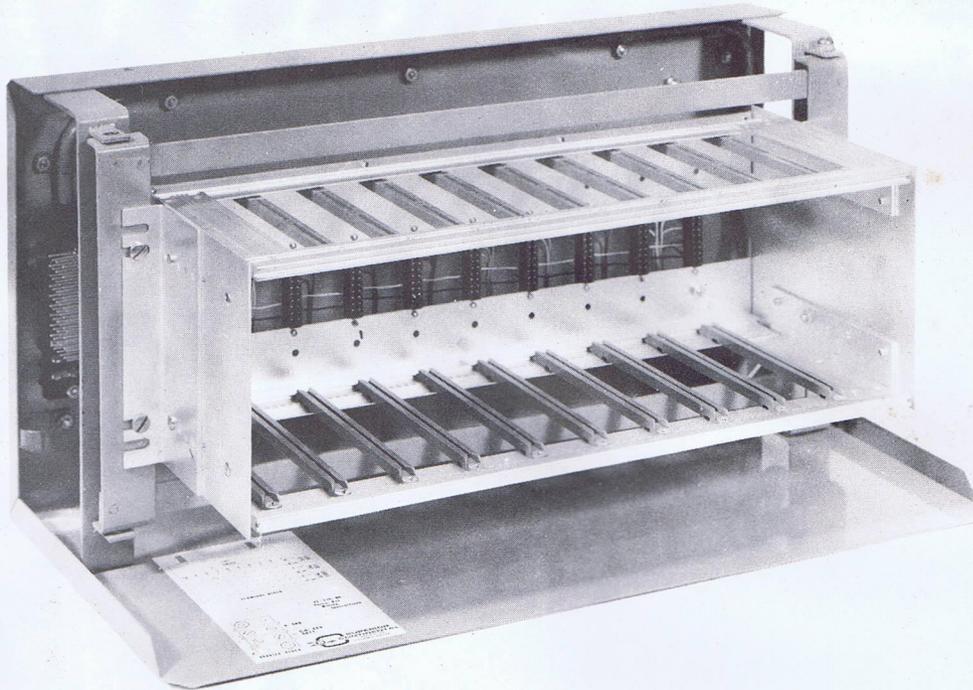
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**ADDED MAIN LINE
SUBSCRIBER CARRIER SYSTEMS**

AML PORT-A-PAC

**PORTABLE MOUNTING CABINET FOR
ADDED MAIN LINE SUBSCRIBER CARRIER SYSTEMS**

Designed to provide emergency service while awaiting permanent rack or frame installation.



AML PORT-A-PAC (Without Cover)

This unit consists of a 10 channel A.M.L. shelf completely prewired and mounted in a portable housing. The Port-A-Pac can be placed in service without engineering assistance. This unit can be hung on the end of the main distribution frame or placed on a shelf or on the wall in a central office. All that is required of your installation personnel is to connect the 48 volts D.C. central office battery to the Port-A-Pac and wire each channel to the appropriate line equipment.

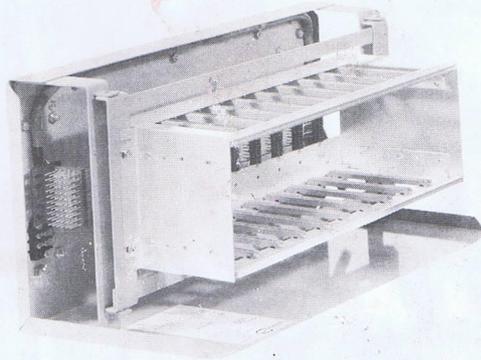
**Catalog Number
71-110-11**

**Price
\$175.00**

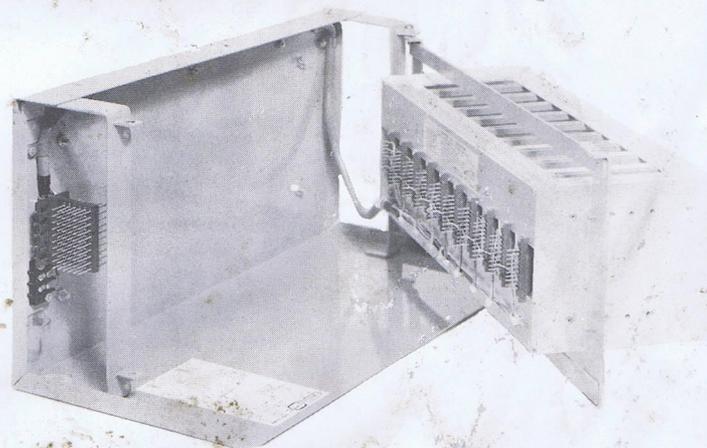
See Other Side For Wiring Instructions.

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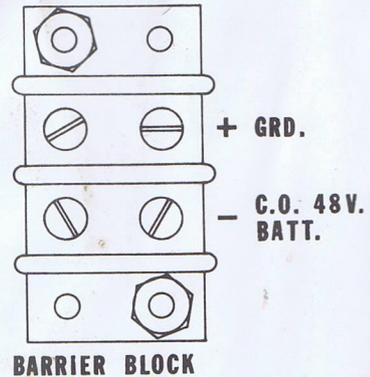
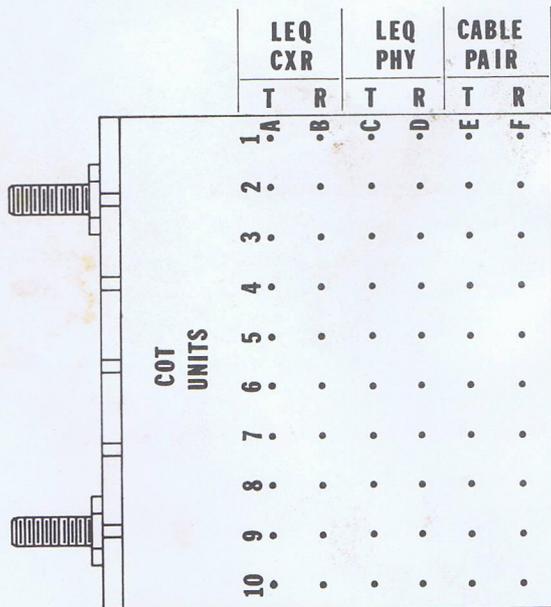


VIEW OF PORT-A-PAC WITHOUT COVER



INTERNAL VIEW OF PORT-A-PAC

71-110-11 AML Port-A-Pac Wiring Instructions



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