subject: PBX Systems: 757A PBX Connection to Traffic Measurement System No. 1A

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to: Chief Engineers (Copies sent to General Plant and Traffic Managers)

from: Engineering Director - Customer Telephone Systems

synopsis: The 757A PBX has been arranged to provide traffic usage leads to the Traffic Measurement System No. 1A.

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E.L. 229 introduced the Traffic Measurement System (TMS) No. 1A which was developed specifically for collecting traffic usage data on PBX's and small central offices. At the time, the 800A PBX was the only vehicle equipped for use with this system.

Development work has been completed to provide busy signals from selected circuits in the 757A PBX to the TMS No. 1A remote scanner and encoder unit (RSU). A standard method to connect the RSU is provided for traffic usage measurement.

Data recorded from the RSU is transmitted, via DATAPHONE service over switched or dedicated facilities, to a central control unit (CCU) which commands a maximum of 16 RSU's. After processing in the CCU, usage data is printed out in a CCS format on an associated teletypewriter.

Ground signals or potentials of ±10 volts dc indicate the busy state of equipment. One signal is applied for the total time a circuit or trunk is busy. A second signal provides measurement from the time an incoming trunk is seized until the attendant answers.

The equipment busy state is indicated by a circuit or trunk sending a signal over lead TU (Traffic Usage). PBX connections of these leads are provided on crown cables per J58838 BM Lists 51-55. These cables furnish five KS-19162, L3 plugs in the cable trough of cabinet No. 1 for plug-in capabilities to the RSU. On hard wired equipments, the TU lead is run directly to a designated plug in the cable trough. However, to interface the five plugs with the universal trunk positions the TU-lead must be run through a crossconnection field. Grouping for all incoming registers, busy tone trunks and trunk terminals is arranged at this field.

The second busy condition indicating the attendant answer interval may be measured at a point (TUA) located on the trunk unit. When a trunk circuit is seized incoming to an attendant, a signal is placed on the

TUA point. The signal is removed when the attendant answers the call. If this measurement is desired, the lead must be connected on a local basis.

The Western Electric Company advises that price and availability information of the new units is as follows:

Units		Approximate Price Each	Tentative Availability End of 1st Qtr. 1971
J58838A-1	List 8	$ 1,150.00	Factory Stock
J58838BM-1	List 51	380.00	"
J58838BM-1	List 52	380.00	"
J58838BM-1	List 53	20.00	"
J58838BM-1	List 54	30.00	"
J58838BM-1	List 55	Variable depending upon length of cable	Eight weeks

Due to cost and complexity, it is not recommended that existing 757A PBX's be modified for traffic measurement.

Engineering requirements for this development are given in the attachment. Any questions on this matter may be directed to Mr. R. L. Porter on 303 427-5225.

Engineering Director

RDC:mb
Attachment

CIRCUITS

Description	Drawing	Issue	App.	Availability
Line, Link and Marker Circuit	SD-66733-01	20D		Now
	CD-66733-01	5B	1D	Now
Cabling Diagram	SD-66735-01	43D		Now
	CD-66735-01	5B	38D	Now
Attendant Link, Loop and Controller Circuit	SD-66737-01	12D		Now
	CD-66737-01	4B	1D	Now
Incoming Dial Pulse Register Circuit	SD-66739-01	6D		Now
	CD-66739-01	3D		Now
Originating Register Circuit	SD-66744-01	14D		Now
	CD-66744-01	5D		Now
Busy Tone Trunks	SD-66746-01	4D		Now
	CD-66746-01	3D		Now
Junctor Circuit	SD-66747-01	4D		Now
	CD-66747-01	2D		Now
Attendant Trunk Circuit	SD-66748-01	16D		Now
	CD-66748-01	6B	1D	Now
Two-Way Central Office Trunk	SD-66749-01	22D		Now
	CD-66749-01	9D	2D	Now
Outgoing Central Office Trunk Circuit	SD-66750-01	14D		Now
	CD-66750-01	5D		Now
Station Dial Transfer Trunk Circuit	SD-66752-01	8D		Now
	CD-66752-01	4B	1D	Now
Paging Trunk Circuit	SD-66762-01	4D	1D	Now
	CD-66762-01	2D	1D	Now
Auxiliary Trunk Circuit for Use With Recorded Telephone Dictation Trunk	SD-66763-01	4D		Now
	CD-66763-01	2D		Now
Auxiliary Trunk Circuit for Use With 3A Code Call or PBX Interface Trunk	SD-66764-01	5D		Now
	CD-66764-01	2D	2D	Now

CIRCUITS(Cont'd)

Description	Drawing	Issue	App.	Availability
Auxiliary Tie Trunk Circuit for Use With Dial Repeating Tie Trunks	SD-66765-01	10D		Now
	CD-66765-01	4D	2D	Now
Tie Trunk Circuit Incoming Ringdown	SD-66766-01	12D		Now
	CD-66766-01	4D	1D	Now
Attendant Trunk Circuit for 608 PBX Switchboard	SD-66876-01	4D		Now
	CD-66876-01	2D		Now
Tie Trunk Circuit for Use With Manual Attendant Switchboard	SD-66897-01	6D		Now
	CD-66897-01	3D	2D	Now
Outgoing Trunk Circuit to Toll Operator	SD-67006-01	6D		Now
	CD-67006-01	3D		Now
Two-Way Central Office Trunk Circuit	SD-1E002-01	19D		Now
	CD-1E002-01	4D		Now
Two-Way Central Office Trunk Circuit	SD-5E016-01	10D		Now
	CD-5E016-01	3D	1D	Now
Two-Way or One-Way Incoming CCSA Trunk	SD-5E041-01	1		Now
	CD-5E041-01	1		Now
Direct Inward Dialing One-Way Incoming Trunk Circuit By-Link Pulsing with Reverse Battery Supervision	SD-5E046-01	1		Now
	CD-5E046-01	1		Now
Direct Inward Dialing One-Way Incoming Trunk Circuit Wink Start Signaling With Reverse Battery Supervision	SD-5E047-01	1		Now
	CD-5E047-01	1		Now

EQUIPMENT	Availability
BSP 809-821-150, Issue 5, Add.1 Equipment Specification	3Q '70

EQUIPMENT (Cont'd)

	Availability
ED-5E015-01, Issue 2 General Engineering and Ordering Information	3 Q '70

J Code	Description
J58838A, List 8	Framework, assembly, wiring and equipment for one cabinet No. 2 for a 40-line extra heavy capacity and 80, 120, 160, or 200 line 757A PBX.
J58838AG, List 7	Framework, assembly, wiring and equipment for one 757A PBX cabinet 2 slide 1.
J58838BM, List 51	Assembly, wiring and equipment for one crown cable for a 40-line PBX traffic capacity B arranged for batteryless operation per SD-66735-01 App. Figure 91 and option YU.
J58838BM, List 52	Assembly, wiring and equipment for one crown cable for a 40-line PBX, traffic capacity B, arranged for operation with battery reserve, per SD-66735-01 App. Figure 12 and option YU.
J58838BM, List 53	Assembly, wiring and equipment for one crown cable required to connect link group E and the Attendant Link, Loop and Controller Circuit to the TMS Remote Scanner, per SD-66735-01 App. Figure 102.
J58838BM, List 54	Same as list 53 except 30 feet of additional cable between cabinets 4 and 5.
J58838BM, List 55	Same as list 53 except variable dimension between cabinets to be specified by the job engineer.

BELL SYSTEM PRACTICES

	Availability
551-200-210, Issue 4, Add. 2 Switching Cabinets - Identification and Installation	March 1971
551-203-210, Issue 5 Crown Cables - Method of Connecting to PBX	March 1971

BELL SYSTEM PRACTICES (Cont'd)	Availability
551-274-210, Issue 1 Traffic Measurement System-1A, Remote Scanner and Encoder Connections, 757A PBX	April 1971
551-274-501, Issue 1 Traffic Measurement System-1A, Remote Scanner and Encoder Connections, Operation Test, 757A PBX	April 1971